National Park Service
U.S. Department of the Interior

Wind Cave National Park

South Dakota

Black-footed Ferret Reintroduction Plan

Draft Environmental Assessment

November 2006

Photo: Besskin, BLM

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EXECUTIVE SUMMARY

SUMMARY

The National Park Service is proposing to reintroduce black-footed ferrets (*Mustela nigripes*) to Wind Cave National Park in South Dakota under a "nonessential experimental" designation or similar mechanism that provides maximum flexibility for the park while minimizing regulatory issues for adjacent landowners. Ferrets released in the park would be part of an experiment to determine if the black-tailed prairie dog acreage is adequate to sustain a ferret population. The U.S. Fish and Wildlife Service and the National Park Service would take full responsibility for the ferrets released under their respective authorities. People who harm ferrets unknowingly within the project area, incidental to otherwise lawful activities, would be exempt from prosecution under the Endangered Species Act. The reintroduction of ferrets to the park would not affect the ability of any private or public landowner outside the park to implement lawful land use activities, including prairie dog control actions.

Two alternatives are analyzed in this environmental assessment:

Alternative A, The No Action / Continue Current Management Alternative: Under this alternative, active management actions to experimentally reintroduce the black-footed ferret would not be implemented. Ferrets that naturally colonize the park would be afforded the full protection of endangered species under the Endangered Species Act. The park would manage the prairie dog population in the park under the recently completed black-tailed prairie dog management plan and no changes or adaptive management actions to account for the reintroduction of ferrets would occur.

Alternative B, Reintroduce the Black-footed Ferret: Alternative B would implement actions to experimentally reintroduce the black-footed ferret to the park. Tools and actions used to manage black-tailed prairie dogs in the park would have a large effect on the success of a ferret reintroduction. All management actions taken would be evaluated to ensure the best chance for success of the ferret reintroduction. Management actions used to reintroduce ferrets and manage the prairie dog population would be consistent with the park's recently completed black-tailed prairie dog management plan.

DESIRED FUTURE CONDITION UNDER THE ACTION ALTERNATIVE

The black-footed ferret reintroduction plan seeks to reestablish a sustainable population of the ferret in Wind Cave National Park. The U.S. Fish and Wildlife Service would issue a section 10(a)1(A) recovery permit for the experimental release of ferrets in the park that would ensure that no burdens or constraints on landowner or private individual lawful activities outside the park would be associated with the potential presence of ferrets. The permit would include provisions for incidental take of ferrets. The desired outcome of the proposed action would result in a black-footed ferret population living among the black-tailed prairie dog complexes in the park. Because most private grazing lands adjacent to the park use lethal methods to control and eliminate prairie dogs, it is unlikely that ferrets would use these private lands for any substantial period because of the minimal numbers of prairie dogs. The desired condition in the park would include a black-footed ferret population that can withstand, or at least recover from, stochastic events such as severe winters or a disease outbreak such as sylvatic plague.

If ferrets are detected outside of the park boundaries, and subject to landowner approval, efforts may be made to recover those ferrets and return them to the park, captivity, or other suitable sites. However, the intentional take of an endangered ferret within or outside of the park would still be prohibited.

The management of a reintroduced population of ferrets would not conflict with other resource management objectives in the park and the alternatives analyzed in this environmental assessment would not result in impairment of park resources or values.

PUBLIC COMMENT

If you wish to comment on the environmental assessment, you may mail comments to the name and address below or post comments online at http://parkplanning.nps.gov/wica. This environmental assessment will be on public review for 45 days. Our practice is to make comments, including names, home addresses, home phone numbers, and email addresses of respondents, available for public review.

Individual respondents may request that we withhold their names and/or home addresses, etc., but if you wish us to consider withholding this information you must state this prominently at the beginning of your comments. In addition, you must present a rationale for withholding this information. This rationale must demonstrate that disclosure would constitute a clearly unwarranted invasion of privacy. Unsupported assertions will not meet this burden. In the absence of exceptional, documentable circumstances, this information will be released. We will always make submissions from organizations or businesses, and from individuals identifying themselves as representatives of or officials of organizations or businesses, available for public inspection in their entirety.

Comments must be received by December 22, 2006. Please address written comments to:

Superintendent
Wind Cave National Park
26611 U.S. Highway 385
Hot Springs, SD 57747-9430

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PURPOSE AND NEED

INTRODUCTION

Currently, the black-footed ferret (*Mustela nigripes*) does not occur within Wind Cave National Park. This federally and state-listed endangered species was historically present in the park and last sighted in the park in 1977. Through the efforts of a recovery and reintroduction program, the black-footed ferret has increased in numbers from a single known population rediscovered in 1981 in Meeteetse, Wyoming.

The ferret relies on prairie dogs as its primary prey and for habitat. However, prairie dog complexes not affected by sylvatic plague are limited in the historical range of the black-footed ferret. Wind Cave National Park is one of the few remaining plague-free locations with a large enough population of black-tailed prairie dogs to attempt a reintroduction effort. In addition, a reintroduction would meet all the criteria set forth in the NPS *Management Policies* (section 4.4.2.3, Management of Threatened or Endangered Plants and Animals) (NPS 2006a), namely:

- Adequate habitat to support the species either exists or can reasonably be restored in the park and if necessary also on adjacent public lands and waters; once a natural population level is achieved, the population can be self-perpetuating.
- The species does not, based on an effective management plan, pose a serious threat to the safety of people in parks, park resources, or persons or property within or outside park boundaries.
- The genetic type used in restoration most nearly approximates the extirpated genetic type.
- The species disappeared or was substantially diminished as a direct or indirect result of human-induced change to the species population or to the ecosystem.
- Potential impacts upon park management and use have been carefully considered.

The National Park Service is proposing to reintroduce the black-footed ferret within the boundaries of Wind Cave National Park under a “nonessential experimental” designation in order to meet the policies cited above.

This document analyzes the proposed black-footed ferret reintroduction for its potential effects on the natural, cultural, and socioeconomic environments in and around Wind Cave National Park.

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

Purpose

The primary purposes of developing a reintroduction plan for the black-footed ferret at Wind Cave National Park are to:

- *Implement* actions required for recovery of the species;
- *Evaluate* and improve reintroduction techniques and management applications;
- *Support* conservation and restoration of a more complete prairie ecosystem;
- *Manage* park resources in accordance with the park's general management plan (NPS 1994a), resource management plan (NPS 1994b), and NPS *Management Policies* (NPS 2006a); and
- *Protect* public health, safety, and welfare.

The resulting plan would be used to manage black-footed ferrets reintroduced into the park. This is usually for a 10 to 15-year period, but would cease if reintroduction efforts proved unsuccessful.

NPS *Management Policies* (NPS 2006a) states in section 4.4.2.3, Management of Threatened or Endangered Plants and Animals, that "The Service will survey for, protect, and strive to recover all species native to national park system units that are listed under the Endangered Species Act. The Service will fully meet its obligations under the NPS Organic Act and the Endangered Species Act to both proactively conserve listed species and prevent detrimental effects on these species." The proposed reintroduction action is entirely consistent with this policy. The proposed action would enhance the ecological integrity of Wind Cave National Park by restoring a missing element of the prairie ecosystem.

The following objectives are more specific statements of purpose that were identified by NPS staff in initial project planning phases. Successful reintroduction and management of the black-footed ferret resource will depend on the degree that these objectives are met.

- *Test* the viability of using a reintroduction site with less than 5,000 acres of prairie dog complexes;
- *Establish* a self-sustaining population of black-footed ferrets;
- *Provide* surplus wild-born ferret kits for translocations to other sites;
- *Meet* NPS policy by reintroducing an extirpated species;
- *Support* the NPS mission in keeping with NPS policies;
- *Collaborate* with park partners on the project;

- *Educate* the public about black-footed ferret restoration and conservation; and
- *Avoid or minimize* adverse effects on local economies, life styles, and the natural environment.

Need

The following statements provide the rationale for the proposed action and answer the question "Why is a reintroduction of the black-footed ferret needed at Wind Cave National Park?"

- Reintroduction of the endangered black-footed ferret (after 29 years of being extirpated from the park) was listed in the Statement for Management (NPS 1980) at the top of the park's management goals.
- The number of remaining large black-tailed prairie dog complexes available for use as ferret reintroduction sites is very limited.
- Risks to the continued existence of the black-footed ferret remain high as a result of prairie dog control programs, sylvatic plague, canine distemper, habitat fragmentation, demographic and environmental stochasticity (*i.e.*, random variability), and other factors.
- Many black-footed ferret reintroduction sites have been compromised by sylvatic plague; Wind Cave National Park can provide plague-free conditions with adequate habitat in a protected setting and a source of prey (black-tailed prairie dogs) for ferrets.

PURPOSE AND SIGNIFICANCE OF THE PARK

Description of the Park

Wind Cave National Park is located in western South Dakota, on the southeast edge of the Black Hills. The park was established in 1903 to protect Wind Cave (NPS 1994a). Wind Cave National Park encompasses 28,295 acres of prairie ecosystem, underlain by extensive karst deposits, with Wind Cave being one of the world's longest caves. The cave is well known for its outstanding display of boxwork, an unusual cave feature composed of thin blades of calcite that resemble honeycombs (NPS 2001a). In addition, the park has over 40 other, smaller caves (NPS 2001a).

Since the original designation, the purpose of the park has been expanded from cave preservation alone to protect both surface and subsurface resources. The visitor center receives about 110,000 visitors annually, with 80,000 to 95,000 entering the cave by ranger-led tours.

The surface features of the park include expanses of mixed-grass prairie, ponderosa pine, and riparian ecosystems. The gently rolling landscape of the park is a transition zone between eastern and western biomes, and supports a great diversity of plant and animal species (NPS 1994a). The park is well known for its resident bison (*Bison bison*) herd, as well as its opportunities to view mule deer (*Odocoileus hemionus*), white-tailed deer (*O. virginianus*), pronghorn (*Antilocapra americana*), elk (*Cervus elaphus*), prairie dogs, wild turkey (*Meleagris gallopavo*), raptors, and a variety of small mammals (Figure 1).

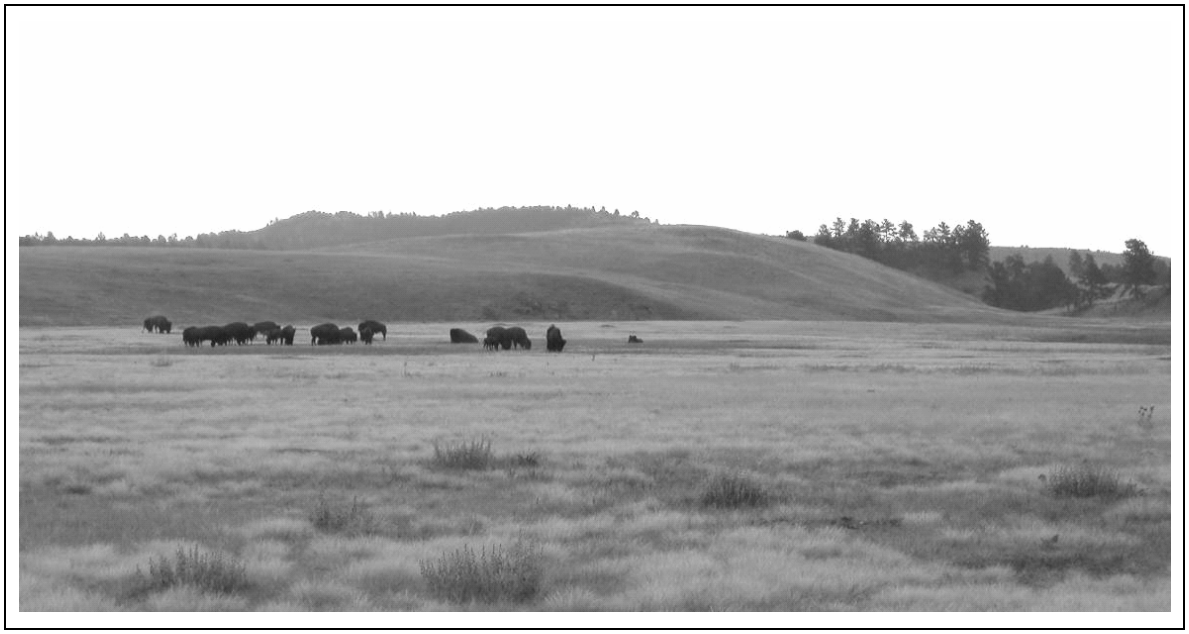

FIGURE 1. PARK VISTA WITH BISON

The cultural resources of Wind Cave National Park include evidence of prehistoric and Plains Indian cultures, records of early cave exploration and tourism, and Civilian Conservation Corps structures. The National Register of Historic Places includes the Wind Cave National Park Administrative and Utility Area Historic District along with several related historic properties. Other National Register-eligible properties are scattered throughout the park.

Recently, Highway 87 within Wind Cave National Park has been suggested to be eligible for the National Register as a cultural landscape. No National Register-eligible traditional cultural properties have been formally defined for Wind Cave National Park.

The park boundary is approximately 6 miles north of Hot Springs, South Dakota, and is bounded by Custer State Park on the north, Black Hills National Forest on the west, and by private property on the south and east. The park is one of a variety of destinations for Black Hills visitors. Attractions in the immediate area include Mount Rushmore National Memorial, Jewel Cave National Monument, Crazy Horse Memorial, the Mammoth Site of Hot Springs, and Badlands National Park (Figure 2).

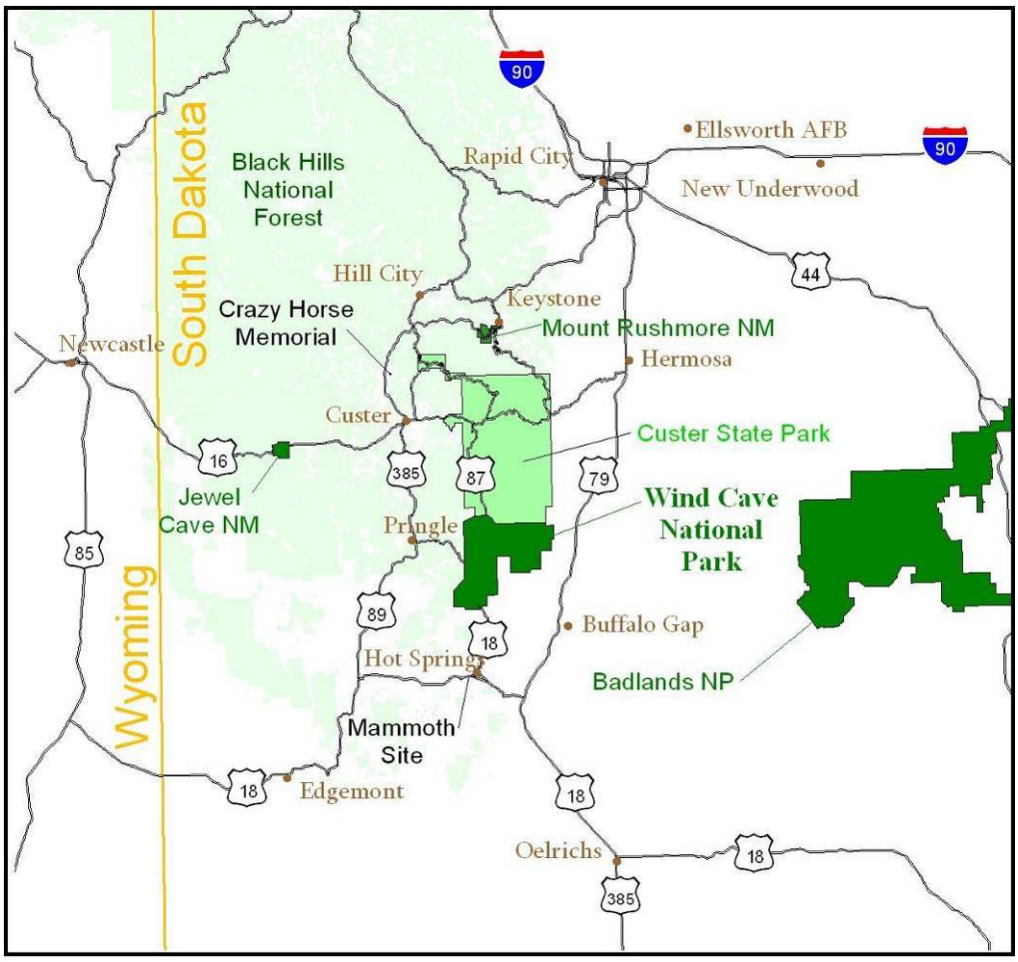

FIGURE 2. REGIONAL MAP OF WIND CAVE NATIONAL PARK

Significance and Legislation

Wind Cave National Park was established in January 1903 (32 Statute 765) as a 10,532-acre park to protect Wind Cave and the underground resources of this unique site. It was the eighth national park and the first created to protect a cave. The original legislation applied only to the cave and surface developments needed for the management and care of the cave (NPS 1994a). The parklands at that time were small, and there were no bison, elk, or pronghorn. These species were reintroduced later.

The purpose of Wind Cave National Park has evolved from cave preservation to protection of both subsurface and surface ecosystems. In 1912, establishment of the Wind Cave National Game Preserve provided a permanent range for bison and "such other native American game animals as may be placed therein." Herds of bison and elk were reestablished as the need to preserve and protect big game species was realized. In 1935, management of the game preserve was transferred from the Bureau of Biological Survey in the Department of Agriculture to Wind Cave National Park in the Department of Interior. Through a series of expansions, by 1946, the park encompassed over 28,000 acres to maintain a viable population of a variety of big game.

Additional legislation in 1978 added approximately 228 acres to the southern end of the park (NPS 1994a).

Although the black-footed ferret is not specifically identified by name as a resource to be protected in the establishing legislation or its expansions, the ferret was historically an integral element of the mixed-grass prairie habitats and surface ecosystems that the park is mandated to protect.

Brief History of the Black-footed Ferret and Recovery Efforts

The black-footed ferret historically occupied much of the central and western United States and may once have been common on the Great Plains. In the 1920s, ferret populations may have exceeded 500,000 animals (Clark 1989). Its range was likely sympatric with the prairie dog (*Cynomys* sp.), its primary food source (Hoogland 2006, USFWS 1988). Although ferrets may have once numbered in the millions, by the mid-twentieth century they were on the verge of extinction (USFWS 1988).

