



United States Department of the Interior

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September 2, 2008

Cons. # 22420-2008-F-0146

Memorandum

To: Assistant Regional Director, Ecological Services, Region 6
(Attn: Bridget Fahey, Branch Chief, Endangered Species)

From: Field Supervisor, New Mexico Ecological Services Field Office, Albuquerque, New Mexico 

Subject: Intra-Service Section 7 Consultation on the Reintroduction of Black-footed Ferrets via a Section 10(a)(1)(A) Recovery Permit on the Vermejo Park Ranch, New Mexico

Thank you for your request for formal consultation (cover letter dated August 29, 2008) with the U.S. Fish and Wildlife Service (Service), New Mexico Ecological Services Field Office (NMESFO) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your intra-service Biological Assessment (BA) was dated August 18, 2008 and received by us on September 2, 2008. The BA describes impacts that may result from the proposed reintroduction of the black-footed ferret (*Mustela nigripes*) (ferret) to the Vermejo Park Ranch (Ranch), Colfax County, New Mexico, under the provisions of a section 10(a)(1)(A) recovery permit to be issued by your office. The proposed action may affect the ferret and we concur with that determination.

In your BA, you also requested our concurrence that the proposed action will have "no effect" on the following listed species: Arkansas River shiner (*Notropis girardi*), Mexican spotted owl (*Strix occidentalis lucida*), Piping plover (*Charadrius melodus*), Southwestern willow flycatcher (*Empidonax traillii extimus*), and candidate species, Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*) and New Mexico meadow jumping mouse (*Zapus hudsonius luteus*). We concur with your determinations on those species.

This biological opinion is based on information provided in the August 18, 2008 intra-service BA, the March 2008, Vermejo Park Ranch Black-Footed Ferret Allocation Proposal, the April 14, 2008, Turner Endangered Species Fund (TESF) application for modification to their existing 10(a)(1)(A) recovery permit and final rules/field work undertaken to reintroduce ferrets at other sites throughout the ferret's range, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, reintroduction actions and their effects, or on other subjects considered in this biological opinion. A complete administrative record of this consultation is on file at this office.

Consultation Background/History

- 1998-2005 TESF becomes a member of the National Black-Footed Ferret Recovery Implementation Team. TESF constructs and operates ferret pen breeding facilities at the Ranch to provide pen raised ferrets for release at other ferret reintroduction sites across North America. TESF accommodates ferret research activities at the Ranch and develops resources and personnel to expand ferret activities.
- 2005-2007 TESF receives section 10(a)(1)(A) recovery permit to wild precondition ferrets at the Ranch for eventual release at other ferret reintroduction sites across North America.
- 2007 TESF maps current prairie dog acreage and determines sufficient black-tailed prairie dog habitat exists at the Ranch to accommodate a ferret reintroduction for year round occupation by ferrets.
- 2008 The Service conducts field visits to the proposed ferret reintroduction area of the Ranch by NMESFO and the South Dakota Ecological Services Office (SDES).
- March 2008 TESF submits a Black-footed Ferret Allocation Request to the Black-footed Ferret Recovery Project Leader to become a ferret reintroduction site.
- April 2008 TESF submits a request to the Service proposing to modify existing section 10(a)(1)(A) recovery permit to accommodate a ferret reintroduction effort.
- July 1, 2008 Federal Register announcement regarding a proposed major modification to existing TESF section 10(a)(1)(A) permit to accommodate a ferret reintroduction.
- July 29, 2008 Black-footed Ferret Recovery Project Leader makes preliminary ferret allocation. The Ranch ranks as the top site for ferret reintroduction in fall of 2008.
- June – Sept. 2008 TESF works with New Mexico Department of Game and Fish to modify their existing State permits to accommodate the ferret reintroduction.
- August 12, 2008 TESF meeting with Colfax County Commissions to inform them of TESF intent to turn the existing ferret wild preconditioning efforts into a year round ferret occupied area at the Ranch.
- August 13, 2008 NMESFO receives draft BA from Region 6 Ecological Services.
- August 15, 2008 TESF hosts open house in Maxwell, New Mexico. Service attends and brings a live display ferret to meeting. No opposition to proposed ferret reintroduction.

August 18, 2008 NMFESFO submits comments on the draft BA.

September 2, 2008 NMFESFO receives BA signed by Region 6.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is the Service's Region 6 (Region 6) issuance of a five-year section 10(a)(1)(A) recovery permit to TESH that modifies an existing section 10(a)(1)(A) recovery permit. The new permit would allow TESH to undertake a ferret reintroduction on the Ranch which is private land located in north-eastern New Mexico (Figure 1). The reintroduction area is defined by the Ranch boundary, which is within the historical range of the ferret but currently contains unoccupied habitat.

The purpose of the action is to determine if a self-sustaining population of ferrets can be established in a black-tailed prairie dog (*Cynomys ludovicianus*) complex in an area of New Mexico with various rural land-use activities including ongoing cattle ranching, prairie dog control and limited development. The actual reintroduction area on the Ranch is not subject to activities believed to be detrimental to a ferret reintroduction. Objectives of this project include determining ferret survival rates, kit production, and reproductive success for a five-year period on the Ranch.