As a result of the precipitous population decline, the ferret was one of the first species recognized by the United States as being in danger of extinction. With enactment of the Endangered Species Act of 1973, the ferret was officially listed as endangered (it was listed as endangered by the State of South Dakota in 1978). However, for several years thereafter, it appeared that the animal was extinct. It was not until a small population was discovered in Meeteetse, Wyoming, in 1981 that recovery seemed possible. Through a series of disease events (sylvatic plague, canine distemper) the Meeteetse ferret population began to decline in the mid-1980's. Biologists removed the last 18 ferrets from the wild in Meeteetse in 1987 in an effort to start a captive propagation program with hopes of eventually releasing progeny into the wild (for a detailed history see Miller et al. 1996, Clark 1994, USFWS 1988).

The black-footed ferret captive propagation program has been one of the most successful conservation programs ever conducted. A recovery plan for captive breeding and reintroduction of black-footed ferrets was initiated in 1986. From just 18 animals (and a founder population of seven), the program has grown to where it now produces 300 to 400 animals annually for release into the wild (Lockhart et al. 1998). The ferret captive-breeding program headquarters has recently moved to the National Black-footed Ferret Conservation Center, a new facility near Fort Collins, Colorado, where the highly successful program continues.

The first reintroduction of black-footed ferrets into the wild occurred in 1991, with the release of captive-raised ferrets into the Shirley Basin, Wyoming. Since then, 11 distinct ferret reintroduction projects have occurred in six states (WY, MT, SD, CO, UT, AZ) and Chihuahua, Mexico (Lockhart, pers. comm. 2006). Success of the releases and establishment of ferret populations has ranged from good at the Conata Basin site in South Dakota to poor at several other sites. Overall, the ferret reintroduction program has experienced varied results; in cases of high quality habitat, large prairie dog complexes, and no plague, the reintroductions have been a success (Lockhart, pers. comm. 2006). However, in spite of the reintroduction program successes, the future of wild ferrets remains in doubt (Lockhart, pers. comm. 2006). The U.S. Fish and Wildlife Service (USFWS) recovery priority for the ferret remains a 2 (with a 1 being

most in danger of extinction and 18 being least in danger of extinction). Threats to reintroduced ferrets include plague, prairie dog control (especially on private lands), random demographic and environmental variability, and other factors.

The ferret recovery plan calls for at least 10 populations in the wild of at least 1500 breeding adults to achieve downlisting goals from endangered to threatened status (USFWS 1988). The recovery plan recognizes that although sites with large complexes of prairie dogs are preferred, smaller sites can contribute to the overall recovery program (USFWS 1988). As fewer plague-free potential reintroduction sites are available, a site such as Wind Cave National Park holds promise because it is plague-free, even though the prairie dog acreage is not as large as what was once believed necessary to support ferrets. The primary example where smaller prairie dog acreage may be suitable for ferret recovery is the Heck Table area on Forest Service Grasslands near Scenic, South Dakota. This area has approximately 1,800 acres of moderate to high density black-tailed prairie dogs that have supported a self-sustaining ferret population for six years.

Many reintroduction sites in Montana, Wyoming, Colorado, Utah, and elsewhere have been compromised by sylvatic plague, which notably reduces or eliminates prairie dogs, the primary food source of ferrets (Woodroffe 1999, Williams and Mills 1994, Barnes 1993, Cully 1993). To date, plague has not spread into Wind Cave National Park. Other reintroduction sites are not politically or administratively ready to accept ferrets or are compromised by prairie dog poisoning issues, shooting or private landowner concerns. By far the highest priority of the ferret recovery program is to make more reintroduction sites available and this appears only possible by consideration of smaller sites (Lockhart, pers. comm. 2003).

Black-footed ferrets have historically occurred in Wind Cave National Park. The last sighting of a ferret in Wind Cave National Park was in 1977 by a park naturalist (Roddy, pers. comm. 2002). The park was thoroughly surveyed in 1990 for black-footed ferrets, but none were found (Shreves 1990).

Description of the Reintroduction Area

Release of ferrets in the park would occur in various prairie dog colonies. The colonies for ferret release would be selected based on adequate prey density and a location not immediately adjacent to the park boundary, where dispersing ferrets would be more likely to move outside the park onto private land. Figure 3 shows the location and extent of the 2,162 acres of prairie dog complexes mapped in the park between November 2004 and February 2006. The area used by prairie dogs and where ferrets would be released is predominantly a prairie ecosystem, dominated by blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyron smithii*), and little bluestem (*Schizachyrium scoparium*). This system also supports a variety of forbs and shrubs, including yucca (*Yucca glauca*), prairie clover (*Dalea aurea*), prickly pear (*Opuntia polyacantha*), black-eyed Susan (*Rudbeckia hirta*), and cinquefoil (*Potentilla hippiana*) (NPS 2001a). The dominant vegetative species within the prairie dog complexes is purple three-awn (*Aristida purpurea).* Other commonly found plant species include: large-bract vervain (*Verbena bracteata*), Canada thistle (*Cirsium arvense*), common horehound (*Marrubium vulgare*), dwarf conyza (*Conyza ramosissima*) and fetid marigold (*Dyssodia papposa*) (Cogan *et al.* 1999).

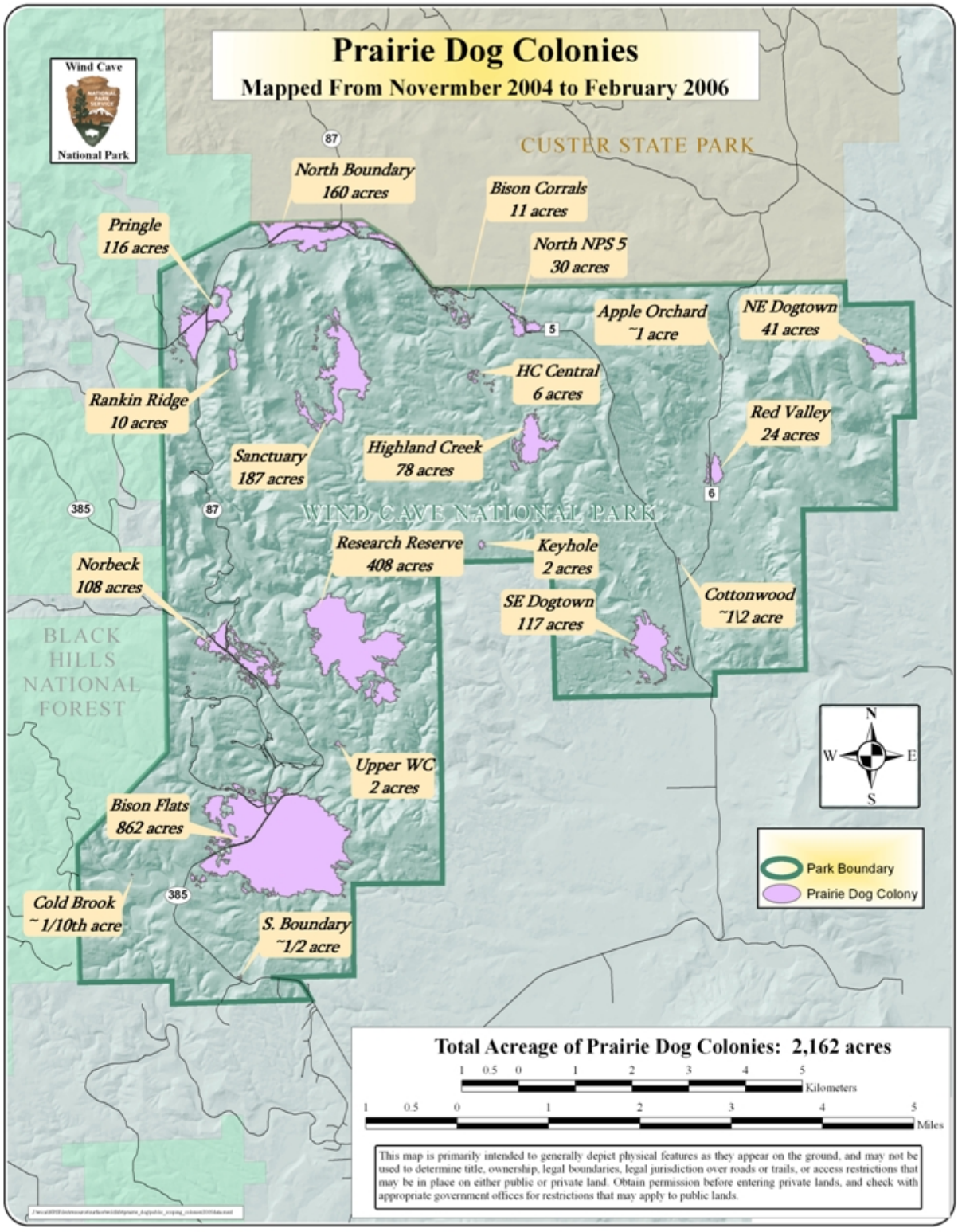

FIGURE 3. PRAIRIE DOG COLONY DISTRIBUTION IN WIND CAVE NATIONAL PARK

Related Projects, Plans, and Policies

The action alternative is consistent with other ongoing and planned management activities within the park. Specific plans and policies that relate to the actions proposed in this black-footed ferret reintroduction plan and environmental assessment are summarized below.

The 1994 **Wind Cave Resource Management Plan** and the 1994 **Final General Management Plan / Environmental Impact Statement** outline the direction for proposed actions to be taken in protecting park resources and enhancing visitor experiences at the park. The park's general management plan (NPS 1994a) states that the park should "continue to monitor prairie dog towns and take necessary steps to maintain the town's total acreage." Completion of a management plan for prairie dogs in 2006 (NPS 2006b) provides the rationale for current management (see following description).

Wind Cave National Park Black-tailed Prairie Dog Management Plan / Environmental Assessment. This plan, completed in 2006, will maintain the prairie dog acreage in the park between 1,000 and 3,000 acres, through the use of a variety of management tools. A No Prairie Dog Zone has been established in developed areas of the park (*e.g.*, administrative area, campground).

Wind Cave National Park Bison Management Plan. This plan is currently in preparation and will establish the size of the bison population and provide input for the distribution of forage among grazers.

Wind Cave National Park Vegetation Management Plan / Environmental Assessment. This plan is currently in preparation. It will establish direction for the future management of native and non-native vegetation in the park. This could affect the amounts of available forage and any rehabilitated forage areas.

Wind Cave National Park Elk Management Plan / Environmental Impact Statement. This plan is currently in preparation and will establish the desired population size of elk using the park, determine the most appropriate methods to reduce the elk population, and propose how to maintain the desired population size. This plan will provide input regarding the effects of the variable elk population on forage availability.

Wind Cave National Park Fire Management Plan / Environmental Assessment. The Fire Management Plan is a detailed program of action that provides specific guidance and procedures for using fire to restore and perpetuate natural processes in the park. This is done by accomplishing the park's fire management objectives, such as defining levels of protection necessary to ensure safety and protection of facilities and resources, and minimizing the undesirable environmental impacts of fire management. Prescribed fire can influence the size and location of prairie dog complexes.

Wind Cave National Park Boundary Revision / Environmental Assessment. Completed in June 2002, this plan and NEPA compliance document presents information and analysis for the addition of 5,675 acres on the southern boundary of Wind Cave National Park. The boundary revision was addressed by congressional action in 2005.

Wind Cave National Park Wastewater Treatment Facility Environmental Assessment. The park is relocating the wastewater treatment lagoons. Implementation of the project would protect the park's cave resources from exposure to organic pollutants. There are prairie dogs in the vicinity of the new location that could be affected by construction or operations.

Wind Cave National Park Project to Rehabilitate Highway 87 and Visitor Center Access Roads Environmental Assessment. This plan will rehabilitate and resurface 1.4 miles of the visitor center access road and 7.2 miles of South Dakota State Highway 87 within the boundaries of Wind Cave National Park. The overall goal of this project is to improve the structural integrity and safety of the main north-south access road within Wind Cave National Park. The travel surfaces of the park roads and bridges are aging and in poor condition. Several prairie dog colonies are adjacent to the highway corridor in which most of the rehabilitation and resurfacing work would take place. This could interrupt implementation of some management actions that may be determined by this black-footed ferret reintroduction plan.

Scoping

Scoping is the effort to involve agencies and the public in determining the issues to be addressed in the environmental evaluation. Among other tasks, scoping determines important issues; allocates assignments among the interdisciplinary team members and other participating agencies; identifies related projects and associated documents; identifies permits, surveys, or consultations required by other agencies; and creates a schedule that allows adequate time to prepare and distribute the environmental document for public review and comment before making a final decision.

At a minimum, National Park Service agency scoping includes input from the State Historic Preservation Officer, the U.S. Fish and Wildlife Service, and Native American tribes affiliated with the park. During development of this environmental assessment, the park contacted the South Dakota State Historic Preservation Officer, the U.S. Fish and Wildlife Service, and affiliated tribes by letter. A summary of the scoping activities undertaken prior to development of this environmental assessment can be found in the "Consultation and Coordination" section.

An internal scoping meeting, held at the park on October 9, 2002, identified the plan's objectives, main issues, and impact topics to be evaluated in this environmental assessment. Representatives from South Dakota Game, Fish, and Parks and from the U.S. Fish and Wildlife Service participated in the internal scoping meeting. The South Dakota State Historic Preservation Office was contacted regarding protection of cultural resources, and that information is included in the discussion of cultural resources. The agency representatives that attended the scoping meeting contributed to the overall development of the issues identified below.

This planning effort was interrupted in 2003 when the National Park Service began preparation of a black-tailed prairie dog management plan and environmental assessment. The rationale for temporarily halting the ferret reintroduction planning process was that a management plan to address issues associated with the prairie dog, the ferret's primary prey and habitat provider, was a higher priority and a more sensible planning progression. The prairie dog management plan and environmental assessment and a Finding of No Significant Impact were completed in May

2006. Subsequently, the park reinitiated scoping for the ferret reintroduction plan with a press release issued on July 13, 2006. In addition, new scoping letters were sent to the U.S. Fish and Wildlife Service, the SHPO, and the tribes. The text of the press release is included in Appendix A and further described in the Consultation and Coordination section of this document. Additionally, the park coordinated this proposal with the South Dakota Department of Game, Fish and Parks in July and August 2006 for further input.

Issues

Issues and concerns regarding the proposed reintroduction were identified during internal and public scoping. The main issues associated with the reintroduction of black-footed ferrets at Wind Cave National Park include the following:

- Prairie dog acreage in the park may not be adequate to support a sustainable population of ferrets.
- Predators may affect successful reintroduction of black-footed ferrets.
- Sylvatic plague is known to cause significant declines in prairie dog numbers and may threaten the successful reestablishment of black-footed ferrets. Other diseases that could occur in wild animals in the release area, such as canine distemper and Aleutian disease (a form of parvovirus), may be detrimental to black-footed ferret survival. Canine distemper, common to carnivores, poses a serious threat to black-footed ferrets and threatens their successful reintroduction.
- Black-footed ferret mortalities provide important information to guide future protocol and management decisions.
- There could be concerns about location and timing of black-footed ferret releases.
- Local landowners may be concerned that black-footed ferret reintroduction would result in a call for more prairie dogs.
- Private landowners may be concerned that access to the reintroduction area(s) is across their property.
- Local landowners may express concerns that their private operations or rights may be restricted by the reintroduction plan or the appearance of black-footed ferrets.
- Ranchers may express concern over compatibility of current livestock operations with reintroduction efforts and long-term habitat potential for black-footed ferrets.
- Landowners may have concerns of effects of black-footed ferret reintroduction on land management operations, specifically, the ability to conduct lethal prairie dog control.
- There could be a concern over whether public access by hikers, backpackers, bird watchers, and other public land users may be affected by black-footed ferrets or may impact establishment of black-footed ferrets.

- An opportunity was identified regarding emphasizing the intrinsic and educational value of black-footed ferrets and their habitat.

- There is a concern about the coordination between various federal and state agencies and private entities in relation to implementation of the reintroduction.

Impact Topics

Derivation of Impact Topics

Impact topics were used to focus the evaluation of the potential environmental consequences of the alternatives. Candidate impact topics were identified based on legislative requirements, executive orders, topics specified in *Director's Order #12 and Handbook* (NPS 2001b), *Management Policies* (NPS 2006a), guidance from the National Park Service, input from other agencies, public concerns, and resource information specific to Wind Cave National Park. A brief rationale for the selection of each impact topic is given below, as well as the rationale for dismissing specific topics from further consideration.

Impact Topics Included in this Black-footed Ferret Reintroduction Plan and Environmental Assessment

Endangered and threatened species, including those identified by federal and state lists, were retained as an impact topic due to potential effects of management actions on species with potential to occur in the park, specifically the black-footed ferret and bald eagle (*Haliaeetus leucocephalus*), both federally listed species. This topic is addressed in accordance with the Endangered Species Act of 1973 and NPS *Management Policies* (NPS 2006a).

Wildlife was retained due to potential effects on the black-tailed prairie dog and other wildlife species as a result of a ferret reintroduction. This impact topic is addressed in accordance with NPS *Management Policies* (NPS 2006a) and other wildlife laws, including the Migratory Bird Treaty Act.

Ethnographic resources and concerns were retained because of the role of the black-footed ferret in the history and belief systems of American Indian tribes traditionally associated with Wind Cave National Park. This impact topic is addressed in accordance with NPS *Management Policies* (NPS 2006a) and *NPS-28, Cultural Resource Management Guidelines* (NPS 1998) that direct the National Park Service to consider ethnographic concerns when making management decisions.

Park operations are managed in accordance with NPS *Management Policies* (NPS 2006a) and 40 Code of Federal Regulations (CFR) 1500 Regulations for Implementing NEPA. This impact topic was retained because of potential changes to staff and management needs as a result of reintroducing black-footed ferrets to the park.

Visitor use and experience are managed in accordance with the Organic Act of 1916 and NPS *Management Policies* (NPS 2006a). These topics were retained due to potential effects on opportunities for visitor enjoyment and public health and safety from both the presence of prairie dogs and use of management tools.

Socioeconomics are considered in accordance with NPS *Management Policies* (NPS 2006a) and 40 Code of Federal Regulations (CFR) 1500 Regulations for Implementing NEPA. This impact topic was retained for analysis because of potential effects of a ferret reintroduction on the local economy, including effects on businesses reliant on visitors and effects on neighboring landowners.

In addition, sustainability and long-term management and potential conflicts with land use plans, policies, and controls were each addressed in separate sections at the end of the "Affected Environment and Environmental Consequences" section of this document.