Ferret reintroduction, including releases and management, will be conducted in accordance with annual ferret allocation proposals submitted by the TESH to Region 6 and the section 10(a)(1)(A) recovery permit application (TESH 2008b) and subsequent permit if issued. TESH (2008a and 2008b), incorporated herein by reference, outlines the goals of the reintroduction program, criteria for releases, and monitoring of ferrets and their habitat to ensure prairie dog numbers are capable of supporting a viable ferret population.

Releases will be conducted using primarily young-of-the-year captive-raised ferrets surplus to the captive breeding population and/or surplus wild-born ferrets translocated from previous reintroductions, depending on availability. The TESH has participated in ferret captive propagation and wild preconditioning for ten years at the Ranch and has developed facilities and personnel capable of conducting a ferret reintroduction as proposed in their ferret allocation request (2008a).

Multiple years of releases will likely be needed to establish a wild population. Black-tailed prairie dogs colonies in the reintroduction area comprise about 5,000 acres (Figure 2) with recent prairie dog burrow densities on these sufficient to support a ferret reintroduction attempt (TESH 2008a). The location of the reintroduction area is isolated from other substantial prairie dog complexes; thus it is unlikely that ferrets dispersing from the reintroduction area will find suitable habitat. The BA recognized this reintroduction effort is to assess the Ranch's capability to support ferrets without reliance on other properties providing ferret habitat.

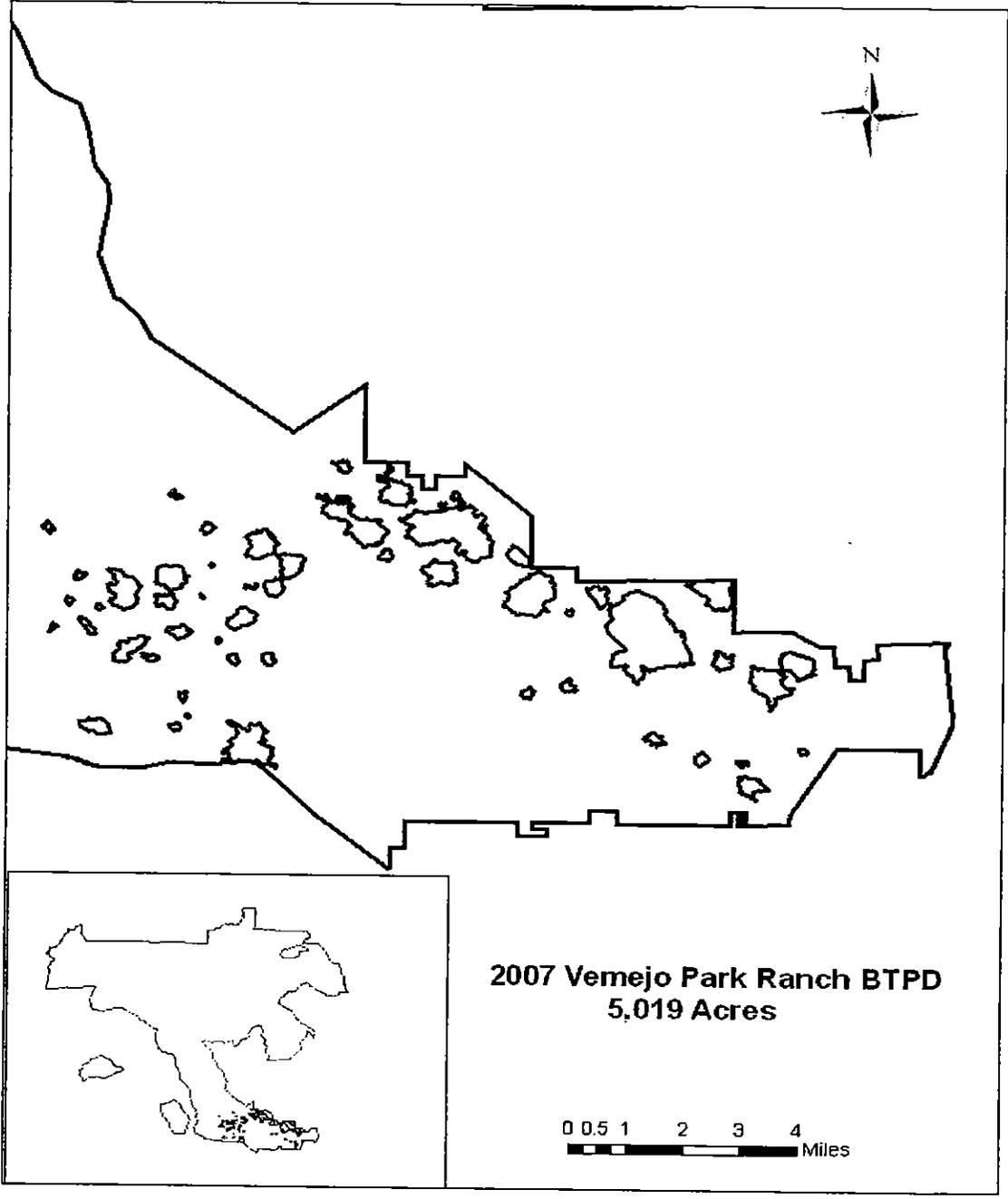


Figure 2. Black-tailed prairie dog acreages/complexes on the Vermejo Park Ranch.