Impact Topics Dismissed from Further Analysis

The impact topics described in this section are not evaluated in detail in this environmental assessment. These impact topics were not identified during scoping as being of concern, nor is it anticipated that implementing any of the reintroduction management actions would substantially affect these park resources. Additional reasons for their dismissal are provided below.

Air quality: During the implementation of the ferret reintroduction plan, there would be few impacts on air quality as a result of management activities. Vehicle emissions and small amounts of dust could be generated from the use of vehicles during management actions; however, they would only contribute short-term, negligible effects on local air quality. Therefore, air quality is dismissed from further analysis in this document.

Archeological resources: A number of different laws, regulations, and guidelines mandate treatment of archeological resources; relevant guidance for the National Park Service is included in 36 CFR 800, NPS *Management Policies* (NPS 2006a), *Director's Order 28: Cultural Resources Management*, and *NPS-28, Cultural Management Guidelines* (1998), among others. Potential impacts of this reintroduction plan on archeological resources would be mitigated by adhering to the following guidelines:

1) The park would verify the locations of known archeological sites in the vicinity of project areas and would clearly define these areas as sensitive resource areas that are off-limits for all-terrain vehicle or crew access (without calling attention to the presence of archeological resources);

2) Management areas would be accessed via non-sensitive routes while the ground is frozen or is too dry to be easily disturbed;

3) The type of vehicle used to access off-road project areas (limited to the use of all-terrain vehicles) would be approved in advance with the park superintendent;

4) Work crews would be educated about the sensitivity and importance of cultural sites, and about the need to protect any cultural/archeological resources encountered; and

5) Work crews would be instructed about the illegality of collecting artifacts on federal lands (Archeological Resources Protection Act).

Soils: The proposed action would not alter topography or drainage in any way that would cause soil erosion or compaction, or affect soil fertility. Reintroduced ferrets would use existing black-tailed prairie dog burrows and would not cause a change in existing soil excavation or exchange rates. As a result, this impact topic was dismissed from further consideration.

Vegetation: The black-footed ferret is a carnivore; thus it would not directly affect vegetation in the park. The black-tailed prairie dog population, which would become the primary prey base for the ferret, would not experience a substantial change in size or distribution as a result of reintroducing the black-footed ferret; thus the herbivorous prairie dog's effect on vegetation would not change. As a result, this impact topic was dismissed from further consideration.

Water quality and hydrology: The reintroduction of black-footed ferrets would take place on upland prairie habitat and would not have any effect on water quality or hydrology. As a result, this impact topic was dismissed from further consideration.

Cultural landscapes: Cultural landscapes are defined in the NPS *Management Policies* (NPS 2006a) and in *NPS-28: Cultural Resource Management Guidelines* (1998). Cultural landscapes represent a complex subset of cultural resources resulting from the interaction between people and the land, and reflect the influence of human beliefs and actions over time on the natural landscape. Cultural landscapes are a living record of an area's past, providing a visual chronicle of its history. Normally, prairie dog towns, where ferrets would reside, are part of a natural prairie viewshed and are not considered an element of a cultural landscape.

It is possible that prairie dog towns could be considered part of an ethnographic landscape associated with contemporary groups, such as American Indian tribes who typically use or value natural resources in traditional ways. However, the relationship between tribes and ferrets can be much better defined under the topic of "Ethnographic Resources" (above), so the topic of cultural landscapes has been dismissed and will not be evaluated further in this environmental assessment.

Ecologically critical areas or other unique natural resources: The proposed action would not affect any designated ecologically critical areas, wild and scenic rivers, or other unique natural resources, as referenced in the Wild and Scenic Rivers Act, *Management Policies* (NPS 2006a), 40 CFR 1508.27, or the 62 criteria for national natural landmarks.

Energy requirements and conservation potential: The National Park Service reduces energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology. Energy efficiency is incorporated into the decision-making process during the design and acquisition of buildings, facilities, and transportation systems that emphasize the use of renewable energy sources. The action alternative would not appreciably change the park's short- or long-term energy use or conservation practices. The energy (primarily gasoline and diesel fuel) required for ferret reintroduction and management would not be detectable on a daily or annual basis compared to energy use in Wind Cave National Park and surrounding area.

Environmental justice: Executive Order 12898: General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations requires that all federal agencies address the effects of policies on minorities and low-income populations and communities. None

of the resource management actions would have disproportionate effects on minority populations as defined by the U.S. Environmental Protection Agency's 1996 guidance on environmental justice.

Historic structures: Guidance for management of historic structures in parks is included in the NPS *Management Policies* (NPS 2006a) and *NPS-28: Cultural Resource Management Guidelines* (1998). No historic structures would be affected by anticipated resource management activities, so this topic is not evaluated further in this environmental assessment.

Indian trust resources: Indian trust assets are owned by American Indians but are held in trust by the United States. Requirements are included in the Secretary of the Interior's Secretarial Order 3206, American Indian Tribal Rites, Federal – Tribal Trust Responsibilities, the Endangered Species Act, and Secretarial Order 3175: Departmental Responsibilities for Indian Trust Resources. According to Wind Cave National Park staff, Indian trust assets do not occur within the park. Therefore, there would be no effects on Indian trust resources from any of the alternatives.

Museum collections: The National Historic Preservation Act, 36 CFR 800, American Antiquities Act, Archaeological Resources Protection Act, Archaeological and Historic Preservation Act, Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Director's Order 28 (1998), and NPS *Management Policies* (NPS 2006a) guide the analysis of effects on museum collections under NEPA. None of the park's museum collections would be affected by any of the alternatives under evaluation.

Prime and unique agricultural lands: The Council on Environmental Quality 1980 memorandum on prime and unique farmlands states that prime farmlands have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Unique agricultural land is land other than prime farmland that is used for production of specific high-value food and fiber crops. No such agricultural sites are found in Wind Cave National Park due to the rocky terrain, arid environment, and short growing season.

Wetlands and floodplains: Executive Orders 11988: Floodplain Management and 11990: Wetlands require analysis of impacts on floodplains and regulated wetlands. Management actions associated with ferret reintroduction would have no effect on wetlands or floodplains. One ephemeral wetland area is present in the Bison Flats prairie dog colony. However, no management actions associated with this plan would affect this wetland or any other wetland. No actions taken under any of the alternatives would directly affect floodplains; reintroduction of black-footed ferrets to prairie dog complexes would have no effect on floodplain values or function.

Wilderness: Wind Cave National Park does not contain nor is it adjacent to any designated or proposed wilderness areas. Approximately 96.5 percent of the park's surface is included in the "natural zone" (NPS 1994a). Within this area, signs of human use and development are widely present and easily visible. Wind Cave National Park is not under consideration for wilderness designation under the 1964 Wilderness Act, Director's Order 41, or NPS *Management Policies* (NPS 2006a).

Urban quality and design of the built environment: The proposed actions would not result in any effects on urban quality or affect the built environment. As a result, this impact topic was dismissed from further consideration.

ALTERNATIVES CONSIDERED

This assessment analyzes two alternatives: 1) continuing current management, Alternative A, the No Action Alternative and 2) an action alternative, Alternative B, Reintroduce the Black-footed Ferret. Alternative B was designed to embody the goals and address the issues associated with experimentally reintroducing the black-footed ferret into Wind Cave National Park. These goals and issues are described in the "Purpose and Need" section.

The No Action Alternative was used as a baseline to compare and analyze the effects of the action alternative management approach. This was the context for determining the relative magnitude, intensity, and characteristics of management action effects on natural, cultural, social, and economic resources (NPS 2006a). The No Action Alternative is referred to as "Alternative A, the No Action Alternative" in this environmental assessment.

The action alternative, Alternative B, was developed in consideration of the park's mission, internal and public scoping, the long-term desired condition, and management objectives and issues. Actions or alternatives that were not realistically feasible or did not adequately meet the project purpose and need were dismissed from further consideration. The alternatives dismissed from consideration are addressed in the section "Alternatives Considered but Dismissed."

Table 1 presents a summary of the characteristics of the alternatives that were considered for managing future black-footed ferret populations in the park.

TABLE 1. ALTERNATIVE CHARACTERISTICS

Alternative	Characteristic
A No Action / Continue Current Management	• Management actions in the park would continue in accordance with existing plans. The black-footed ferret would not be introduced and all the associated management actions would not occur.
B Reintroduce the Black-footed Ferret	• Actions would be taken to experimentally reintroduce the black-footed ferret in the park. Monitoring would take place to evaluate the success of the reintroduction and identify the potential need for corrective measures. The U.S. Fish and Wildlife Service and National Park Service would take total responsibility for the ferrets. There would be no constraints or burdens placed on private landowners' lawful land use activities as a result of the ferret reintroduction. Interpretive programs would be developed to educate the public about the reintroduction and the role of the ferret in the prairie ecosystem.

ALTERNATIVE A, THE NO ACTION ALTERNATIVE

Continue current management / no action is the baseline condition against which proposed activities are compared. This alternative is defined as continuing existing management practices into the future. Under the current general management plan, actions related to conserving endangered and threatened species would continue but stop short of an active reintroduction of the black-footed ferret to Wind Cave National Park.

This alternative assumes that the black-tailed prairie dog complexes in the park would continue to exist with the black-footed ferret's ecological niche vacant. The relationships between the prairie dog, ferret, and other commensal species would not have the opportunity to redevelop in the park.

Wind Cave National Park will manage the prairie dog population in the park according to the recently completed prairie dog management plan (NPS 2006b). This is especially relevant to this proposed action because of the complex and dependent relationship that ferrets have with prairie dogs.

The prairie dog population in the park would be maintained between 1,000 to 3,000 acres. Management actions would be taken in response to landowner complaints where prairie dog movement from the park to adjacent private lands could be documented. Additional management would keep the administrative areas, corrals, and campground free of prairie dogs. The tools that would be used to manage prairie dogs include trapping and relocation, vegetative manipulation (e.g., mowing or encouraging grazing by ungulates), fire, or lethal controls. These management actions would not be restricted or constrained with the implementation of the No Action Alternative as a result of the presence of ferrets.

Refer to the Wind Cave National Park Black-tailed Prairie Dog Management Plan / Environmental Assessement for additional details and the effects of management on the species that would be the primary prey for the black-footed ferret.

The complement of predators in the park that prey on prairie dogs includes raptors, coyotes, bobcats, mountain lions, badgers, and prairie rattlesnakes. Although predation would function to increase the fitness of the prairie dog population, the absence of ferrets would diminish the effectiveness of this ecological process.

The natural return of ferrets to the park from areas where they have been reintroduced is a possibility, although not highly likely because of the distance to the nearest wild populations (*i.e.*, Conata Basin). However, should ferrets naturally return, they would be managed in accordance with all existing, applicable regulations and NPS policies.

ALTERNATIVE B, REINTRODUCE THE BLACK-FOOTED FERRET

Alternative B would experimentally reintroduce the black-footed ferret to the black-tailed prairie dog complexes in Wind Cave National Park.

Experimental Release of Ferrets

Ferrets would only be released in the park if they would be entirely the responsibility of the U.S. Fish and Wildlife Service and National Park Service. Specifically, liability for the welfare of ferrets reintroduced to the park would be the responsibility of the National Park Service and U.S. Fish and Wildlife Service, regardless of where the ferrets were (i.e., in or out of the park). There are no Endangered Species Act compliance requirements associated with lawful activities that occur outside the park. The U. S. Fish and Wildlife Service would authorize this reintroduction under section 10(a)1(A) recovery permit to ensure that ferrets would be reintroduced with a status similar to the section 10j nonessential, experimental status conferred to ferrets in other reintroductions. There would be no long range consequences to any activities outside of the park boundaries. The ferrets would be reintroduced with a five year interim "feasibility" recovery effort and development of an ultimate administrative approach that will continue to provide "no impact" assurances to land uses outside of the park. The section 10(a)1(A) recovery permit to recover ferrets in the park would avoid conflicts with private landowner interests. Private landowners could continue all lawful operations and activities; including using registered rodenticides to control prairie dogs and hunting on private lands. Black-footed ferret reintroduction in the park would not impose any changes or burdens on private land use. If any reintroduced ferrets are found on adjacent private lands, and the landowner objects to their presence or land use activities could jeopardize the ferret(s), the NPS would request to be notified, although such notification would not be mandatory. Efforts would be made to capture and relocate the ferret(s) back to the park with permission of the landowner.

Pre-release Monitoring and Vaccination

Prior to reintroduction of ferrets, local carnivore populations would be sampled to determine presence of and/or titers to canine distemper, sylvatic plague, or other diseases harmful to the black-footed ferret. Prior to release, all ferrets would be vaccinated with PUREVAX ™ Ferret Distemper Vaccine (Merial Limited, Iselin, New Jersey).

Reintroduction Sites

The final selection of specific release sites would be made closer to the release date based on consultation with the U.S. Fish and Wildlife Service. The specific site selection would consider colony size and configuration; physical attributes, including topography, soil types, and vegetation; prairie dog density and distribution; access to and capability for monitoring; and proximity to adjacent private land. Excellent candidate colonies include the Bison Flats prairie dog colony (862 acres) and the Research Reserve colony (408 acres), although other colonies within the park's prairie dog complex would probably receive ferrets over the course of the reintroduction effort. The Bison Flats and Research Reserve colonies would provide the largest habitat areas and would allow ease of access for monitoring. Figure 3 shows the location of the prairie dog complexes in the park. A summary description of the actions that would occur under the proposed action follows.

Reintroduction Management Actions

The initial release of black-footed ferrets would use preconditioned and/or translocated wild-born black-footed ferrets. The term preconditioned ferret refers to black-footed ferrets that have been acclimated to an active prairie dog burrow system in outdoor pens. These ferrets have demonstrated an ability to kill prairie dogs in the outdoor pens while also being protected from predators. Previous releases in South Dakota and other reintroduction sites have documented significant increased survival of released ferrets that have undergone a preconditioning period in outdoor pens (Biggins et al. 1998, Biggins et al. 1999, Biggins et al. in press). Exceptional post-release survival rates have been noted with preconditioned ferrets at the Conata Basin ferret reintroduction site. If preconditioning is necessary it would take place at an appropriate facility such as the National Black-footed Ferret Conservation Center in Fort Collins, CO. Wind Cave National Park may request wild born ferrets from the Conata Basin reintroduction site to be part of the initial ferret release, but if they are not available, the park will accept pre-conditioned kits or adults. Translocations of ferret kits from the Conata Basin sites have consistently shown high survival when placed at new sites (Scott Larson, pers. comm., 2006). All black-footed ferrets released in year one would be implanted with at least one permanent, individually-identifiable transponder for rapid identification at close distances (Fagerstone and Johns 1987).

The park submitted a ferret allocation request in March 2006 to the U.S. Fish and Wildlife Service. This is a requirement by the U.S. Fish and Wildlife Service for the interested party to explain how they will complete a reintroduction effort if the interested party is approved for such an action. The park had to submit this type of request to advise the U.S. Fish and Wildlife Service that if the reintroduction plan and environmental assessment were favorable for a ferret reintroduction effort and they were completed by this fall or winter, the park could be in a position for a ferret reintroduction effort. The U.S. Fish and Wildlife Service and the National Park Service both are aware that “only if” the alternative selected in the reintroduction plan and environment assessment are favorable towards the reintroduction of ferrets would the ferret allocation request be acted upon. If the No Action alternative is selected and ferrets are not going to be introduced or if the process gets delayed beyond the winter 2006/2007 then the U.S. Fish and Wildlife Service will re-allocate any ferrets that they may have been set aside for the park.

The standard reintroduction protocol calls for the release of 20 or more captive-raised, or wild-born, translocated black-footed ferrets in the first year of the program, with 20 or more animals released annually for the next two to four years. The goal would be that a self-sustaining wild population be established in the park within five years. The initial release is targeted for the fall or early winter of 2006 or 2007. Released ferrets, if they were captive-raised, would be excess to the needs of the captive-breeding program, and their use would not affect the genetic diversity of the captive ferret population (ferrets used for reintroduction efforts can be replaced through captive breeding). In the future, it may be necessary to interchange ferrets from established, reintroduced populations to enhance the genetic diversity of the reintroduced population.

The park would develop specific annual allocation proposals and plans and submit them to the U.S. Fish and Wildlife Service as part of an established, annual black-footed ferret allocation process.

Predators

Natural predators of black-footed ferrets, including coyotes, bobcats, mountain lions, badgers, and rattlesnakes, are present in Wind Cave National Park. In addition, a variety of avian species, including golden eagles, great-horned owls, and other raptors, would potentially prey on reintroduced ferrets.

Currently, no specific ferret predator control is planned for either pre- or post-release. Research demonstrates that lethal predator control, specifically with coyotes, is not only ineffective in the long run, but may actually have the opposite effect of what is intended with predator reduction (Pitt et al. 2001, Windberg 1995). Indiscriminate killing of coyotes may actually increase predation pressure on ferrets by leading to coyote population expansion. This occurs because coyotes may compensate for high mortality by producing larger litters. Removing territorial dominant animals only has a short-term effect because they are replaced in about 3 months (Blejwas et al. 2002). In addition, the killing of "resident" predators that have a more stable social structure allows transient animals to move in that are more likely to utilize easy prey areas such as prairie dog complexes. These "transient" individuals may also be a transmission vector for plague or other diseases. Black-footed ferrets would need to adjust to normal population levels of other resident predators for reintroduction to be successful. The National Park Service believes that stability of the system is more important and that this adjustment would be achieved more effectively and quickly with the presence of "resident" predators in a more stable predator community.

The park reserves the right to take or relocate under exigent circumstances (NPS *Management Policies*, section 4.4.2 [NPS 2006a]) an individual predator that appears to be actively focusing on the black-footed ferrets. No wide-scale predator population controls would be used. Non-lethal, individual predator deterrents may be tested. The park would annually compile and evaluate ferret mortality due to predation and recommend ways to avoid excessive losses from predation.

Currently, coyote densities appear to have declined in the park. Fecal line transects were run to obtain coyote density indices in 2003 and 2004, and are being run again in 2006. The density index declined from 2003 to 2004 by 52%, which is attributed to a sarcoptic mange epizootic (Chronert, pers. comm., 2006). If time and staffing permit, the park plans to continue monitoring predators using fecal line transects and spotlight surveys.