To monitor survival and dispersal, all released animals will be marked with transponder chips and some may be fitted with radio transmitters. The TESH will monitor canine distemper and sylvatic plague in carnivores and sylvatic plague in prairie dogs in the release area.

TESF (2008) outlines the cooperative management techniques that will be used to ensure that ferret reintroduction and maintenance are compatible with existing and potential land uses. The TESH, through the annual ferret allocation process and participation on national- and state-level Black-footed Ferret Recovery Implementation Teams, will apply current knowledge of ferret reintroductions, handling techniques, and management to maximize opportunities for a successful reintroduction.

The Service and TESH have incorporated precautions in the scientific design and will implement protocols for handling and monitoring reintroduced captive-raised and wild-produced ferrets identified in Roelle et al. (2006). The TESH intends to manage ferrets on prairie dog colonies wholly within the Ranch, but they will work cooperatively with adjacent landowners as the need arises. If ferrets move off the Ranch and the adjacent landowner wants the ferrets removed, the TESH, with landowner permission, will attempt to recapture such ferrets. The Service may assist with those efforts.

This proposal to reintroduce ferrets onto the Ranch is being conducted under a section 10(a)(1)(A) recovery permit. TESH has had a section 10(a)(1)(A) recovery permit for the wild preconditioning ferrets since 2005 and this proposed reintroduction would require a modification to that permit. The Ferret Recovery Program in Region 6 will evaluate the success of re-establishing ferrets on the reintroduction area after five years and either renew the permit, allow the permit to lapse, or work with TESH and other cooperators to determine if another mechanism to continue the program on the Ranch would be more appropriate. For the permit duration, there may be instances when consultation, under section 7 of the Act, is required with other federal agencies. The NMESFO will be responsible for consulting when a Federal action may affect the reintroduced ferrets.

If the ferret population on the Ranch becomes self-sustaining and produces sufficient ferrets, it may be beneficial to translocate a segment of the annual production to other reintroduction sites. This has happened at three sites at Aubrey Valley, Arizona and Conata Basin and Cheyenne River, South Dakota, where surplus young are captured annually and moved to other suitable sites.

If conditions become unsuitable at the Ranch, or the reintroduction is terminated for other reasons, ferrets available to the Ranch for reintroduction would be available for release at other authorized reintroduction areas.

The Ranch raises mainly bison and has many species of wildlife on approximately 600,000 acres of land located mainly in Colfax County, New Mexico. The Ranch contains forested landscapes at high elevations as well as approximately 60,000 acres of shortgrass prairie where black-tailed prairie dogs occur on about 5,000 acres. Ranch operations include, but are not limited to, big game hunting, fencing, water development and appurtenances, habitat restoration, localized prairie dog control around development and Ranch boundaries, Ranch-associated residential development, road improvement and development, and outdoor recreation. Adjacent properties are mainly livestock ranches with appurtenances typically associated with livestock production.

There is also a higher rate of prairie dog control, including shooting that occurs on properties adjacent to the Ranch.

STATUS OF THE SPECIES

The ferret was listed as endangered in 1967 (32 FR 4001, March 11, 1967) and again in 1970 (35 FR 8491-8498, June 2, 1970) under early endangered species legislation and was "grandfathered" into ESA in 1973. Critical habitat was not designated. Experimental, non-essential populations established under section 10(j) of ESA have been designated for eleven ferret reintroduction efforts in the United States. There have also been five ferret reintroductions that used section 10(a)(1)(A) recovery permits (1 in Arizona, 1 in Kansas, 1 in Montana and 2 in South Dakota) and one ferret reintroduction in Chihuahua, Mexico that relied upon that Country's permitting for the reintroduction.

The ferret is an endangered carnivore with a black face mask, black legs, and a black-tipped tail. It is approximately 18 to 24 inches long and weighs up to 2.5 pounds. The ferret is the only ferret species native to North America, and may be extinct as a naturally occurring species in the wild (except where it has been reintroduced).

The ferret's historical range, based on specimens collected since its identification, includes 12 states (Montana, North Dakota, South Dakota, Wyoming, Utah, Colorado, Nebraska, Kansas, Oklahoma, Texas, New Mexico, and Arizona) and the Canadian provinces of Alberta and Saskatchewan. There is prehistoric evidence of the ferret from Yukon Territory, Canada, to New Mexico and Texas (Anderson et al. 1986). There are historical records that indicate ferrets occurred on or near the Ranch early in the twentieth century (Anderson et al. 1986, Hubbard and Schmitt 1994, Long 2008. pers. comm.).

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, and ferret range overlaps that of certain prairie dog species (Anderson et al. 1986) with no documentation of ferrets breeding outside of prairie dog colonies, we believe that ferrets were historically endemic to the range of three prairie dog species. There are specimen records of ferrets from the ranges of black-tailed prairie dog, white-tailed prairie dog (*Cynomys leucurus*), and Gunnison's prairie dog (*Cynomys gunnisoni*) (Anderson et al. 1986), which collectively occupied approximately 100 million acres (40 million hectares) of intermontane and prairie grasslands (Biggins et al. 1997, Clark 1986, Ernst et al. 2005). Forrest et al. (1985) concluded that ferret densities at Meeteetse, Wyoming, the last known wild population, were linearly correlated with white-tailed prairie dog colony size, with an average density of one adult ferret per 99-148 acres (40-60 hectares) of occupied prairie dog habitat.