Monitoring

All released ferrets would be marked with individually coded, passive, integrated transponder tags. Wind Cave National Park proposes to conduct up to four monitoring surveys following release of ferrets in the park. The monitoring surveys may be performed: 1) 30 days post-release; 2) in the spring (late March to early April) to check for kit survival; 3) in the fall (September) to trap and mark kits; and 4) 30 days post-marking of kits.

The monitoring efforts would consist of night surveys involving the use of spotlighting techniques for locating ferrets. The use of motorized vehicles is limited to existing roads in the park unless all-terrain vehicle use would be authorized by the park superintendent. Because of

the area's rolling terrain, vegetative ground cover, deeply incised drainages, and relatively low road density, it is likely that the effective extent of vehicle-based coverage would be limited. Pedestrian searches with battery packs would be used to augment survey of suitable habitats beyond vehicle spotlight ranges, including many prairie dog complexes within the backcountry of the park. Surveys would be conducted beginning at dusk and continuing until dawn over a minimum of three consecutive nights.

Opportunistic surveys, i.e., snow tracking (when conditions warrant), diurnal surveys, and detection of ferret sign (e.g., scat, tracks, trenching), would supplement the scheduled spot light surveys described above. All observations would be documented.

Reintroduction Goals

Mortality is usually highest during the first month following release. In the first year of the program, a realistic goal would be to have at least 25 percent of the animals survive the first winter.

The primary goal of the project is to test and evaluate the viability of ferret populations in a small prairie dog complex (i.e., approximately 2,500 acres). The information obtained from this project will have significant implications to the ferret recovery program.

The five-year goal of the proposed reintroduction is to establish a self-sustaining population of black-footed ferrets in the park. Specifically, the population would consist of at least 30 breeding females after five years. In the long-term (*i.e.*, continuing five years and longer after release), the goal would be to have a ferret population with size and distribution in a proportional relationship to the extent of prairie dog complexes in the park.

There would be no intention to change the ferret population status under the section 10(a)1(A) recovery permit unless the reintroduction is deemed a failure by the U. S. Fish and Wildlife Service (where no ferrets would remain in the park) or the black-footed ferret is recovered nationally in the wild and the species is de-listed.

Agency Management of the Black-footed Ferret Population

The National Park Service manages wildlife populations on national park system lands. In the case of this ferret reintroduction, the National Park Service and U.S. Fish and Wildlife Service would direct and be responsible for all aspects of the reintroduction. The U. S. Fish and Wildlife Service would provide the black-footed ferrets and technical assistance. The U.S. Forest Service, based on their successful reintroduction efforts at Conata Basin/Badlands, would provide technical assistance and possibly wild born black-footed ferret kits as their resources may allow. Additional technical assistance could be provided by Prairie Wildlife Research, Badlands National Park, and others involved in the black-footed ferret reintroduction program. South Dakota Game, Fish and Parks (SDGF&P) would provide assistance with reintroduction efforts if it were to affect Custer State Park or other state lands under SDGF&P's jurisdiction.

MITIGATION MEASURES

Under each management approach, best management practices and mitigation measures would be used to prevent or minimize potential adverse effects associated with the ferret reintroduction.

Resource protection measures undertaken during project implementation would include, but would not be limited to, those listed below in Table 2. The impact analyses in the "Affected Environment and Environmental Consequences" section were performed assuming that these best management practices and mitigation measures were implemented, and the analyses take the minimization of effects into account.

TABLE 2. BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

Natural Resources

Selection of prairie dog control measures and other management actions would be evaluated by park resource management staff to minimize adverse impacts on reintroduced ferrets as well as prairie dog populations. All actions would be consistent with the park's Black-tailed Prairie Dog Management Plan (NPS 2006b).

Use of control measures would be evaluated to minimize potential impacts on non-target species (plants and animals), including species that use prairie dog habitat or depend upon prairie dogs as a prey source.

Cultural Resources

The park would verify the locations of known archeological sites in the vicinity of project areas and would clearly define these areas as sensitive resource areas that are off-limits for vehicle or crew access (without calling attention to the presence of archeological resources). Work limits in the vicinity of important cultural resources would be clearly defined.

Work crews would be educated about the sensitivity and importance of cultural sites and about the need to protect any cultural/archeological resources encountered. This would include instructions for notifying appropriate park staff and other required agencies if cultural/archeological resources or human remains were discovered.

Work crews would be instructed about the illegality of collecting artifacts on federal lands (Archeological Resources Protection Act).

Ferret reintroduction areas would be accessed primarily on foot using non resource-sensitive routes. However, the use of all-terrain vehicles (with spark arrestors) to access project areas while the ground is frozen or is too dry to be easily disturbed would be cleared in advance by the park superintendent.

Socioeconomic Resources

Ferrets would be reintroduced only under an experimental permit and other long range administrative solutions which would confine the limits of this proposed action to the park boundaries. Thus, private landowners could continue all lawful operations and activities, including using registered rodenticides to control prairie dogs and hunting on private lands. Black-footed ferret reintroduction in the park would not impose any changes on private land use.

Alternatives Considered but Rejected

Two other alternatives were initially considered by Wind Cave National Park staff but rejected during the initial evaluation process. These alternatives and the reasons they were dismissed from further consideration are described below.

- **Reintroduce the black-footed ferret to Wind Cave National Park as fully endangered, with no section 10(a)1(A) recovery permit (conferring status similar to a nonessential, experimental population), and without U.S. Fish and Wildlife Service / National Park Service assumption of risks/liability for losses of ferrets that may disperse outside of the National Park boundaries.**

  This alternative was not considered for detailed evaluation in the environmental assessment because it was not deemed realistic and was in direct conflict with stated objectives of the reintroduction effort. One objective is to avoid or minimize adverse effects on local economies, life styles, and the natural environment. If ferrets were reintroduced as endangered and without experimental provisions or other administrative safeguards and individual ferrets dispersed onto private lands adjacent to the park, there could be potentially adverse effects on management of private lands, and pose severe burdens on park operations. Additionally, the South Dakota Department of Game, Fish, and Parks, which manages Custer State Park, adjacent to Wind Cave National Park on the north, would be restricted in its management options if the ferret, as an endangered species, crossed into the state park. This could conflict with the objective of collaborating with park partners.

- **Reintroduce the black-footed ferret to Wind Cave National Park as an essential, experimental population**

  This potential alternative was dismissed from further consideration for basically the same reasons as the previous alternative. The only difference would be that reintroduced ferrets would have threatened rather than endangered status while on National Park Service lands. Although there may be more latitude allowed in management options on private lands where reintroduced ferrets might be found, the restrictions would still conflict with the objectives of avoiding or minimizing adverse effects on local economies, life styles, and the natural environment and of collaborating with park partners.

The Environmentally Preferred Alternative

The environmentally preferred alternative is the alternative that would best promote national environmental policy expressed in the National Environmental Policy Act as well as NPS *Director's Order #12* (NPS 2001b) and NPS *Management Policies* (NPS 2006a). The environmentally preferred alternative would cause the least damage to the biological and physical environment, and would best protect, preserve, and enhance historical, cultural, and natural resources.

Section 101(b) of the National Environmental Policy Act identifies six criteria to help determine the environmentally preferred alternative. The act directs that federal plans should:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

2. Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.

3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.

4. Preserve important historical, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment that supports diversity and variety of individual choice.

5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.

6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

In the National Park Service, continuing current management may be considered in identifying the environmentally preferred alternative. Alternative A, the No Action Alternative, represents the current management direction for Wind Cave National Park. Alternative A would promote the continued absence of a species with an integral role in the prairie ecosystem. There would be no action taken to support the endangered species program. Alternative B, Reintroduce the Black-footed Ferret, would enhance the ecological integrity of the prairie ecosystem and support implementation of the Endangered Species Act.

By comparison, Alternative B would better meet environmentally preferred policies numbers 1, 2, 3, and 4 than Alternative A by:

- Reestablishing an important element in the prairie ecosystem, thus enhancing the environment for future generations;

- Reintroducing a culturally significant symbol and restoring a lost component important to Native American society;

- Using the experimental, non-essential population status as a tool to help avoid undesirable or unintended consequences on nearby private lands; and

- Strengthening biodiversity and the historical assemblage of species in the plains environment.

Therefore, Alternative B would be environmentally preferred over continuing current management (Alternative A).

Preferred Alternative

Alternative B, Reintroduce the Black-footed Ferret, would best meet the purpose and need for the project as defined earlier in this environmental assessment. Additionally, Alternative B

would better meet the project objectives than Alternative A, the No Action Alternative (refer to Table 3). The reintroduction of the black-footed ferret would be consistent with NPS policies (NPS 2006a) regarding recovery of endangered species, as well as support the goals of the Endangered Species Act. There would be no significant adverse effects associated with Alternative B, nor would any park resources or values be impaired. The integrity of the prairie ecosystem in the park would be enhanced with the return of the ferret to its ecological niche.

Based on these reasons, the National Park Service has selected Alternative B, Reintroduce the Black-footed Ferret, as the preferred alternative.

Comparison of Alternatives

Table 3 presents the ability of the alternatives to meet the project objectives. This provides a way to quickly compare and contrast the degree to which each alternative accomplishes the purpose or fulfills the need identified in the "Purpose and Need" section. The discussion of reasons and considerations supporting these summary findings is presented in the specific impact topic analyses presented in the "Affected Environment and Environmental Consequences" section.

TABLE 3. OBJECTIVES AND THE ABILITY OF THE ALTERNATIVES TO MEET THEM

Objective	Alternative A, the No Action Alternative	Alternative B, the Preferred Alternative
Test the viability of using a reintroduction site with less than 5,000 acres of prairie dog complexes.	Fails to meet the objective by not reintroducing black-footed ferrets.	Meets the objective by reintroducing the ferret to Wind Cave National Park, where current prairie dog complexes occupy about 2,200 acres but will not exceed 3,000 acres.
Establish a self-sustaining population of black-footed ferrets.	Fails to meet the objective by not reintroducing black-footed ferrets.	Meets the objective by reintroducing black-footed ferrets into the park, in a manner that would allow the population to become self-sustaining over time.
Provide surplus wild-born kits for translocations to other sites.	Fails to meet the objective by not reintroducing black-footed ferrets.	Presents the potential to meet this objective if the reintroduction is successful.
Meet NPS policy goals by reintroducing an extirpated species.	Fails to meet the objective by not reintroducing black-footed ferrets.	Presents the potential to meet this objective if the reintroduction is successful.
Support the NPS mission in keeping with NPS policies.	Not reintroducing the black-footed ferret would conflict with NPS policy regarding endangered and threatened species. Therefore, the objective would be not be fully met.	Better meets the objective by supporting the NPS mission and NPS policies, and extending this support to include reintroducing an extirpated species, the black-footed ferret.

TABLE 3. OBJECTIVES AND THE ABILITY OF THE ALTERNATIVES TO MEET THEM

Objective	Alternative A, the No Action Alternative	Alternative B, the Preferred Alternative
Collaborate with park partners on the project.	Fails to meet the objective by not reintroducing black-footed ferrets.	Meets the objective because collaboration and cooperation with park partners would be required for the reintroduction to succeed.
Educate the public about black-footed ferret restoration and conservation.	Fails to meet the objective by not reintroducing black-footed ferrets.	The reintroduction would meet this objective
Avoid or minimize adverse effects on local economies, life styles, and the natural environment.	Adverse effects would be minimized because black-footed ferrets would not be reintroduced; therefore, the objective would be met.	Adverse effects would be minimized because black-footed ferrets would be reintroduced under a section 10(a)1(A) recovery permit and no constraints or additional burdens would be placed on private landowners or their ability to conduct lawful land management activities.

SUMMARY OF IMPACTS

Table 4 summarizes the effects of each resource management approach on the impact topics that were retained for analysis at Wind Cave National Park. More detailed information on the effects of the management approaches is provided in the "Affected Environment and Environmental Consequences" section. See Table 5 (page 33) for definitions of Impact Topic Thresholds.

TABLE 4. SUMMARY OF EFFECTS BY IMPACT TOPIC

Impact Topic	Alternative A, the No Action Alternative	Alternative B, the Preferred Alternative
Endangered and Threatened Species	The No Action Alternative would not have any adverse effects on any endangered or threatened species, species proposed for listing, or on any designated critical habitats. No species' continued existence would be jeopardized as a result of not reintroducing black-footed ferrets to the park. However, there could be minor to moderate indirect adverse effects that would be the result of missed opportunities, the inability to take advantage of information that would be gathered, and the increased availability of wild-born ferrets that would have occurred with a successful reintroduction effort. There would be no impairment of endangered species resources or values as a result of the implementation of Alternative A.	Alternative B would have a moderate, long-term, park- and regionwide benefit on endangered species, specifically, the black-footed ferret, as a result of a successful reintroduction. Reintroduction program and Wind Cave National Park goals would be met and the ferret population would be another step closer to recovery. There would be no effect on the bald eagle, the other endangered species with potential to occur in the park. There would be no impairment of endangered species resources or values as a result of the implementation of Alternative B.
Wildlife	Under the No Action Alternative, an indirect, minor adverse impact would occur to wildlife because of the continued absence of a key predator species in the prairie ecosystem. Predator-prey relationships between the ferret and prairie dog would not be reestablished. Cumulative effects would be adverse and minor on wildlife because the wildlife community would continue to exist without a top level predator species. There would be no impairment of wildlife resources or values as a result of the implementation of Alternative A.	The beneficial effects on wildlife associated with Alternative B would be long-term, park- and regionwide and minor to moderate as a missing top-trophic level predator would be reintroduced to the ecosystem. Cumulative effects would be beneficial and moderate. There would be no impairment of wildlife resources or values as a result of the implementation of Alternative B.

TABLE 4. SUMMARY OF EFFECTS BY IMPACT TOPIC

Impact Topic	Alternative A, the No Action Alternative	Alternative B, the Preferred Alternative
Ethnographic Resources	There would be no new effects on ethnographic resources from Alternative A. Cumulative effects on ethnographic resources would be long-term, minor, and adverse, although Alternative A would not contribute significantly to this cumulative effect.	Alternative B would have a long-term, minor, beneficial effect on ethnographic resources as the highly-valued ferret would be returned. Cumulative effects would be adverse and negligible to minor, although Alternative B would contribute beneficially to those effects.
	There would be no impairment of ethnographic resources or values as a result of the implementation of Alternative A.	There would be no impairment of ethnographic resources or values as a result of the implementation of Alternative B.
	36 CFR Part 800.5 implements regulations of the National Historic Preservation Act (revised regulations effective January 2001), addressing the criteria of effect and adverse effect. Pursuant to this regulation, the National Park Service finds that the implementation of Alternative A would not result in adverse effects on archeological, historic, ethnographic, cultural landscape, or museum collection resources *(no adverse effect)* currently identified as eligible for or listed on the National Register of Historic Places.	36 CFR Part 800.5 implements regulations of the National Historic Preservation Act (revised regulations effective January 2001), addressing the criteria of effect and adverse effect. Pursuant to this regulation, the National Park Service finds that the implementation of Alternative B would not result in adverse effects on archeological, historic, ethnographic, cultural landscape, or museum collection resources *(no adverse effect)* currently identified as eligible for or listed on the National Register of Historic Places.
Park Operations	The No Action Alternative would have no effect on park operations, nor would it contribute to the moderate beneficial cumulative effects of other plans and projects on park operations.	The reintroduction of ferrets would add to park staff workload and strain already tight budgets. This would result in a long-term, parkwide, minor, adverse effect on park operations. Cumulative effects would be long-term, minor to moderate, and beneficial, although Alternative B would contribute to the cumulative effects with a minor, adverse impact. This may be offset by the reduction of prairie dog control needed as the ferrets may provide some measure of population control. take some of that burden.

TABLE 4. SUMMARY OF EFFECTS BY IMPACT TOPIC

Impact Topic	Alternative A, the No Action Alternative	Alternative B, the Preferred Alternative
Visitor Use and Experience	The effects Alternative A would be negligible, long-term, and adverse on visitor use and experience. Cumulative effects would be beneficial and minor to moderate, with Alternative A contributing in a negligible, adverse manner.	Alternative B would represent a moderate-to-major, long-term, park- and regionwide benefit to visitor use and experience. Cumulatively, the effects on visitor use and experience would be beneficial, long-term, and moderate.
Socioeconomics	Alternative A would have no effect on regionwide socioeconomics, and the cumulative effects of all related plans and projects in combination with Alternative A would continue to be moderate and beneficial.	Alternative B would represent a long-term, regional, moderate benefit to socioeconomic resources. Cumulative effects on socioeconomics would be long-term, moderate, and beneficial.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This section describes the evaluation methods, the affected environment, and the environmental consequences associated with reintroduction of black-footed ferrets. It is organized by impact topic, which allows a standardized comparison between alternatives based on issues. Consistent with NEPA, the analysis also considers the context, intensity, and duration of impacts, indirect impacts, cumulative impacts, and measures to mitigate impacts. National Park Service policy also requires evaluation of "impairment" of resources in all environmental documents associated with resource analysis.

METHODOLOGY

General Evaluation Methodology

For each impact topic, the analysis includes a brief description of the affected environment and an evaluation of the effects of implementing each alternative. The impact analyses were based on information provided by park staff, relevant references and technical literature citations, and subject matter experts. The impact analyses involved the following steps:

- *Define* issues of concern, based on internal and public scoping.
- *Identify* the geographic area that could be affected.
- *Define* the resources within that area that could be affected.
- *Impose* the action on the resources within the area of potential effect.
- *Identify* the effects caused by the action alternatives, in comparison to the baseline represented by the No Action Alternative, to determine the relative change in resource conditions.
- *Characterize* the effects based on the following factors:
    - Whether the effect would be beneficial or adverse.
    - Intensity of the effect: negligible, minor, moderate, or major. (Impact-topic-specific thresholds for each of these classifications are provided in Table 5.) Threshold values were developed based on federal and state standards, consultation with regulators, and discussions with subject matter experts.

- Duration of the effect: short-term or long-term, with specificity for each impact topic. Context or area affected by the proposed action: site-specific, local, parkwide, or regional.

- Whether the effect would be a direct result of the action or would occur indirectly because of a change to another resource or impact topic. An example of an indirect impact would be increased mortality of an aquatic species that would occur because an alternative would increase soil erosion, which would reduce water quality.