The ferret breeds at one year of age, from mid-March through early April; and gestation is about 42-45 days. Litter sizes average about 3.5 (Wilson and Ruff 1999). Juveniles disperse in late summer/early fall. The ferret leads a solitary existence; except for the period when mother and young are together (Forrest et al. 1985). It is a "searcher" predator and is generally nocturnal, appearing above ground at irregular intervals and for irregular durations (Clark et al. 1986). Based on studies at Meeteetse in the 1980s, natural mortality of ferrets in the wild is high. Population data presented by Forrest et al. (1988) were used for computer simulation modeling by Harris et al. (1989) and indicated juvenile mortality rates of a stable population to be

approximate 78.5 percent. The mean life expectancy of free-ranging ferrets in the Meeteetse population was 0.9 years (Biggins et al. 2005).

The ferret's close association with prairie dogs was an important factor in its decline. Widespread poisoning of prairie dogs, conversion of prairie dog habitat for agricultural cultivation, and sylvatic plague dramatically reduced prairie dog abundance and distribution by 95 to 98 percent over the last century (FWS 1988). The severe decline of the prairie dog resulted in a near extinction of the ferret, though the ferret's decline also is attributable to other factors, such as secondary poisoning from prairie dog toxicants and high susceptibility to canine distemper and sylvatic plague.

Though the ferret was widespread, the historical abundance of the species was never clear due to its nocturnal and secretive habits (FWS 1988). A wild population was discovered in Mellette County, South Dakota, in 1964 (Henderson et al 1969, Hillman and Linder 1973). This population was studied but disappeared by 1974 (FWS 1988). The last confirmed sighting of a ferret in South Dakota was in 1979 in Todd County. Afterward, some believed that the species was extinct until another wild population was discovered near Meeteetse, Wyoming, in 1981. The Meeteetse population was extensively studied and underwent a severe decline in 1985-1986 due to canine distemper and sylvatic plague outbreaks, which are fatal to infected ferrets. Eighteen survivors were taken into captivity in 1986-1987 to prevent extinction, seven of which served as founder animals for a captive propagation program aimed at eventually reintroducing the species into suitable habitat in the wild.

Since 1991, there have been 17 ferret reintroduction projects in 11 distinct areas (Table 1). Successfully reintroduced, self-sustaining populations currently exist at Shirley Basin, Conata Basin, and Cheyenne River Sioux Reservation. Wild animals from Conata Basin and Cheyenne River have been trapped for translocation to other reintroduction sites. Ferret releases were discontinued at 2 reintroduction sites due to habitat limitations (Badlands National Park) and plague impacts (Ft. Belknap Reservation). Therefore, there are currently 11 active sites in North America containing reintroduced ferrets that have experienced varying degrees of success. In 2006, three new reintroduction sites were selected in preliminary ferret allocations – Lower Brule Sioux Reservation; Wind Cave National Park, South Dakota and northwestern Kansas. Lower Brule Reservation recently had its first ferret releases. These 3 new sites are much smaller than previous reintroduction sites, but provide an opportunity for: 1) new sites outside the known distribution of plague, 2) cooperative efforts with new partners, and 3) potential refugia in the event of increased plague activity (FWS 2006).

Table 1. Current status of the black-footed ferret in the wild (from FWS 2006)

SITE (YEAR INITIATED)	PRAIRIE DOG SPP.	FERRETS RELEASED	MINIMUM POPULATION	MIN. POP. / RELEASED
Shirley Basin, WY (1991)	Wtpd	277	196	.71
UL Bend NWR, MT (1994)	Btpd	208	15	.07
Badlands NP, SD (1994)	Btpd	175	20	.11
Aubrey Valley, AZ (1996)	Gpd	173	46	.27
Conata Basin, SD (1996)	Btpd	150	277	1.85
Ft. Belknap Ind. Res., MT (1997)	Btpd	167	0	0
Eastern, UT (1999)	Wtpd	200	25	.13
Chey. River Ind. Res., SD (2000)	Btpd	189	150	.79

BLM 40-complex, MT (2001)	Btpd	95	0	0
Wolf Creek, CO, (2001)	Wtpd	209	13	.06
Janos, Mexico (2001)	Btpd	244	17	.07
Rosebud Ind. Res., SD (2003)	Btpd	99	30	.30
Lower Brule Ind. Res., SD (2006)	Btpd	41	No data	No data
Wind Cave National Pk., SD (2007)	Btpd	49	Recent release	No data
Espee Ranch, AZ (2007)	Gpd	43	Recent release	No data
Logan County, KS (2007)	Btpd	24	Recent release	No data
N. Cheyenne. Ind. Res., MT (2008)	Btpd	8	Recent release	No data

If current ferret reintroduction efforts are not successful in the foreseeable future, or if other wild populations of the species are not located, ferrets will not be recovered in the wild as directed by the Act and outlined in the Black-Footed Ferret Recovery Plan (FWS 1988).

ENVIRONMENTAL BASELINE

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

A. STATUS OF THE SPECIES IN THE ACTION AREA

The Ranch is within the range of the black-tailed and Gunnison's prairie dog, and ferrets are believed to have occurred throughout those prairie dog species' ranges (FWS 1988). Ferrets do not currently occur in the action area. The closest location of reintroduced ferrets is Logan County, Kansas approximately 200 miles northeast of the Ranch.

Although sylvatic plague has been documented in many parts of New Mexico and in Gunnison's prairie dogs on the Ranch, there have not been plague incidents reported in the black-tailed prairie dog colonies of the Ranch (Long 2008. pers. comm.). Recent carnivore sampling and prairie dog mapping do not indicate recent epizootic outbreaks.

B. FACTORS AFFECTING THE SPECIES' ENVIRONMENT IN THE ACTION AREA

Although ferrets do not currently occur in the action area, there are activities occurring on and off the Ranch that affect what we consider to be suitable ferret habitat in the action area. These activities include cattle ranching, prairie dog hunting, predator hunting/trapping, roads, a gravel pit, and various relatively small-scale developments (e.g., roads, electric transmission lines). Toxicants have been historically used on and off the Ranch for prairie dog control but have not been used extensively on the Ranch since being purchased by Ted Turner in 1996 (Long 2008. pers. comm.).

EFFECTS OF THE ACTION

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

All ferret releases on the Ranch will be undertaken through coordination with the Service's Black-Footed Ferret Recovery Project Leader who will make a determination that such ferrets are surplus to those needed for the captive breeding program and are thus available for reintroduction efforts. At this time, the primary repository of genetic diversity for the species is the captive population of 240 ferrets cooperatively managed in six geographically separated facilities, which protects against the threat of extinction from catastrophic events. Approximately 200 to 300 ferret kits are produced each year in excess of numbers needed to maintain the captive population. Animals selected from the captive ferret population for reintroduction purposes will be as genetically redundant with the captive population as possible. Therefore, loss of reintroduced animals in this experimental population will not significantly impact the goal of preserving genetic diversity of the species or adversely affect any aspect of the captive population's viability.

Because this proposed action will not occur near known wild populations of ferrets, the action is not expected to affect any wild populations of the species. Ferrets that may be translocated from existing ferret reintroduction sites, such as Conata Basin in South Dakota, will come from "nonessential experimental" populations or from reintroduced populations that have been determined suitable to remove ferrets and bring to the Ranch. Ferret populations at donor sites will be evaluated to ensure that removal of individuals does not adversely affect those populations. We do not expect ferrets from the reintroduction on the Ranch to interact with other ferret populations since distances to other known populations are greater than 200 miles and prairie dog habitat is disconnected. The longest nightly moves observed for ferrets were about 4.3 miles (Biggins and Fagerstone 1984; Richardson et al. 1987).

Because primarily young-of-the-year ferrets will be used in the reintroduction, we can establish a baseline for comparison with the modeled juvenile mortality rates of about 78.5 percent in a stable population (Harris et al 1989). For captive-raised ferrets, it would be reasonable to expect higher juvenile mortality because captive-raised ferrets have been sheltered from adverse environmental factors and, therefore, have not developed the same degree of disease resistance as wild-bred ferrets, have not been imprinted on prairie dogs as food to the degree that wild-bred ferrets would be, and have not been taught to hunt or avoid predators as well as wild-born ferrets. We recognize that translocated wild-born ferrets could experience a mortality rate close to or higher than the modeled rate.

The NMESFO anticipates that there may be high mortality among reintroduced ferrets in the reintroduction area, mainly due to natural causes such as predation, but some mortality may result from monitoring, trapping, handling, marking, and processing of the released ferrets; vehicle collisions; or normal ranching. The NMESFO believes that mortality due to natural

causes in the release area will not be greater than the reintroduced ferret population's ability to replace lost individuals through reproduction. Conversely, since there are no substantive prairie dog complexes close to the Ranch it is likely ferrets that leave the release area will be lost to predation because of the absence of cover from a prairie dog burrow system or to starvation due to the lack of prairie dog prey.

Other ferret release sites have experienced occasional ferret deaths due to handling and monitoring mainly when using anesthetics to mark animals or apply medicines and vaccines. Such losses also could occur with this reintroduction effort. Marking and monitoring may also adversely affect ferrets by harassing them through capture and handling. Region 6's proposal requires the TESH to use the precautions contained in the scientific design and protocol for handling and monitoring reintroduced ferrets outlined in Roelle et al (2006) and techniques incorporated in the ferret allocation requests and section 10(a)(1)(A) permit application to reduce the adverse effects of marking and monitoring. These methods have been used at all other ferret reintroduction sites and are tailored to fit circumstances at each site. Additionally, TESH has a 10 year record of monitoring and handling ferrets at the Ranch without incidents of mortality.

The adverse effects of handling and monitoring the ferrets by permitted TESH or Service employees during this proposed project are expected to be minimal. Few ferrets were injured, with minimal mortalities, as a result of permitted handling of ferrets during the studies of the wild population at Meeteetse from 1981-1986, or from other reintroduction efforts in seven States since 1991.