TABLE 5. IMPACT TOPIC THRESHOLD DEFINITIONS

Impact Topic	Negligible	Minor	Moderate	Major	Duration
Endangered and threatened species (including federally and state-listed species) (Text in italics used per USFWS ESA Section 7 Consultation Handbook.)	Effects on listed species or critical habitat would be extremely small, difficult to detect, and would not affect any key individual or population parameters. *No effect:* Listed species or designated critical habitat would not be affected.	*May affect / Not likely to adversely affect*: Effects on listed species or critical habitat would be discountable (*i.e.*, adverse effects are unlikely to occur or could not be meaningfully measured, detected, or evaluated) or completely beneficial.	*May affect / Likely to adversely affect*: Adverse effects on a listed species or critical habitat might occur as a direct or indirect result of the proposed action, and the effect would either not be discountable or completely beneficial. No direct casualty or mortality would occur. Moderate effects on listed species would result in a local population change due to changes in survivorship, and/or a shift in distribution;.	*Likely to jeopardize the continued existence of a species / Adversely modify critical habitat:* Effects could jeopardize the continued existence, including direct casualty or mortality of a listed species or adversely modify designated critical habitat within and/or outside the park boundaries. Major effects would involve habitat and protected species' breeding grounds changes such that the effects would substantially affect individuals or the population.	<u>Plants</u> Short-term – Recovers in less than one year. Long-term – Takes more than one year to recover. <u>Animals</u> Short-term – Recovers in less than one year. Long-term – Takes more than one year to recover.
Wildlife	Wildlife and their habitats would not be affected, or the effects would be at or below the level of detection and would not be measurable or of perceptible consequence to wildlife populations.	Effects on wildlife or habitats would be measurable or perceptible, but localized within a small area. While the mortality of individual animals might occur, the viability of wildlife populations would not be affected and the community, if left alone, would recover.	A change in wildlife populations or habitats would occur over a relatively large area within the park. The change would be readily measurable in terms of abundance, distribution, quantity, or quality of population.	Effects on wildlife populations or habitats would be readily apparent, and would substantially change wildlife populations over a large area in and out of the national park.	Short-term – Recovers in less than one year. Long-term – Takes more than one year to recover.

TABLE 5. IMPACT TOPIC THRESHOLD DEFINITIONS

Impact Topic	Negligible	Minor	Moderate	Major	Duration
Ethnographic resources, including traditional cultural properties eligible for or listed on the National Register of Historic Places	Negligible effect. The action would not have the potential to alter either resource conditions, such as traditional access or site preservation, or the relationship between the resource and the affiliated group's body of beliefs and practices. There would be no change to a group's body of beliefs and practices. For purposes of Section 106, the determination of effect on ethnographic resources would be no effect on historic properties.	Adverse effect. The action would have a slight but noticeable effect. It would not appreciably alter resource conditions, such as traditional access or site preservation, or the relationship between the resource and the affiliated group's body of beliefs and practices. For purposes of Section 106, the determination of effect on ethnographic resources would be no adverse effect. Beneficial effect. The action would enhance traditional access and/or accommodate a group's traditional practices or beliefs. For purposes of Section 106, the determination of effect on ethnographic resources would be no adverse effect.	Adverse effect. The effect of the action would be apparent, and would alter resource conditions. Interference with traditional access, site preservation, or the relationship between the resource and the affiliated group's beliefs and practices would occur, even though the group's beliefs and practices would survive. For purposes of Section 106, the determination of effect on ethnographic resources would be adverse effect. Beneficial effect. The action would facilitate a group's beliefs and practices. For purposes of Section 106, the determination of effect on ethnographic resources would be no adverse effect.	Adverse effect. The effect of the action would alter resource conditions. Traditional access, site preservation, or the relationship between the resource and the affiliated group's body of beliefs and practices would be blocked or greatly affected, to the extent that the survival of a group's beliefs and/or practices would be jeopardized. For purposes of Section 106, the determination of effect on ethnographic resources would be adverse effect. Beneficial effect. The action would encourage a group's beliefs or practices. For purposes of Section 106, the determination of effect on ethnographic resources would be no adverse effect.	Effects on many ethnographic features would be long-term because these resources are non-renewable. Effects on vegetation and other renewable ethnographic resources would be short-term (vegetation could be regenerated, etc.).
Park operations	Park operations would not be affected, or the effect would be at or below levels of detection and not have an appreciable effect.	The effect would be detectable but would not be of a magnitude that would appreciably change the park.	The effects would be readily apparent and would result in a substantial change in park operations in a manner noticeable to staff and the public.	The effects readily apparent resulting in substantial changes in park operations noticeable to staff and the public and markedly differ from existing operations.	Short-term – Only during the duration of the project. Long-term – Persists beyond project duration.

TABLE 5. IMPACT TOPIC THRESHOLD DEFINITIONS

Impact Topic	Negligible	Minor	Moderate	Major	Duration
Visitor use and experience	Visitors would not be affected, or changes in visitor use and/or experience would be below or at the level of detection. Visitors would not likely be aware of the effects associated with the alternative.	Changes in visitor use and/or experience would be detectable. Visitors would be aware of the effects associated with the alternative, but the effects would be slight.	Changes in visitor use and/or experience would be readily apparent. Visitors would be aware of the effects associated with the alternative and would likely be able to express an opinion about the changes.	Changes in visitor use and/or experience would be readily apparent and have important consequences. Visitors would be aware of the effects associated with the alternative and would likely express a strong opinion about the changes.	Short-term – Occurs only during the duration of the project. Long-term – Persists beyond the duration of the project.
Socioeconomics	No effects would occur, or the effects on socioeconomic conditions would be below or at the level of detection.	The effects on socioeconomic conditions would be detectable. Any effects would be small.	The effects on socioeconomic conditions would be readily apparent. Any effects would result in changes to socioeconomic conditions on a local scale.	The effects on socioeconomic conditions would be readily apparent and would cause substantial changes to socioeconomic conditions in the region.	Short-term – Effects would last less than one year. Long-term – Effects would last more than one year.

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Methodology for Assessing Impacts on Cultural Resources

Potential Effects on Cultural Resources and Section 106 of the National Historic Preservation Act.

Attention to the peoples whose lifeways are traditionally associated with resources under National Park Service stewardship is mandated in legislation and NPS policies. In this environmental assessment, effects on ethnographic resources and concerns are described in terms of type, context, duration, and intensity, which is consistent with the Council on Environmental Quality regulations that implement NEPA.

Typically, these impact analyses are intended to comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA) and would analyze effects on traditional cultural properties. However, no traditional cultural properties have been formally defined for Wind Cave National Park, so the discussion will focus on ethnographic resources and concerns. Impacts to these resources are described using NEPA terminology (above). Impact threshold definitions for assessing potential effects on these resources are included in Table 5, below.

In considering the duration of effects on cultural resources, the effects on ethnographic resources would be both long-term and short-term.

Cumulative Effects

The Council on Environmental Quality (1978) regulations for implementing the National Environmental Policy Act require an assessment of cumulative effects in the decision-making process for federal projects. Cumulative effects are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative effects are considered for both the no action and action alternatives. The cumulative impacts analysis is presented at the end of each impact topic analysis.

Cumulative effects were determined by combining the effects of the alternative with other past, present, and reasonably foreseeable future actions in the vicinity. Therefore, it was necessary to identify other past, ongoing, or reasonably foreseeable future actions within Wind Cave National Park and the region. These identified projects and plans are presented under “Related Projects, Plans, and Policies” in the “Purpose and Need” section.

Impairment of Park Resources or Values

NPS *Management Policies* (NPS 2006a) provides guidance on addressing impairment of park resources. Impairment is an impact that, “in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the

severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts."

Any park resource can be impaired, but an impact would be more likely to result in impairment if it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park,
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- Identified in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to result in impairment if it is an unavoidable result, which cannot reasonably be mitigated, of an action necessary to preserve or restore the integrity of vital park resources.

Socioeconomics, park operations, and visitor use and experience are not considered resources that Wind Cave National Park was established to protect. Therefore, impairment findings are not included as part of the impact analysis for these topics.

ENDANGERED AND THREATENED SPECIES

Affected Environment

There are no designated critical habitats in Wind Cave National Park. Three federally listed threatened, endangered, or candidate animal species may occur in the park; refer to Table 6 for details regarding these species. There are no plant species in the prairie ecosystem at Wind Cave National Park eligible under Federal or State protection as an endangered or threatened species.

Black-footed ferret

The black-footed ferret is one of the most endangered species in the United States. Once thought extinct, there were approximately 665 individuals in the wild in the fall of 2005 due to a captive breeding program and ferret reintroductions (Lockhart, pers. comm. 2006).

The reasons for this species' decline are primarily from loss of habitat and prey and exotic diseases such as sylvatic plague. Short and mixed grass prairie have undergone extensive conversion to facilitate agricultural production. Prairie dogs (*Cynomys* spp.), the main prey of the black-footed ferret, have been largely reduced in numbers because of large-scale poisoning efforts, disease, and loss of habitat (Hoogland 2006).

Black-footed ferrets are nocturnal, solitary animals that produce one to seven kits per year (USFWS 1988). It is estimated that a ferret family (female ferret and young) requires a minimum of approximately 50 acres of prairie dog colonies to survive without depleting the prey resource

over time (Biggins *et al.* 2006, in press). One black-footed ferret family of four will eat about 763 prairie dogs per year under typical conditions (Biggins *et al*. 1993). In South Dakota, prairie dogs accounted for 91 percent of the black-footed ferrets diet (Sheets *et al*. 1972 in Miller *et al.* 1996). The life expectancy of wild ferrets is about 5 years, although in captivity, they can live for 10 years or more (USFWS 1988).

Black-footed ferrets can disperse somewhat long distances. Ferrets are known to move up to five miles in one night (Forrest et al. 1985, as cited in NatureServe 2006); juvenile dispersal is generally in a range of 6 to 9 miles (D. Keinath, pers. comm., as cited in Nature Serve 2006). Distances traveled by males tend to be about double those of females (USFWS 1988).

The historical range of the black-footed ferret included Custer and Fall River counties and Wind Cave National Park. The last observation of a black-footed ferret in the park was in 1977. An extensive survey, conducted in 1990, failed to locate this species in the park (Shreves 1990).

Bald eagle

In South Dakota, the bald eagle is primarily a migrant and wintering species. No nesting sites are known to occur in the park. Migrating eagles are observed in the park in open valleys and roosting in large trees within floodplains during winter months (Muenchau, pers. comm. 2006). They are regarded as casual and transient visitors to the park. The nearest regular bald eagle concentration occurs at Angostura Reservoir, approximately 12 miles south of the park (NPS 1994a). Ferret reintroduction is expected to have no effect on bald eagles using the park.

American burying beetle

The American burying beetle was recorded historically in 35 states, as well as along the southern edges of Ontario, Quebec, and Nova Scotia. Records indicate that the decline of the population was underway, if not complete, by 1923. Habitat requirements for the American burying beetle are not well understood (USFWS 2005b). The American burying beetle is now known to occur in five states: Nebraska, South Dakota, Rhode Island, Oklahoma, and Arkansas (SDGFP 2005). The South Dakota Natural Heritage Program has documented an approximately 1,000-square-mile area in southern Tripp and Gregory counties with substantial populations of the American burying beetle (Backlund 2002). One historic sighting was recorded 150 miles east of Wind Cave National Park, but there have been no documented occurrences within the park (NPS 1994a). It is likely not present in the park. Therefore, American burying beetles will not be further analyzed for each alternative.

TABLE 6. FEDERALLY LISTED ENDANGERED, THREATENED, AND CANDIDATE SPECIES WITH POTENTIAL TO OCCUR IN WIND CAVE NATIONAL PARK, SOUTH DAKOTA

Common Name *Scientific Name*	Listing Status	Designated Critical Habitat In Park?	Habitat Requirements
Black-footed ferret *Mustela nigripes*	Endangered	No	The ferret lives almost exclusively in association with prairie dog complexes, although it is currently extirpated from the park.
Bald eagle *Haliaeetus leucocephalus*	Threatened	No	The bald eagle ranges over most of the North American continent, from Alaska and Canada south to northern Mexico.
American burying beetle *Nicrophorus americanus*	Endangered	No	The American burying beetle's habitat includes open pasture and the forest/grassland ecotone. However habitat requirements are not completely understood.

Effects of Alternative A – the No Action Alternative

Implementation of the No Action Alternative would have no direct adverse effect on any of the species listed in Table 7 or any designated critical habitats. However, the indirect and direct beneficial effects that would likely accrue to the black-footed ferret population as a result of implementing the preferred alternative would not occur.

Implementation of Alternative A would result in a potential minor-to-moderate, indirect, adverse effect on the black-footed ferret because of the following:

- Genetic diversity of the species would not be enhanced with the establishment of an additional non-captive ferret population.
- The presence of plague-free prairie dogs in Wind Cave National Park would not be taken advantage of and other reintroduction efforts would likely have to risk exposing reintroduced ferrets to the plague if other plague-free sites are not identified.
- Black-footed ferret kits born in Wind Cave National Park (wild-born ferrets have a high survival rate and are the best animals available for reintroduction purposes [Godbey, pers. comm., 2002]) would not be available to support reintroductions at other sites.
- The NPS goal of reintroducing an extirpated species would not be met.

No effects would occur to the bald eagle because of implementing the No Action Alternative.

Cumulative Effects. The cumulative effect of not reintroducing black-footed ferrets to Wind Cave National Park would be moderate and adverse as the ferret reintroduction program would have to find other plague-free sites, or accept the risk of reintroductions in areas potentially exposed to the plague. The effect would be moderate because the reintroduction program is a potentially significant contributor to overall ferret recovery and a no-action alternative could substantially diminish long range recovery potential.

Conclusion. The No Action Alternative would not have any direct adverse effects on any endangered, threatened species, species proposed for listing, or any designated critical habitats. However, the ferret reintroduction program is a potentially significant contributor to overall ferret recovery and a no-action alternative could substantially diminish long range recovery potential. No species' continued existence would be jeopardized as a result of not reintroducing black-footed ferrets to the park. As noted above, there could be moderate adverse cumulative effects resulting from missed opportunities.

Alternative A would not produce major adverse impacts on endangered species resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in the park's general management plan or other National Park Service planning documents. Consequently, there would be no impairment of endangered species resources or values resulting from the implementation of Alternative A.

Effects of Alternative B, Reintroduce the Black-footed Ferret

The beneficial effect of Alternative B on the black-footed ferret would be long term, parkwide, and moderate. There would be no effect on the casual, transient bald eagle population.

Should the reintroduction be successful, numerous effects would contribute to the overall moderately beneficial magnitude of the action. These effects would include the following:

- Obtaining valuable information about the viability of smaller reintroduction sites (*i.e.*, less than 5,000 acres of prairie dog colonies, which was the standard used by the U.S. Fish and Wildlife Service in the past).
- Genetic diversity of the species would be enhanced with the establishment of an additional non-captive ferret population.
- A distinct, self-sustaining population of black-footed ferrets would be established in Wind Cave National Park, thus contributing to the recovery goal of 10 distinct populations.
- Wild-born black-footed ferrets could be available to support reintroductions at other sites.
- The NPS goal of reintroducing an extirpated species to the park would be accomplished.

Even if the reintroduction were to fail, the lessons learned about reintroducing black-footed ferrets to an area with less than 5,000 acres of prairie dog complexes would provide at least a

minor benefit in the form of valuable information that could be used to improve the likelihood of success for future reintroductions.

Cumulative Effects. The proposed action, in combination with other plans and projects, would have no additional or cumulative effect on endangered or threatened species beyond those identified for the black-footed ferret population that would be reintroduced.

Conclusion. Alternative B would have a moderate, long-term, park- and regionwide benefit on endangered species, specifically the black-footed ferret, as a result of a successful reintroduction. Reintroduction program and Wind Cave National Park goals would be met and the ferret population would be a step closer to recovery. There would be no effect on the bald eagle, the other endangered species with potential to occur in the park.

Alternative B would not produce major adverse impacts on endangered species resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in the park's general management plan or other National Park Service planning documents. Consequently, there would be no impairment of endangered species resources or values resulting from the implementation of Alternative B.

If Alternative B is selected, prior to any ferret releases, the U.S. Fish and Wildlife and the National Park Service would conduct formal section 7 consultation to ensure incidental take of ferrets that could result from normal reintroduction activities (surveying/handling/microchipping, etc.) are authorized. This consultation would be completed concurrent with the permit designating a nonessential experimental ferret population.

WILDLIFE

Affected Environment

The wildlife habitat within Wind Cave National Park is a mosaic of mixed-grass prairie, shrublands, riparian areas, woody draws, and coniferous forests. This mixture of prairie and forest ecosystems supports a variety of wildlife. More than 50 mammal species and more than 200 avian species have been reported in the park (NPS 2005). Large mammals commonly viewed in the park include bison, elk, mule deer, white-tailed deer, and pronghorn. The park works to maintain the bison and elk numbers at conservative levels to avoid resource degradation by overgrazing and is currently working on an elk management plan and Environmental Impact Statement to possibly reduce the elk population.

Black-tailed prairie dog

The black-tailed prairie dog was removed from the Endangered Species Act candidate list in August 2004 by the U.S. Fish and Wildlife Service, when they determined that prairie dog numbers were not low enough to warrant listing, among other factors (USFWS 2004). Because black-tailed prairie dogs are no longer a candidate species, they no longer have any special status within the National Park system.

The black-tailed prairie dog is the most abundant and widely distributed prairie dog species (Hoogland 2006). Reports indicate the species has been present in the vicinity for thousands of years (Carlson 1986, White 1986). Wind Cave National Park currently has about 2,200 acres of prairie dog colonies distributed throughout the park in 15 to 20 colonies or locations. The park has approximately 8,566 acres of potential habitat (NPS 2006b). Current park management maintains prairie dog acreage between 1,000 and 3,000 acres, through a variety of management tools.

Species associated with the black-tailed prairie dog

The black-tailed prairie dog is regarded as a keystone species by many researchers because a number of wildlife species depend on prairie dogs and/or the unique habitat they create (Kotliar as cited in Hoogland 2006). A keystone species is one whose ecological effect is disproportionate to its abundance; a decline in a keystone species' population initiates changes in ecosystem structure and a decline in overall species diversity (USFWS 2000). According to the U.S. Fish and Wildlife Service's Twelve Month Administrative Finding for Black-tailed Prairie Dogs (USFWS 2000), at least "9 species depend directly on prairie dogs or their activities to some extent, and another 137 species are associated opportunistically." These include the black-footed ferret, birds, ungulates, small mammals, and reptiles. Black-footed ferrets depend almost entirely on prairie dogs as a prey source and use their burrows and tunnels (Hoogland 2006). Burrowing owls nest in seldom-used or abandoned prairie dog burrows. Ferruginous hawks utilize prairie dogs for food.