Although other rare species have been reintroduced into the wild (red wolf, California condor, and Mexican gray wolf), no fully tested biological protocol is available to ensure reintroduction success of ferrets returned to the wild. However, the reintroduction techniques used at other successful ferret reintroduction sites such as Aubrey Valley, Arizona, Conata Basin, Cheyenne River Sioux Reservation and the Rosebud Sioux Reservation in South Dakota, and Shirley Basin, Wyoming, have proven that ferret releases on quality habitat have good chances of persistence. Under this proposal, ferrets will be released on a prairie dog complex with good densities and increasing prairie dog acreage. The NMESFO believes that the reintroduction protocols and management system outlined in the allocation request (TESF 2008a) and section 10(a)(1)(A) permit application have addressed both the needs of the ferret and the human community in the reintroduction area. This system should provide the best opportunity for success, but we recognize that due to the possible effects of plague, this reintroduction attempt may be more tenuous than sites undertaken in plague-free areas. This reintroduction effort may provide important answers to questions regarding ferret reintroductions into mid-sized black-tailed prairie dog colonies that are within the vicinity of plague even though there is a current lack of active plague data. TESH is evaluating methods to address plague including applications of deltamethrine (dusting) into burrows to reduce flea populations or methods to effect systemic flea control through use of baits (Long 2008. pers. comm.).

Normal ranching activities adjacent to the Ranch may include control of prairie dogs. Even though there are no extensive prairie dog colonies adjacent to the reintroduction site, prairie dogs are noted for their ability to expand colonies, especially in times of drought. Therefore, we anticipate that normal ranching operations outside the reintroduction area could involve prairie dog control, including the use of toxicants or shooting. Additionally, at other reintroduction sites ranchers' pet dogs have been known to catch ferrets, and ferrets have been killed by vehicle

collisions. Dogs can also act as agents for the spread of canine distemper. These normal ranching activities may result in adverse effects to individual ferrets but are not expected to reach a level that would compromise the reintroduction effort.

Prairie dog shooting within the Ranch is not allowed but prairie dog shooting off the Ranch by recreational hunters does occur on adjacent private lands. The chances of shooting a ferret in those situations are remote because ferrets are largely nocturnal and the colonies off the Ranch tend to be small and unlikely to provide long term habitat for ferrets.

Region 6's action to permit the reintroduction of ferrets to the Ranch may result in adverse effects to individual ferrets that disperse or range off the Ranch to adjacent lands that are not managed for ferret conservation. Ferrets that move onto adjacent lands will face decreased survival due to lack of adequate prey and shelter, and predation. We expect that most if not all ferrets that leave the Ranch will die. Therefore, once habitat on the Ranch is saturated with ferrets, it will be useful to remove a segment of the annual production and make those ferrets available for other reintroduction sites.

If a ferret is known to have moved off the Ranch and the affected landowner wants it removed from their property, TESH will work with that landowner to recapture such ferrets and return them to either the Ranch or to other sites at the direction of the Services' Black-Footed Ferret Recovery Project Leader. This action will reduce the likelihood that dispersing ferrets would be lost.

Substantial benefits of this action are the establishment of ferret population in New Mexico, development of techniques and knowledge that might be attained from successfully reintroducing ferrets into the southern part of the black-tailed prairie dog range. Further, if this effort is successful, it is likely to reduce the threat of extinction facing the ferret by establishing an additional population of ferrets in a portion of the ferret's historical range.

CUMULATIVE EFFECTS

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

Ranching and rural lifestyles along with some development are expected to continue to dominate private lands adjacent to the Ranch for the foreseeable future. Normal ranching operations and hunting are a part of that lifestyle and are expected to continue. Some prairie dog shooting is likely to occur on prairie dog colonies off the Ranch lands as well as prairie dog control by private landowners or government entities. These activities are not expected to impact ferrets that may be located on the Ranch but ferrets that leave the Ranch are unlikely to find suitable habitat. The inhospitable ferret habitat off the Ranch is recognized by TESH and the Service and this ferret reintroduction is not intended to change normal ranching operations off the Ranch including use of legal prairie dog toxicants.

CONCLUSION

After reviewing the current status of the ferret, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the NMESFO's biological opinion --

that the reintroduction of ferrets on the Ranch, as proposed, is not likely to jeopardize the continued existence of the ferret.

We base this conclusion on the following:

- Ferrets that will be used in this effort are not essential to the survival of the species.
- Precautionary measures will be implemented to reduce losses within the reintroduced population.
- The overall effect of the proposed action will be beneficial, by increasing knowledge about ferret conservation and potentially establishing a new self-sustaining population of ferrets.

The conclusions of this biological opinion are based on full implementation of the project as described in the Description of the Proposed Action section of this document, including any Conservation Measures that were incorporated into the project design.

INCIDENTAL TAKE STATEMENT

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

The reasonable and prudent measures described below are non-discretionary, and must be undertaken by Region 6 so that they become binding conditions of any grant or permit issued to the TESH, as appropriate, for the exemption in section 7(o)(2) to apply. Region 6 has a continuing duty to regulate the activity covered by this incidental take statement. If Region 6 (1) fails to assume and implement the terms and conditions or (2) fails to require the TESH to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the TESH must report the progress of the action and its impact on the species to Region 6 as specified in the Incidental Take Statement. [50 CFR §402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE

The Service along with the TESF, have reviewed land uses within the Ranch and we believe these uses are compatible with the objectives of the proposed ferret reintroduction but that some incidental take could still occur. Based on information from other reintroduction sites, we anticipate a low level of incidental take may occur on the Ranch, including injury or death, due to land-use practices including normal ranching operations, recreation, vehicle collisions or during ferret monitoring and handling processes. It is reasonable to expect that captive-raised ferrets released during the course of the proposed action may be more susceptible than wild ferrets to human activities due to their relative naiveté in the wild.

We also reviewed land uses that occur off the Ranch that may subject ferrets to take and believe take could occur off the Ranch property. In addition to those practices identified above, reintroduced ferrets that move off Ranch lands may also be subjected to incidental take from other activities including, but not limited to, prairie dog control and development of ranch lands into other enterprises that is expected to be ongoing through the duration of this permitted activity. Such anticipated take is an indirect effect of the proposed action, is included in this incidental take statement, and therefore will not be a violation of the Act. The incidental take level described herein covers accidental or unintentional take in the form of harm (injury or death) and harassment (disturbance) caused by otherwise legal human activities within the Ranch and lands outside the Ranch. Ferret mortality due to natural predation is not considered take and does not count against the level of incidental take allotted to the Ranch. Incidental take that may occur on lands adjacent to the Ranch is covered by this incidental take statement. Accordingly, adjacent landowners will not need individual incidental take permits for otherwise legal activities that may unintentionally take ferrets that leave the Ranch.

We anticipate that all ferrets that move off the Ranch lands will be lost due to natural causes (e.g., predation or starvation) or incidental take. Based on the lack of habitat outside the Ranch, we expect most off-ranch loss to be due to natural causes. Ferret movement off the Ranch is most likely to happen as the habitat within the Ranch becomes occupied by ferrets. With landowner permission, TESF will attempt to recapture these ferrets and relocate them to the Ranch or other suitable areas determined by the Services' National Black-Footed Ferret Recovery Project Leader.

We anticipate that take of ferrets may occur from activities both on and off the Ranch. Within the Ranch, take may occur through implementation of the reintroduction protocol outlined in the section 10(a)(1)(A) recovery permit application, which includes spotlighting surveys, pursuit, trapping, marking, examination, handling, and transport of ferrets. As described above, if ferrets are detected off the ranch, similar activities may occur off the ranch, with landowner permission, in an attempt to remove those ferrets. In addition, those ferrets may be translocated to another reintroduction area. Potentially, every ferret on and off the Ranch will be subject to take in the form of harassment through one or more of the above-described agency activities. However, we anticipate the rate of death and injury to be very low based on implementation of established monitoring and processing protocols and information gathered from other sites and TESF extensive experience with ferrets.

A low level of unintentional mortality is anticipated from traditional private land uses and authorized agency actions. Three wild ferrets were reported killed, presumably by vehicle collisions, during studies of ferrets in the wild at Meeteetse from 1982-1986. These studies estimated a total of 351 ferrets in the area during these years. Utilizing statistics on unobserved human-caused wildlife mortality (Bangs et al 1989), if we assume that there were as many unreported ferret mortalities as reported ferret mortalities during Meeteetse studies we conclude that about 1.7 percent of the wild ferrets from 1982-1986 possibly were killed by vehicle collisions.

There likely will be ferret mortalities from human activities other than vehicle collisions, such as capture by dogs (a rancher's dog killed the original ferret that led to the discovery of the Meeteetse ferret colony) or other unavoidable accidents. In addition, it would be reasonable to expect that captive-raised ferrets released during the course of the proposed action may be more susceptible than wild ferrets to human activities due to their relative naiveté in the wild. Thus, the following information was used to set a level of incidental take for the proposed action.

The information contained in the effects section concerning natural mortality of ferrets introduced into the wild can be used to bracket the anticipated level of incidental take. Human-caused mortality is expected to be greater than 1.7 percent, but should be less than 21.5 percent (100 percent minus the estimated natural mortality of 78.5 percent). With a range of 1.7 percent to 21.5 percent, the midpoint of this range is 11.6 percent.

Therefore based on data from studies of ferrets in the wild at Meeteetse, Wyoming, data from other reintroduction sites, and population modeling (see administrative record), the NMEFO estimates the annual incidental take level from human-caused mortality could be up to 12 percent of the estimated fall-monitored ferret population in the Ranch. In the first year following ferret releases, incidental take will be measured against the total number of ferrets released. In subsequent years, incidental take will be measured against the total number of ferrets known or estimated to exist in the wild in the reintroduction area, i.e., ferrets that survived release from previous years, their offspring, and any additional released ferrets. Implementation of the terms and conditions below should reduce the injury and death below the 12 percent level.

The NMESFO anticipates that the following take of ferrets could occur as a result of the proposed action:

1. No more than 12 percent of the current year's estimated fall ferret population will be killed or wounded as a result of normal land-use practices and Ranch activities including ferret monitoring, within the Ranch. If observed injury or mortality of 12 percent of the estimated fall ferret population is reached (5 ferrets the first year based on the projected ferret allocation), the NMESFO and Region 6 will evaluate whether reinitiation of consultation is appropriate.
2. All ferrets that leave the Ranch and are unintentionally taken during the course of conducting otherwise legal activities are covered by this Incidental Take Statement. We anticipate this number will be very low given that 17 years of ferret reintroductions have produced very few ferret sightings outside release areas and reported mortalities away from reintroduction sites even rarer.

3. All ferrets in the release area and off the Ranch are likely to be non-lethally taken through harassment (spotlighting, marking, examining, handling, transporting), pursuit, trapping and/or capturing.

EFFECT OF THE TAKE

In this biological opinion, the NMESFO determines that this level of anticipated take is not likely to result in jeopardy to the species. We believe prairie dog colonies off the Ranch lands are not necessary to the success of the Ranch's ferret reintroduction efforts; therefore, management of prairie dogs or other activities on those lands that may result in incidental take of ferrets are not restricted by this action.