Predators of the black-footed ferret

Coyotes (*Canis latrans*), great-horned owls (*Bubo virginianus*), golden eagles (*Aquila chrysaetos)*, prairie falcons (*Falco mexicanus*), badgers (*Taxidea taxus*), bobcats (*Felis rufus*), and prairie rattlesnake (*Crotalus viridis*) are all potential ferret predators and are known to occur in Wind Cave National Park. The swift fox (*Vulpes velox*) and gray fox (*Urocyon cinereoargenteus*) are also known predators of ferrets but are not known to occur in the park. The red fox (*Vulpes vulpes*) is considered a non-resident but it has been observed on occasion along the western and southern boundary of the park. It will prey on ferrets if an opportunity presents itself.

Other wildlife

Numerous reptiles and amphibians inhabit the park. Common reptiles include the blue racer (*Coluber constrictor*), wandering garter snake (*Thamnophis elegans*), and prairie rattlesnake (*Crotalus viridis*). Amphibian residents include the blotched tiger salamander (*Ambystoma tigrinum*), Woodhouse's toad (*Bufo woodhousei*), and the Great Plains toad (*Bufo cognatus*) (NPS 1994a).

Many bird species use the park's habitats for residence or migratory use. Wrens (family Troglodytidae), swallows (family Hirundinidae), mourning dove (*Zenaida macroura*), meadowlark (*Sturnella neglecta*), and mallard (*Anas platyrhynchos*) are commonly sighted. Raptors, including red-tailed hawk (*Buteo jamaicensis*), golden eagle, and American kestrel (*Falco sparverius*), prey on the many small mammals in the park. Shorebirds, including killdeer

(*Charadrius vociferus*) and spotted sandpiper (*Actitis macularia*) frequent the area in summer months. The western tanager (*Piranga ludoviciana*) and mountain bluebird (*Sialia currucoides*) are also sighted in the park during the summer (NPS 2005).

Several bat species have been recorded in the park, including the long-eared bat (*Myotis evotis*), small-footed myotis (*Myotis ciliolabrum*), little brown myotis (*Myotis lucifugus*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), big brown bat (*Eptesicus fuscus*), and silver-haired bat (*Lasionycteris noctivagans*). Some of these species use caves for daytime roosts, while others use mines, natural formations such as crevices or holes in trees, or buildings for resting (Moore 1996, Turner 1974).

Elk were first reintroduced into the park in 1914. During the winter of 2005-06, there were an estimated 800-850 elk in Wind Cave National Park (Roddy pers. comm. 2005). An elk management plan is currently being developed, which will determine what elk population level the park will manage for in the future. Preliminary information being developed in association with the elk management plan indicates that the elk population in the park could be substantially reduced.

American bison were reintroduced into the park in 1913. At present, there are approximately 500-550 bison within the park, including calves. Since the early 1940s, the park has maintained the bison population by culling animals and shipping them to willing takers. This operation usually takes place in October, after the bison breeding season is over. A bison management plan is currently in development by the park. From a genetics standpoint, research indicates that to maintain the valuable genetic resource of the herd, the park should strive to manage their numbers at a minimum of 400 adult animals.

Effects of Alternative A – the No Action Alternative

Alternative A would result in a continuation of current management practices, and the black-footed ferret would not be reintroduced to the park. This would not affect the majority of wildlife species in the park. The absence of a key prairie predator that has evolved with the black-tailed prairie dog and other commensal species would continue. This absence represents a minor, indirect, adverse effect on the black-tailed prairie dog and species associated with prairie dog complexes. Even though the ferret would prey on prairie dogs, the predation effect should be viewed as a benefit (and its absence as an adverse effect) because in the long-term, predation would enhance fitness of the prey species. The effect is minor because the ferret's absence has not shown any substantial adverse effects to date, but it is obvious that a crucial component of the prairie ecosystem is missing. There would be negligible, long-term benefits to those wildlife species that prey on ferrets, as an additional prey species would remain absent.

Cumulative Effects. The No Action Alternative would allow the prairie ecosystem in the park to continue functioning in the absence of one of its critical components, namely, the black-footed ferret. Cumulatively, this would represent a minor, long-term, adverse effect on wildlife because the fitness of the park's prairie wildlife communities would continue to be reduced because of a less-than-complete complement of species.

Conclusion. Under the No Action Alternative, an indirect, minor adverse impact would occur to wildlife because of the continued absence of a key predator species in the prairie ecosystem.

Predator-prey relationships between the ferret and prairie dog would not be reestablished. Cumulative effects would be adverse and minor on wildlife because the wildlife community would continue to exist without a top level predator species.

Alternative A would not produce major adverse impacts on wildlife resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in the park's general management plan or other National Park Service planning documents. Consequently, there would be no impairment of wildlife resources or values because of the implementation of Alternative A.

Effects of Alternative B, Reintroduce the Black-footed Ferret

Reintroduction of the black-footed ferret to Wind Cave National Park would represent a minor-to-moderate, beneficial effect on wildlife in the park. The benefit would occur because the black-footed ferret, a predator integral to the prairie ecosystem, would be reintroduced. The reintroduction would ultimately increase the fitness of the black-tailed prairie dogs, which in turn would enhance the prairie dog's effect on ecosystem processes, structure, and function (Kotliar *et al.* 1999). There could be beneficial effects on wildlife species that show a dependent association with the black-tailed prairie dog as the functioning relationships between the commensal species would be more complete with the return of an extirpated species. The species in the park that exhibit one or more attributes of dependence on black-tailed prairie dog complexes include the burrowing owl, golden eagle, ferruginous hawk, horned lark, and deer mouse (Kotliar *et al*. 1999). Ferret predators would benefit because of an increased prey base.

The presence of ferrets would act, to a certain extent, as prairie dog population control tool. Ferret predation of prairie dogs would be a natural management tool that would lessen the need to use other management tools, including live-trapping, shooting, or rodenticide. This would represent a long-term, parkwide, minor-to-moderate benefit to wildlife.

The U.S. Fish and Wildlife Service prepared an environmental assessment for the Cheyenne River Sioux Tribe's Draft Cooperative Management Plan for Black-footed Ferrets (Cheyenne River Sioux Tribe 1999), and the Service determined that the black-footed ferret would not have any significant effects on other wildlife species.

There would be a short-term, negligible, adverse effect on wildlife as a result of the actual reintroduction effort and the need to bring a number of field personnel to the reintroduction sites. This effect would be temporary and would result in short-term displacement in the worst case. No wildlife mortality would be expected as a result of the ferret reintroduction.

Cumulative Effects. Considered in conjunction with the effects of other plans and projects, particularly the resource management plans that focus on wildlife and other natural resources in the park, the cumulative effects on wildlife would be beneficial and moderate. Management options would be available to better address species competing for limited resources in the park. The proposed action would contribute to this benefit with a moderate beneficial effect of its own as the wildlife community would be more complete, and a more complete complement of species would enhance the functioning of ecosystem processes.

Conclusion. The beneficial effects on wildlife associated with Alternative B would be long term, park- and regionwide, and minor to moderate as a missing top-trophic level predator would be reintroduced to the ecosystem. Cumulative effects would be beneficial and moderate.

Alternative B would not produce major adverse impacts on wildlife resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in the park's general management plan or other National Park Service planning documents. Consequently, there would be no impairment of wildlife resources or values as a result of the implementation of Alternative B.

ETHNOGRAPHIC RESOURCES

Affected Environment

Long before the time of Euroamerican exploration and settlement, numerous tribes used the Wind Cave area.

Many American Indian tribes have aboriginal, historical, and cultural ties to the land within the Black Hills, which includes Wind Cave. These tribes include Apache Tribe of Oklahoma, Arapaho Business Committee, Cheyenne-Arapaho Tribes of Oklahoma, Cheyenne River Sioux Tribe, Crow Creek Sioux Tribal Council, Flandreau Santee Sioux Executive Committee, Fort Belknap Community Council, Fort Peck Tribal Executive Board, Kiowa Indian Tribe of Oklahoma, Lower Brule Sioux Tribal Council, Northern Cheyenne Tribal Council, Lower Sioux Indian Community, Oglala Sioux Tribal Council, Ponca Tribe of Nebraska, Ponca Tribe of Oklahoma, Rosebud Sioux Tribe, Santee Sioux Tribal Council, Sisseton-Wahpeton Sioux Tribal Council, Standing Rock Sioux Tribe, Three Affiliated Tribes Business Council, and Yankton Sioux Tribal Business and Claims Committee.

Wind Cave National Park's recorded archeological resources clearly indicate that areas in and around the park were locations where people lived and hunted for many centuries. There are numerous prehistoric archeological sites within the park, and many American Indians have concerns about the preservation and protection of these types of cultural sites.

The Black Hills occupy a special place in the history, creation stories, and religious beliefs of these groups. Centuries-old American Indian stories tell of a "hole that breathes cool air" near the Buffalo Gap (NPS 2005d). This "wind" cave was regarded by Lakota peoples as the site of their origin, and they have many stories about the role the cave played in their culture.

Among the various plants and animals traditionally used or which were part of their cultural heritage, black-footed ferrets were highly valued by American Indian tribes for their elusiveness, cunning, skill as natural predators, their special qualities of "earth power" (spiritual values) and for their association with a special medicinal plant (white milkweed). A study of the history of tribal and European American occupancy of the Black Hills and adjacent areas has helped to clarify and document tribes' relationship to the park and its resources (Albers 2003). Various natural resources within the park were valued historically by tribes and continue to occupy a special place within their belief systems and cultural traditions.

For many centuries, black-footed ferrets, along with prairie dogs, played an important role in helping to balance the ecological system of the plains. According to the Lakota, the prairie dog or pispiza "worked the land to keep it in a replenished state…and the itopta sapa (black-footed ferret) generally kept this prolific creature [the prairie dog] in check" (Douville n.d.). This system of checks and balances formed a crucial part of the natural landscape of the Black Hills so highly valued by American Indians.

Effects of Alternative A – the No Action Alternative

Under this alternative, ferrets would not be reintroduced, and there would be no new benefits to ethnographic resources. However, the opportunity to restore a small part of the natural ecosystem valued by tribes would be lost.

Cumulative Effects. The area considered for cumulative effects on ethnographic resources under Alternative A is the entire park and the surrounding region. The time period includes the past several hundred years, during which natural processes and human activities have added to, modified, or destroyed cultural sites in this area; as well as into the future for the length of time covered by this environmental document.

Many changes have occurred to the natural environment of the western United States over the past two or three centuries. Huge bison herds were decimated, and prairie dogs eradicated from thousands of acres of prairie. Thousands more acres were converted to farmland or were developed for cities, highways, and industrial uses that are incompatible with the continued growth and well-being of many native plants and animals valued by tribes. The overall cumulative effect on ethnographic resources has been long term, moderate to major, and adverse.

The protection and management of bison and prairie dogs and other species in national parks such as Wind Cave National Park have helped to maintain the traditional ties American Indians have with the earth and its plants and animals. Proposed park plans, including a bison management plan, elk management plan, and vegetation management plan, all look for ways to benefit park resources and maintain a healthy ecosystem. As the park’s resources benefit, so do the ethnographic resources valued by tribes.

Outside the park, losses in prairie dog habitat and populations would continue and would be likely to increase as population demands increase. The No Action Alternative would have a long-term, minor, beneficial, cumulative effect on resources within the park valued by tribes (such as prairie dogs, associated plants and soils, and their ecosystem). When impacts of these other plans, projects, and activities affecting ethnographic resources are combined with effects of actions under Alternative A and with the long-term, moderate adverse effects of actions outside the park on resources valued by tribes, the resulting cumulative effects would be long term, minor, and adverse.

Conclusion. There would be no new effects on ethnographic resources, although implementation of other proposed park plans would benefit ethnographic resources. Cumulative effects on ethnographic resources would be long term, minor, and adverse, although Alternative A would not contribute significantly to this cumulative effect.

Alternative A would not produce major adverse impacts on ethnographic resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in the park's general management plan or other National Park Service planning documents. Consequently, there would be no impairment of ethnographic resources or values as a result of the implementation of Alternative A.

Effects of Alternative B, Reintroduce the Black-footed Ferret

Reintroduction of the black-footed ferret would help restore an animal widely admired and valued by American Indian tribes, resulting in a long-term, minor, beneficial effect. The reintroduction program would also help improve the health of the existing prairie dog complexes by increasing the fitness of the prairie dog population and would help restore a more natural ecological balance for area resources, helping to protect resources valued by tribes.

Cumulative effects. As described for Alternative A, the area considered for cumulative effects on ethnographic resources is the entire park and the surrounding region. The time period includes the past several hundred years, the present, and the foreseeable future. Past cumulative effects for Alternative B also would be the same as described for Alternative A: effects would be long-term, moderate, and adverse. However, when beneficial effects of other proposed plans, projects, and activities affecting ethnographic resources are combined with beneficial effects of returning ferrets to the park under Alternative B, the resulting effects would be long term and moderately beneficial. The proposed action would offset some of the past adverse cumulative effects on ethnographic resources by reintroducing the highly-valued ferret. Combining the past adverse effects and the beneficial effects under Alternative B would result in negligible-to-minor, adverse, cumulative effects; *e.g*. effects would still be adverse because some future losses of ethnographic resources would be expected to occur in the region from development and cultural change.

Conclusion. Alternative B would have a long-term, minor, beneficial effect on ethnographic resources as the highly-valued ferret would be returned to the prairie ecosystem. Cumulative effects would be adverse and negligible to minor, although Alternative B would contribute beneficially to those effects.

Alternative B would not produce major adverse impacts on ethnographic resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in the park's general management plan or other National Park Service planning documents. Consequently, there would be no impairment of ethnographic resources or values as a result of the implementation of Alternative B.

SECTION 106 SUMMARY

This environmental assessment provides detailed descriptions of two alternatives, the no action and preferred alternative, analyzes the potential impacts associated with possible implementation of each alternative, and describes the rationale for choosing the preferred alternative. Also

contained in the environmental assessment are mitigation measures that would help offset and minimize potential adverse effects on cultural resources.

No historic resources, cultural landscapes, collections, or archaeological resources would be affected by implementation of the proposed action (*no effect).*

Ethnographic Resources

Reintroduction of the black-footed ferret would help restore to this area an animal widely admired and valued by American Indian tribes resulting in a beneficial effect *(no adverse impact).* The reintroduction program also would help restore a more natural ecological balance for area resources, helping to protect resources valued by tribes.

Concerned American Indian groups have been contacted regarding this project and the park would continue to work with tribes to protect valued ethnographic resources. This environmental assessment will be sent to the South Dakota State Historic Preservation Office for review and comment as part of the Section 106 compliance for the project.

Pursuant to 36 CFR Part 800.5, implementing regulations of the National Historic Preservation Act (revised regulations effective January 2001), addressing the criteria of effect and adverse effect, the National Park Service finds that the implementation of Alternative B would not result in adverse effects on archeological, historic, ethnographic, cultural landscape, or museum collection resources *(no adverse effect)* currently identified as eligible for or listed on the National Register of Historic Places.

PARK OPERATIONS

Affected Environment

The term park operations, for the purpose of analysis, refers to the quality and effectiveness of maintaining the park's infrastructure to ensure adequate protection of vital resources and to provide for an effective visitor experience. Park operations are not considered a resource protected by the Organic Act and therefore do not warrant consideration for impairment.

Wind Cave National Park has 41 onsite personnel who provide the full scope of functions and activities to accomplish management objectives and meet requirements in law enforcement, emergency services, public health and safety, science, resource protection and management, visitor services, interpretation and education, community services, utilities, housing, fee collection, and management support.

The resource management group conducts prairie dog monitoring, including mapping the complexes using GPS, throughout the entire park. They also live-trap and relocate prairie dogs and conduct range productivity transects.

Although no specific monitoring programs focus on searches for ferrets in the park, night surveys for elk, predators, bats, and night sky photography activities have not observed ferrets in the park.

Effects of Alternative A – the No Action Alternative

Because the No Action Alternative would continue to protect existing threatened and endangered species, but would not reintroduce the black-footed ferret, there would be no effect on park operations from not reintroducing the black-footed ferret.

Cumulative effects. The other plans and projects, including the natural resource management plans currently in preparation and infrastructure projects, would likely result in moderate, long-term, beneficial effects on park operations as they would improve management of park facilities and resources. The No Action Alternative would make no contribution to these effects.

Conclusion. The No Action Alternative would not have any affect on park operations, nor would it contribute to the moderate beneficial cumulative effects of other plans and projects on park operations.

Effects of Alternative B, Reintroduce the Black-footed Ferret

Financial and staffing needs would increase as a result of reintroducing the black-footed ferret but no additional staff would be added for this reintroduction effort. The chief of resource management, other resource management staff, seasonal employees, and other park staff will assist with tasks related to ferret reintroduction when appropriate. The main workload will be absorbed into the biologist and wildlife technician positions. Funding will be sought for assistance with the ferret reintroduction program and to develop a potential volunteer program. It is anticipated that volunteers may be available from the U.S. Forest Service, state park, national park's, Audubon Society, Sierra Club and other environmental organizations.

If Alternative B is selected, the final year of funding (2005-2007), may be placed into a Cooperative Agreement with a non-governmental organization (NGO) that would assure assistance with the reintroduction program for the next three to five years.

Monitoring, and perhaps predator control if needed, would place additional demands on park staff and budgets. As noted above, some of these demands would be met by volunteers. There would be additional equipment needs for resource management (traps and monitoring equipment) associated with ferrets. Interpretative brochures, signs, and programs would likely expand to include the black-footed ferret, and interpretive staff workload could increase or emphasis could shift to develop interpretive programs, brochures, exhibits, environmental education programs. Park staff may have to expend extra efforts to trap and relocate ferrets that leave the park. If lethal control were to be implemented to limit prairie dog colony expansion in the park, park staff would have to monitor for ferrets prior to implementing lethal controls. These additional demands on park staff and resources would represent a long-term, parkwide, and minor adverse effect on park operations.

Park operations would experience benefits associated with the ferret reintroduction because ferrets may provide a degree of prairie dog population control that would serve as an additional tool to help with prairie dog control, thereby reducing the need for trapping, shooting, or poisoning by park staff. Likewise, prairie dog population control may help reduce complaints from neighbors by reducing the numbers of prairie dogs moving onto private lands.

Overall, the increased demands on park staff and budget would outweigh the benefits to represent a minor, adverse impact on park operations.

Cumulative effects. The long-term, moderate, cumulative benefits of the park's infrastructure improvement projects and resource management plans would be offset by the adverse effect on park operations of Alternative B. Cumulatively, Alternative B and the other related plans and projects would result in long-term, minor to moderate, beneficial effects on park operations, with Alternative B contributing in a minor and adverse manner.

Conclusion. The reintroduction of ferrets would add to park staff workload and strain already tight budgets. This would result in a long-term, parkwide, minor adverse effect on park operations. Cumulative effects would be long term, minor to moderate and beneficial, although Alternative B would contribute to the cumulative effects with a minor adverse impact.

VISITOR USE AND EXPERIENCE

Affected Environment

The National Park Service is committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks. Visitor use and experience is not considered a resource protected by the Organic Act and therefore does not warrant consideration for impairment.

Part of the purpose of Wind Cave National Park is to offer opportunities for recreation, education, inspiration, and enjoyment. Consequently, one the park's management goals is to ensure that visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreation opportunities.

The park is one of a variety of destinations for visitors to the Black Hills. The primary attraction of the park is the cave, which includes more than 121 miles of (surveyed) cave passage. However, most repeat visitors spend their time enjoying the surface features of the park (Farrell pers. comm. 2005b).

From 1995 to 2005, Wind Cave National Park received an average of 743,458 visitors per year (NPS 2006c). Monthly recreation visits in 2005 reflect the normal pattern of visitor use for the park (see Figure 4). Peak visitation occurs from May to September; in 2005 the park hosted 135,615 visitors in July and 121,524 in August. November through February is traditionally the lowest use period for the park, with a monthly average of 14,827 visitors (average based on data from 2000 to 2005).

Wind Cave National Park offers many activities for its visitors, including caving, hiking, observing wildlife, camping, picnicking, scenic driving, and interpretive tours. There are eleven designated interpretive pullouts along the highways. Eleven different trail systems allow hikers to enjoy the park's backcountry. The park provides one picnic area and one campground (Elk Mountain Campground), which has 75 campsites.

Interpretive rangers offer campfire programs at the campground in the summer and lead nature walks across the prairie that include informative discussions on the natural resources and history

of the park. Watching wildlife is an integral part of the visitor experience at Wind Cave National Park; bison, elk, pronghorn, mule deer, coyotes, and prairie dogs can frequently be seen throughout the park.

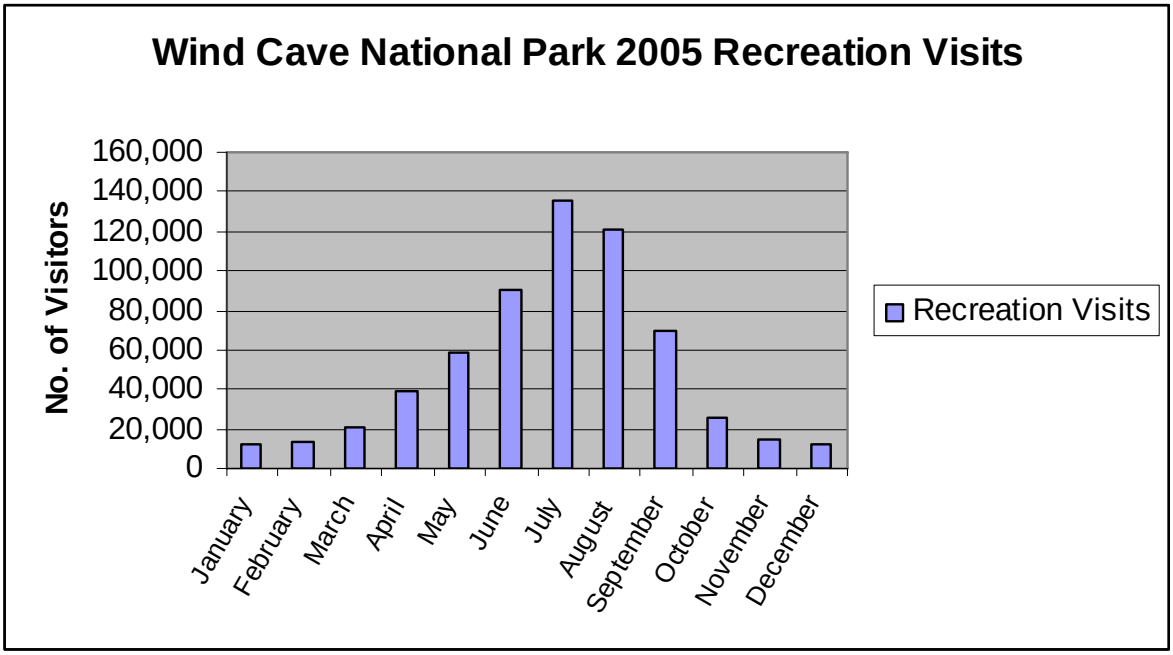

FIGURE 4. 2005 NUMBER OF RECREATION VISITS BY MONTH TO WIND CAVE NATIONAL PARK

Effects of Alternative A – the No Action Alternative

Alternative A would not generally affect visitor use and experience as it currently exists in the park. However, knowledgeable visitors would continue to be aware that one of the top-level trophic predators, the ferret, was missing from the park ecosystem. This would represent a negligible, long-term, adverse effect on visitor use and experience.

Cumulative effects. The park is in the process of upgrading old wayside exhibits, as well as adding new exhibits along Highway 385 and Highway 87. This action, in itself, would have a long-term, moderate, beneficial effect on visitor use and experience by allowing visitors increased opportunities to learn more about park resources and values and by presenting a consistent interpretive message. When combined with the long-term, negligible, adverse effect of the No Action Alternative, the cumulative effects on visitor use and experience would be beneficial, long term, and minor to moderate.

Conclusion. The effects of not reintroducing the ferret would be negligible, long term, and adverse with regard to visitor use and experience in the park. Cumulative effects on visitor use and experience would be beneficial and minor to moderate, with Alternative A contributing in a negligible, adverse manner.

Effects of Alternative B, Reintroduce the Black-footed Ferret

Visitor use and experience in Wind Cave National Park would be enhanced as a result of Alternative B. The presence of ferrets would provide a unique opportunity for visitors to learn about and attempt to see a rare species. Knowing that ferrets were present and potentially seeing ferret sign or learning about ferrets because of new interpretive efforts would represent a moderate, long-term benefit to visitor use and experience.

Park visitation could increase as Wind Cave National Park would become one of the most accessible sites in North America for the general public to have an opportunity to observe a black-footed ferret and their habitats in the wild. The park would also become the only park/refuge/grasslands in the country with bison, elk, pronghorn, prairie dogs and ferrets found in the same location.

Exhibits and programs developed around the reintroduction effort would provide opportunities to educate the public about reintroductions of rare species, NPS management policies, Wind Cave's place in the history of wildlife conservation (*e.g.*, bison, elk, pronghorn), and a modern day conservation story of restoring the black-footed ferret to the Black Hills of South Dakota.

Alternative B would be a positive element in ongoing ferret conservation efforts by educating more of the public about the value and benefits of ferrets and the reintroduction of endangered species. This could help foster public understanding and support for future reintroductions elsewhere.

Overall, Alternative B would represent a moderate to major, long-term, park- and regionwide benefit to visitor use and experience.

Cumulative effects. The cumulative effects of other plans and projects that would affect visitor use and experience would be similar to those described for Alternative A, namely long term, moderate, and beneficial. Alternative B would contribute to these beneficial effects with additional long-term, moderate-to-major, beneficial effects, due to the positive influences on visitor use and experience described above. Cumulatively, the effects on visitor use and experience would be beneficial, long term, and moderate.

Conclusion. Alternative B would represent a moderate-to-major, long-term, park- and regionwide benefit to visitor use and experience. Cumulatively, the effects on visitor use and experience would be beneficial, long term, and moderate.

SOCIOECONOMICS

Affected Environment

The National Park Service is committed to local and regional cooperation in considering decisions that may affect the local economics, quality of life for local residents, or natural environment. Socioeconomics are not considered a resource protected by the Organic Act and therefore do not warrant consideration for impairment.

Wind Cave National Park lies within Custer County in southwestern South Dakota. The park's gateway community, Hot Springs, is approximately 6 miles to the south in Fall River County. The two counties have about the same population – between 7,000 and 7,500 (U.S. Census Bureau 2005). However, Custer County grew by 18 percent between 1990 and 2000, while Fall River County grew by only 1.4 percent.

Median annual household income in Custer County ($36,303) is somewhat less than the national average of $41,994, and the annual per capita income is approximately 16.9 percent lower than the rest of the nation (U.S. Census Bureau 2005). The economy of Custer County, South Dakota is quite diverse and, therefore, stable. Educational, health, and social services are the primary industries, accounting for 703 of the business establishments in the county (U.S. Census Bureau 2005). Contrary to assumptions of the predominance of agricultural occupations, such occupations are actually the least common in the county, accounting for only 2.2 percent of the county's occupation (U.S. Census Bureau 2005). The government is the largest employer in the county, with U.S. Forest Service personnel at Black Hills National Forest making up a large part of the workforce. The second largest employer is the leisure and hospitality industry, employing 24.7 percent of the county's workers (South Dakota Governor's Office of Economic Development 2005). This indicates that the tourism industry, based largely on the national parks and other public lands in the area, is very important to the economy in Custer County.

Wind Cave is part of a regional group of national parks and other recreational sites located in the southern Black Hills of South Dakota. The most visited of the national parks in the area is Mount Rushmore National Memorial, with over 2 million recreational visits each year. The Black Hills National Forest and Angostura Reservoir State Recreation Area also contribute to local tourism revenues by drawing both local and regional visitors regularly. The opportunities to view natural scenery and wildlife, pursue recreation, and experience western history make the Black Hills a national tourist destination.

Wind Cave National Park offers visitors the opportunity to experience the prairie ecosystem in which they can watch wildlife, such as prairie dogs and bison, throughout the park. The park maintains several pullouts along U.S. Highway 385, State Highway 87, and park roads, which are specifically designed for viewing wildlife. The presence of readily visible prairie dogs is important for attracting wildlife-watching visitors to the park.

The agricultural industry is an important part of the traditional regional economy. There are 303 ranches and farms in the county, 177 of which raise and sell cattle (National Agricultural Statistics Service 2002). In the year 2002, 18,408 acres of land in Custer County were used for raising hay and other forage (National Agricultural Statistics Service 2002). The management of prairie dogs in the national park is of concern to many residents because of its correlation with the economic well-being of local agricultural families, particularly with regard to forage allocation. When forage for livestock becomes scarce on grazing lands, ranchers adjust herd sizes by selling cattle. Various factors alter the availability of forage: grazing levels, fire, drought, and competing herbivore species. Prairie dogs compete with livestock not only through dietary consumption, but indirectly, by clipping (and not consuming) vegetation to improve predator detection.

Some landowners adjacent to Wind Cave National Park currently involved with ranching activities have expressed concerns over the increased number of prairie dogs on their land. Forage has become less plentiful in recent years because of drought conditions, and some landowners have subsequently had to reduce the size of their grazing herds, which represents a financial hardship (Muenchau pers. comm. 2006).

Because black-footed ferrets rely on black-tailed prairie dogs as their main food source and habitat, some landowners are concerned that protecting the black-footed ferret would mean continued or expanded presence of prairie dogs, which they consider an economic threat to their ranches and farms.

Effects of Alternative A – the No Action Alternative

Under Alternative A, no actions would occur that would affect socioeconomics in the park and surrounding area.

Cumulative Effects. Other plans and projects contribute to the betterment of the park and provide an economic boost to local economies as a result of tourism and related expenditures by visitors. Alternative A would not contribute additionally, and the cumulative effect on regional socioeconomics of other plans and projects, combined with Alternative A, would continue to be moderately beneficial in the long-term.

Conclusion. Alternative A would not have an effect on regionwide socioeconomics, and the cumulative effects of all related plans and projects in combination with Alternative A would continue to be moderate and beneficial.

Effects of Alternative B, Reintroduce the Black-footed Ferret

Under Alternative B, the reintroduction of black-footed ferrets in the park would benefit the local economy because additional visitors would be attracted to the park and region by the opportunity to potentially observe a black-footed ferret in the wild.

Ferrets would exert a degree of population control on prairie dogs. This would potentially lead to fewer prairie dogs leaving the park and lower the potential for conflicts with local land uses outside the park. If fewer prairie dogs were leaving the park, there would be less need to control them on private lands, thus providing a benefit to local ranchers and the state's prairie dog control program.

The ferret population would depend on and directly correlate to the prairie dog population in the park. However, the upper limit of 3,000 acres of prairie dog colonies established in the park's prairie dog management plan (NPS 2006b) would not be exceeded regardless of the needs of the black-footed ferret.

There would be no effect on individual or property rights because the ferret population would be considered nonessential and experimental, and responsibility for the ferrets, both in and out of the park, would be borne by the U.S. Fish and Wildlife Service and/or National Park Service.

There would be no penalty or economic implications for accidental killing or harming a ferret on private property during the pursuit of other lawful activities. However, intentionally harming or taking a ferret would remain prohibited. Prairie dog management on private lands would remain at the discretion of the landowner as is currently the case.

Based on these reasons, Alternative B would represent a long-term, regional, moderate benefit to socioeconomic resources.

Cumulative Effects. As described for Alternative A, other plans and projects would contribute to the betterment of the park and provide an economic boost to local economies through tourism and related expenditures by visitors. Alternative B would add to this effect by increasing the draw to the park because of the presence of and potential opportunity to view a ferret. The cumulative effect of other plans and projects, combined with Alternative B, would be a moderate benefit to socioeconomics.

Conclusion. Alternative B would represent a long-term, regional, moderate benefit to socioeconomic resources. Cumulative effects on socioeconomics would be long term, moderate, and beneficial.

SUSTAINABILITY AND LONG-TERM MANAGEMENT

Sustainability is the result achieved by doing things in ways that do not compromise the environment or its capacity to provide for present and future generations. The NPS Guiding Principles of Sustainable Design (1993) directs NPS management philosophy. It provides a basis for achieving sustainability in facility planning and design, emphasizes the importance of biodiversity, and encourages responsible decisions.

Currently, there are no black-footed ferrets in the park. However, the National Park Service is guided by NPS *Management Policies* (NPS 2006a) to "strive to restore extirpated native plants and animals to parks whenever all of the following criteria are met:

- Adequate habitat to support the species either exists or can reasonably be restored in the park and if necessary also on adjacent public lands and waters; once a natural population level is achieved, the population can be self-perpetuating.

- The species does not, based on an effective management plan, pose a serious threat to the safety of people in parks, park resources, or persons or property within or outside park boundaries.

- The genetic type used in restoration most nearly approximates the extirpated genetic type.

- The species disappeared or was substantially diminished as a direct or indirect result of human-induced change to the species population or to the ecosystem.

- Potential impacts upon park management and use have been carefully considered."

In Wind Cave National Park, all these criteria are met for reintroducing the black-footed ferret.

- Adequate habitat appears to exist with about 2,200 acres of prairie dog complexes, with some large prairie dog complexes, in the park.

- The black-footed ferret does not pose a serious threat to the safety of people or property in and outside of the park because it is a small, nocturnal animal that avoids people. It also does not create damage to property, as it lives in burrows already created by prairie dogs.

- The genetic type used would be traced back to the small colony of black-footed ferrets discovered in Wyoming in 1981. This is the only known genetic source available for black-footed ferrets, from which all current black-footed ferrets are related.

- Because of habitat loss from prairie conversion to agriculture and large-scale control of its main prey source, the prairie dog, the black-footed ferret was extirpated from the local area and almost its entire historical range.

- This environmental assessment evaluates the potential impacts on park management.

In addition, the ferret's presence would not result in conflicts with park resources; rather, it would improve park resources through returning a historical predator to the mixed-grass prairie in the park.

By meeting these criteria and reintroducing the black-footed ferret into Wind Cave National Park, protection of park resources would be improved through reintroducing a natural predator to the mixed grass prairie and helping restore a rare species to its historical range. For these reasons, implementation of Alternative B would conform to NPS policies mandating protection of park resources into perpetuity.

CONFLICTS WITH LAND USE PLANS, POLICIES, AND CONTROLS

Regulations and Management Constraints

The Organic Act directs the National Park Service to "conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for future generations" (16 USC 1). This act sets resource conservation as the primary consideration of the National Park Service in all management considerations of park lands or resources.

NPS *Management Policies* (NPS 2006a) requires that whenever actions taken by the National Park Service have the potential to affect the planning, land use, or development patterns on adjacent or nearby lands, the effects of these activities must also be considered. NPS *Management Policies* also directs the National Park Service to protect natural resources from impacts caused by external activities by working cooperatively with federal, state, and local

agencies, as well as adjacent landowners. However, this coordination of resource management goals and activities must be done in ways that protect and do not compromise park resources and values. For this reason, the plans of agencies with adjacent jurisdiction areas and the actions of neighboring landowners are described below to show that the proposed NPS action would not conflict with such external activities, nor would it compromise the viability of resources within the park.

Policies and Management Activities of Adjacent Agencies or Landowners

Many privately owned parcels of land as well as some public lands surround Wind Cave National Park. Private land owners conduct prairie dog control activities independently on their own land, while the state and federal land managers operate within approved restrictions on control actions. The reintroduction of ferrets to the park would not affect the ability of any private or public landowner outside the park to implement lawful land use activities, including prairie dog control actions.

Custer County, South Dakota issued Resolution 93-8 in 1993 stating the county's opposition to reintroduction of the black-footed ferret in the county and asking the U.S. Fish and Wildlife Service to refrain from ferret reintroductions in the county. While the proposed action does conflict with the county resolution, the park believes the policies, conditions, and responsibilities associated with the ferret reintroduction project would alleviate any potential problems anticipated by the Custer County Board of Commissioners in 1993.

Management Actions of Private Landowners

Land parcels adjacent to the park are owned by numerous landowners including many involved in ranching activities, such as livestock grazing (Muenchau pers. comm. 2006). These ranchers are concerned about competition for forage from competition with other grazers (such as prairie dogs). As a result, many private landowners choose to lethally control prairie dogs on their land.

Both the South Dakota Department of Game, Fish and Parks and the South Dakota Department of Agriculture provide, free of charge, onsite assistance to private landowners to lethally control prairie dogs on an annual basis. Landowners whose property is adjacent to the boundary of Wind Cave National Park qualify for these free services. Zinc phosphide is used to poison the prairie dogs; its application more than once annually would be a violation of label restrictions.