REASONABLE AND PRUDENT MEASURES

In order to be exempt from the prohibitions of section 9 of the Act, Region 6 must comply with the following reasonable and prudent measures (1 and 2) and their implementing terms and conditions (lettered items) that also outline required reporting/monitoring requirements. These reasonable and prudent measures and terms and conditions are non-discretionary.

The following reasonable and prudent measures, and implementing terms and conditions, are necessary and appropriate to minimize take of ferrets:

1. The Service shall condition the 10(a)(1)(A) permit to maximize the probability of success of ferret reintroduction by allowing for adaptive management, implementing up-to-date scientific procedures, providing public education, and requiring that TESF coordinate with neighboring land users.
2. The Service shall ensure that the information to evaluate the success of the reintroduction is accomplished via appropriate monitoring and reporting measures.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of Section 9 of the Act, the following terms and conditions, which implement the reasonable and prudent measures described above, must be followed.

The following terms and conditions implement Reasonable and Prudent Measure #1:

1. The Service shall require TESF and cooperating agencies to implement the ferret reintroduction effort as described in the TESF ferret allocation request (TESF 2008a) and TESF section 10(a)(1)(A) permit application (TESF 2008b).
2. The Service shall require TESF to implement an information and education program that provides the public and agency personnel in the affected counties in New Mexico and the region with details of ferret recovery efforts and seek cooperation in reporting the taking or occurrence of ferrets in or near the area.

3. The Service shall ensure TESF and cooperating agencies work with land users in the area to seek their assistance in designing improved management strategies for attaining the goals and objectives of the proposed action.
4. The Service shall require TESF, with permission of the landowner, attempt to capture and remove ferrets from non-Ranch lands if requested.
5. The Service shall require that, as appropriate, emerging strategies and contingencies to minimize unnecessary harm to ferrets shall be cooperatively added to the TESF ferret reintroduction efforts.
6. The Service shall require as appropriate, strategies and contingencies to minimize unnecessary harm to ferrets should be cooperatively added to the reintroduction and management plan and implemented by TESF and cooperators.

The following terms and conditions implement Reasonable and Prudent Measure #2:

1. The Service shall require that TESF a primary ferret program contact for agencies, private landowners, and the public users in the affected area; submit follow-up reports of injured or killed ferrets; and immediately notify the Field Supervisor, NMESFO, Albuquerque, New Mexico, (505) 761-4781, and immediately notify the Service's Law Enforcement Office as described below in the "Disposition of Dead or Injured Listed Species" section.
2. The Service shall require that TESF, in conjunction with the Service and cooperating agencies, annually monitor the ferret population and its habitat and document the potential of ongoing activities or circumstances which may present unanticipated hazards to ferrets.
3. The Service will require that TESF record and manage information on ferret mortalities as described in the section 10(a)(1)(A) recovery permit.

Review requirement: The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. Region 6 must immediately provide an explanation of the causes of the taking and review with the NMESFO the need for possible modification of the reasonable and prudent measures.

If the incidental take level of 12 percent of the entire ferret population (as determined by fall annual monitoring) attributable to the proposed action is reached in any year within the Ranch, the entire reintroduction project will be reevaluated in coordination with the NMESFO to determine whether better management measures are needed or could be undertaken to reduce ferret mortality from human factors and to determine if section 7 consultation should be reinitiated.

Disposition of Dead or Injured Listed Species

Upon locating a dead, injured, or sick listed species initial notification must be made to the Service's Law Enforcement Office, P.O. Box 329, Albuquerque, New Mexico 87103-0329 Office: 505-248-7889 Fax: 505-248-7899 within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and in handling dead specimens to preserve the biological material in the best possible state.

CONSERVATION RECOMMENDATIONS

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

1. We recommend contingencies be developed to deal with a disease epizootic (plague or canine distemper, etc.) that may occur in the area and that would require the rescue of the ferret population in the proposed management area. Disease contingency strategies should be included in annual ferret allocation proposals submitted by TESH to the Service.
2. We recommend TESH continue to participate on the National Black-footed Ferret Recovery Implementation Team.
3. We recommend any individual contact the Service regarding incidences of property depredation by ferrets off the Ranch. While the Service does not anticipate any incidences of property depredation by ferrets to occur, the Service will work with all parties involved to develop non-lethal removal methods for ferrets. The Service also recognizes that the Act and New Mexico State statute allows intentional take of a protected species under some circumstances; however, we do not expect these situations to arise involving ferrets.

In order for the NMESFO to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the NMESFO requests notification of the implementation of any conservation recommendations. This can occur during annual Black-footed Ferret Recovery Implementation Team meetings or through other methods at TESH's discretion.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that

causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The NMESFO appreciates your efforts to work with TESH to recover ferrets and issue a section 10(a)(1)(A) recovery permit to benefit this species. For further information please contact Lynn Gemlo at (505) 761-4726 or Eric Hein at (505) 346-2525. Please refer to the consultation number 22420-2008-F-0146 in future correspondence concerning this project.



Wally Murphy

cc:

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(Attn: Susan Jacobsen)

Field Supervisor, South Dakota Ecological Services, Pierre, SD (Attn: Scott Larson)

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