Ferret reintroduction in the park would not conflict with the implementation of these activities. As previously stated, there would be no constraints on legal prairie dog control actions on lands adjacent to the park because of the presence of the black-footed ferret in the park or on their property.

Potential for Conflict

The reintroduction of the black-footed ferret would not produce effects contrary to the goals of public and private land use policies. The prairie dog population control function of ferrets may

contribute to a potential lessening of prairie dog dispersal to private lands. The U.S. Fish and Wildlife Service and National Park Service intend that all actions associated with a ferret reintroduction will minimize conflicts with neighboring public and private landowners to the greatest extent possible while fulfilling the goals of each agency.

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CONSULTATION AND COORDINATION

The proposal to reintroduce the black-footed ferret to Wind Cave National Park was initially considered in late 2002. However, the planning process was deferred while a black-tailed prairie dog management plan and environmental assessment was prepared, reviewed, and a Finding of No Significant Impact issued. After successful completion of the prairie dog management planning effort in early 2006, the ferret reintroduction planning process began once again. Wind Cave National Park issued a press release on July 13, 2006 informing the public, agencies, and tribes about, and soliciting comments on, the proposal to reintroduce the black-footed ferret to the park. The park issued scoping letters to the Tribes, the SHPO, and the U.S. Fish and Wildlife Service; these letters are included in Appendix A. Additionally, park staff attended meetings of the county commissioners in Custer and Fall River counties in July and August 2006 to present information about the NPS proposal and to answer questions. When the draft environmental assessment is released to the public for review, the park will host an open house to present information about the plan, answer questions, and take comments. Further, the park has coordinated this proposal with the South Dakota Department of Game, Fish and Parks.

TRIBES

Several Native American tribes have demonstrated interest in the areas within Wind Cave National Park. The following tribes were contacted by letter regarding this project. A copy of the letter sent to the tribal representatives can be found in Appendix A.

- Apache Tribe of Oklahoma
- Arapaho Business Committee
- Cheyenne-Arapaho Tribes of Oklahoma
- Cheyenne River Sioux Tribe
- Crow Creek Sioux Tribal Council
- Flandreau Santee Sioux Executive Committee
- Fort Belknap Community Council
- Fort Peck Tribal Executive Board
- Kiowa Indian Tribe of Oklahoma
- Lower Brule Sioux Tribal Council
- Northern Cheyenne Tribal Council
- Lower Sioux Indian Community
- Oglala Sioux Tribal Council
- Ponca Tribe of Nebraska
- Ponca Tribe of Oklahoma
- Rosebud Sioux Tribe
- Santee Sioux Tribal Council
- Sisseton-Wahpeton Sioux Tribal Council
- Standing Rock Sioux Tribe
- Three Affiliated Tribes Business Council
- Yankton Sioux Tribal Business and Claims Committee

U.S. FISH AND WILDLIFE SERVICE

Informal consultations with the U.S. Fish and Wildlife Service have been ongoing since 2002, when the reintroduction planning process started. USFWS staff attended the internal scoping meeting for the project at the park on October 9, 2002 and have been recently consulted regarding the reintroduction planning process. The USFWS has responded positively to the concept of a ferret reintroduction at Wind Cave National Park and encouraged the park to continue with the planning efforts. A copy of this draft environmental assessment will be distributed to the USFWS and will serve to initiate formal consultation. The environmental assessment will act as a biological assessment, accompanied by an NPS request for USFWS biological opinion regarding the black-footed ferret reintroduction.

STATE HISTORIC PRESERVATION OFFICER

A copy of this draft environmental assessment will be forwarded to the SHPO along with a request for concurrence.

PLANNING TEAM PARTICIPANTS

Linda Stoll	Superintendent	Wind Cave National Park
Tom Farrell	Chief of Interpretation	Wind Cave National Park
Dan Foster	Chief of Resource Management	Wind Cave National Park
Dan Roddy	Biologist	Wind Cave National Park
Barbara Muenchau	Biological Science Technician	Wind Cave National Park
Jamie Chronert	Biologist	Wind Cave National Park

PREPARERS

Don Kellett	Wildlife Biologist	Parsons
Michelle Johnson	Environmental Scientist	Parsons
Diane Rhodes	Cultural Resources Specialist	Parsons
Bruce Snyder	Technical Director	Parsons

LIST OF RECIPIENTS

Federal Agencies and Government

Advisory Council on Historic Preservation
Dept. of Agriculture
    U.S. Forest Service
    Natural Resources Conservation Service
Dept. of the Interior
    Bureau of Land Management
National Park Service

Midwest Regional Office
Badlands National Park
Jewel Cave National Monument
Mt. Rushmore National Memorial
Minute Man Missile National Historic Site
U.S. Fish and Wildlife Service
U.S. Congressional Representatives from South Dakota
Tribal Historic Preservation Officer(s)

State and Local Agencies and Governments

Custer County Commissioners
Fall River County Commissioners
South Dakota State Historic Preservation Officer
South Dakota Game, Fish, and Parks
Custer State Park

Native American Tribes

The Tribal Historic Preservation Officers (or Cultural Resource Officer) will also be consulted.

Arapaho Business Committee
Cheyenne-Arapaho Tribes of Oklahoma
Cheyenne River Sioux Tribe
Crow Creek Sioux Tribal Council
Flandreau Santee Sioux Executive Committee
Fort Belknap Community Council
Fort Peck Tribal Executive Board
Kiowa Indian Tribe of Oklahoma
Lower Brule Sioux Tribal Council
Lower Sioux Indian Community
Oglala Sioux Tribal Council
Ponca Tribe of Nebraska
Ponca Tribe of Oklahoma
Rosebud Sioux Tribe
Santee Sioux Tribal Council
Sisseton-Wahpeton Sioux Tribal Council
Standing Rock Sioux Tribe
Three Affiliated Tribes Business Council
Yankton Sioux Tribal Business and Claims Committee

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APPENDIX A: CONSULTATION LETTERS

United States Department of the Interior

NATIONAL PARK SERVICE
WIND CAVE NATIONAL PARK
26611 US Highway 385
HOT SPRINGS, SOUTH DAKOTA 57747

IN REPLY REFER TO:
L76 (WICA)

January 19, 2006

Mr. Scott Larson
U.S. Department of the Interior
Fish and Wildlife Service
Ecological Services Division
420 S. Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

Subject: Endangered Species Act (ESA) Section 7 Consultation, Draft Black-tailed Prairie Dog Management Plan / Environmental Assessment, Wind Cave National Park

Dear Mr. Larson:

In accordance with Section 7 of the Endangered Species Act, enclosed for your review and comment is a copy of the above referenced project. Planning for this project began in January of 2005 with public workshops to develop alternatives. The primary purposes of revising the management plan for the black-tailed prairie dog at Wind Cave National Park are: to propose and evaluate an approach for sustaining a long-term population of prairie dogs that meets other park objectives; to conserve natural processes and conditions; to identify tools to manage the black-tailed prairie dog population in the park; to manage park resources in accordance with the park's general management plan, resource management plan, and NPS Management Policies 2001; and to protect public health, safety, and welfare.

To meet environmental regulations, the park is considering four alternatives: a no action alternative that is defined as a continuation of current management of black-tailed prairie dogs (Alternative A); a high acreage target of 3,000-5,000 acres of prairie dogs (Alternative B); a mid-range acreage target of 1,000-3,000 acres of prairie dogs (Alternative C); and a low acreage target of 300-1,000 acres of prairie dogs (Alternative D). The Preferred Alternative is Alternative C.

The purpose and need for this project is found on page 1. Wildlife and endangered species impact topics included in this document are on page 15. Alternatives considered are discussed on pages 19-35. Affected wildlife and endangered species and the determination of effects are described on pages 60-72 and 80-85 respectively. Public involvement information and supporting documentation are on pages 119-121 and 139-153.

The preparation of an EA is necessary to meet the requirements of the National Environmental Policy Act. In addition, the process and documentation required for preparation of the EA will be used to comply with Section 7 of the Endangered Species Act. We notified your office in a letter dated January 13, 2005, of the park's intention to use the EA and accompanying Assessment of Effect to meet its obligations under Section 7.

The public review period runs until March 10. Comments will be accepted during this period and should be addressed to the Superintendent; Wind Cave National Park; 26611 US Highway 385; Hot Springs, SD 57747 or electronically at the National Park Service planning website http://parkplanning.nps.gov/wica. A copy of the draft EA can also be found at that site.

There will be an informal open house at the Wind Cave National Park Visitor Center on Thursday, February 16, from 4 p.m. to 7 p.m. to discuss the plan with park staff and to comment on the alternatives.

Your review and comment of this document and or attendance at our public meeting will help ensure that cultural resources valued by your tribe are adequately considered in issuing a final decision on the project. We look forward to receiving your input on our plans and any concerns you have about the project.

We would be pleased to discuss this project further, either by telephone or at the public meeting. If you have questions, please contact me or Tom Farrell, our Section 106 Compliance Coordinator. We can be reached at (605) 745-4600.

Sincerely,

Linda L. Stoll
Superintendent

Enclosure

cc: Bill Harlow, MWR
cc: Mike Evans, MNRR

United States Department of the Interior

NATIONAL PARK SERVICE
WIND CAVE NATIONAL PARK
26611 US Highway 385
HOT SPRINGS, SOUTH DAKOTA 57747

IN REPLY REFER TO:
H4217(WICA)

January 19, 2006

Mr. Jay Vogt
State Historic Preservation Officer
State Historical Preservation Center
South Dakota State Historical Society
900 Governors Drive
Pierre, South Dakota 57501-2217

RE: Section 106 Compliance: Draft Black-tailed Prairie Dog Management Plan / Environmental Assessment, Project Number WICA-05-06

Dear Mr. Vogt:

In accordance with Section 106 of the National Historic Preservation Act of 1966, amended, and the Council's regulations, 36 CFR Part 800, enclosed for your review and comment is a copy of the above referenced document. Planning for this project began in January of 2005 with public workshops to develop alternatives. The primary purposes of revising the management plan for the black-tailed prairie dog at Wind Cave National Park are: to propose and evaluate an approach for sustaining a long-term population of prairie dogs that meets other park objectives; to conserve natural processes and conditions; to identify tools to manage the black-tailed prairie dog population in the park; to manage park resources in accordance with the park's general management plan, resource management plan, and NPS Management Policies 2001; and to protect public health, safety, and welfare.

To meet environmental regulations, the park is considering four alternatives: a no action alternative that is defined as a continuation of current management of black-tailed prairie dogs (Alternative A); a high acreage target of 3,000-5,000 acres of prairie dogs (Alternative B); a mid-range acreage target of 1,000-3,000 acres of prairie dogs (Alternative C); and a low acreage target of 300-1,000 acres of prairie dogs (Alternative D). The Preferred Alternative is Alternative C.

The purpose and need for this project is found on page 1 of the enclosed document. Cultural resource impact topics included in this document are on page 15 and cultural impact topics dismissed are on pages 16-17. Alternatives considered are discussed on pages 19-35. Affected cultural resources and the no adverse effect determination are described on pages 90-95. Public involvement information and supporting documentation are on pages 119-121 and 139-153.

The preparation of an EA is necessary to meet the requirements of the National Environmental Policy Act. In addition, the process and documentation required for preparation of the EA will be used to comply with Section 106 of the National Historic Preservation Act. In accordance with section 800.8(c) of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), we notified your office in a letter dated January 13, 2005, of the park's intention to use the EA and accompanying Assessment of Effect to meet its obligations under Section 106.

In addition, American Indian tribes traditionally associated with the lands of Wind Cave National Park were notified of the proposed action during the scoping process, and a copy of this Draft EA is being sent to each tribe for their further review.

There will be an informal open house at the Wind Cave National Park Visitor Center on Thursday, February 16, from 4 p.m. to 7 p.m. to discuss the plan with park staff and to comment on the alternatives.

If you have questions, please contact me or Tom Farrell, our Section 106 Compliance Coordinator. We can both be reached at (605) 745-4600.

Sincerely,

Linda L. Stoll

Linda L. Stoll
Superintendent

Enclosures

United States Department of the Interior

NATIONAL PARK SERVICE
WIND CAVE NATIONAL PARK
26611 US Highway 385
HOT SPRINGS, SOUTH DAKOTA 57747

IN REPLY REFER TO:
L76 (WICA)

January 19, 2006

LETTER TO
SD GAME, FISH
AND PARKS

Mr. John L. Cooper
Foss Building
523 East Capitol
Pierre, SD 57501

Dear Mr. Cooper: John

This letter is to inform you that the Draft Black-tailed Prairie Dog Management Plan and Environmental Assessment for Wind Cave National Park is now available for public review. A copy of this document is enclosed. The document has also been placed at the Custer, Hot Springs, and Rapid City libraries, the Wind Cave National Park Visitor Center, and is available online at http://parkplanning.nps.gov/wica.

The National Park Service is proposing to revise the Wind Cave National Park Prairie Dog Management Plan (NPS 1982) with management strategies that are consistent with the latest resource objectives and policies of the National Park Service. The primary purposes of revising the management plan for the black-tailed prairie dog at Wind Cave National Park are: to propose and evaluate an approach for sustaining a long-term population of prairie dogs; to conserve natural processes and conditions; to identify tools to manage the black-tailed prairie dog population in the park; to manage park resources in accordance with the park's general management plan, resource management plan, and NPS Management Policies 2001; and to protect public health, safety, and welfare.

To meet environmental regulations, the park is considering four alternatives: a no action alternative that is defined as a continuation of current management of black-tailed prairie dogs (Alternative A); a high acreage target of 3,000-5,000 acres of prairie dogs (Alternative B); a mid-range acreage target of 1,000-3,000 acres of prairie dogs (Alternative C); and a low acreage target of 300-1,000 acres of prairie dogs (Alternative D). The Preferred Alternative is Alternative C.

We welcome your input on the project and our efforts to conserve natural processes and conditions. The public comment period closes on March 10. Comments will be accepted during this period and should be addressed to the Superintendent; Wind Cave National Park; 26611 US Highway 385; Hot Springs, SD 57747 or electronically at the National Park Service planning website http://parkplanning.nps.gov/wica. There will be an informal open house at the Wind Cave National Park Visitor Center on Thursday February 16, from 4 p.m. to 7 p.m. to discuss the plan with park staff and to comment on the alternatives.

It is the practice of the National Park Service to make all comments, including names and home addresses of respondents, available for public review during regular business hours. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or business, available for public inspection in their entirety.

Sincerely,

Linda L. Stoll

Linda L. Stoll
Superintendent

United States Department of the Interior

NATIONAL PARK SERVICE
Wind Cave National Park
26611 US Highway 385
Hot Springs, South Dakota 57747

IN REPLY REFER TO:
H4217 (WICA)

LIST OF RECIPIENTS FOLLOWS LETTER

January 19, 2006

Mr. Michael Jandreau, Chairman
Lower Brule Sioux Tribal Council
P. O. Box 187
Lower Brule, SD 57548

Subject: Government-to-Government Consultation, Draft Black-tailed Prairie Dog Management Plan / Environmental Assessment, Wind Cave National Park

Dear Mr. Jandreau:

Enclosed is a Draft Environmental Assessment for the Black-tailed Prairie Dog Management Plan for public review. The National Park Service is proposing to revise the Wind Cave National Park Prairie Dog Management Plan (NPS 1982) with management strategies that are consistent with the latest resource objectives and policies of the National Park Service. The primary purposes of revising the management plan for the black-tailed prairie dog at Wind Cave National Park are: to propose and evaluate an approach for sustaining a long-term population of prairie dogs; to conserve natural processes and conditions; to identify tools to manage the black-tailed prairie dog population in the park; to manage park resources in accordance with the park's general management plan, resource management plan, and NPS Management Policies 2001; and to protect public health, safety, and welfare.

Planning for this project began in January of 2005 with public workshops to develop alternatives. To meet environmental regulations, the park is considering four alternatives: a no action alternative that is defined as a continuation of current management of black-tailed prairie dogs (Alternative A); a high acreage target of 3,000-5,000 acres of prairie dogs (Alternative B); a mid-range acreage target of 1,000-3,000 acres of prairie dogs (Alternative C); and a low acreage target of 300-1,000 acres of prairie dogs (Alternative D). The Preferred Alternative is Alternative C.

The park is aware that American Indians value Wind Cave National Park as a very special place, so we want to be sure that the project will not affect it or other ethnographic resources valued by your tribe. Therefore, this letter continues the Government-to-Government consultation begun in our letter of January 13, 2005, when we provided you advance notice of this proposal and asked for any input that you might want to share with us during the preparation of this document. This is in accordance with legislation, Executive Orders, regulations, and policy, including sections 101 and 106 of the National Historic Preservation Act of 1966 as amended, 36 CFR 800, National Park Service Management Policies and Director's Order 28, Cultural Resources Management (especially Chapter 10, Ethnographic Resources).

The public review period runs until March 10. Comments will be accepted during this period and should be addressed to the Superintendent; Wind Cave National Park; 26611 US Highway 385; Hot Springs, SD 57747 or electronically at the National Park Service planning website http://parkplanning.nps.gov/wica. A copy of the environmental assessment can also be found at that site.

There will be an informal open house at the Wind Cave National Park. Visitor Center on Thursday February 16, from 4 p.m. to 7 p.m. to discuss the plan with park staff and to comment on the alternatives.

Your review and comment of this document and or attendance at our public meeting will help ensure that threatened and endangered resources are adequately considered in issuing a final decision on the project. We look forward to receiving your input on our plans and any concerns you have about the project.

We would be pleased to discuss this project further, either by telephone or at the public meeting. If you have questions, please contact me or Dan Foster, our Chief of Resource Management. We can be reached at (605) 745-4600.

Sincerely,

Linda L. Stoll

Linda L. Stoll
Superintendent

Enclosure

Mr. Duane Big Eagle, Chairman
Crow Creek Sioux Tribal Council
P. O. Box 50
Fort Thompson, SD 57339

Mr. Rodney M. Bordeaux, President
Rosebud Sioux Tribal Council
P. O. Box 430
Rosebud, SD 57570

Mr. Richard Brannan, Chairman
Arapaho Business Committee
P. O. Box 396
Fort Washakie, WY 82514

Mr. Ron His Horse Is Thunder, Chairman
Standing Rock Sioux Tribal Council
P. O. Box D
Fort Yates, ND 58538

Mr. William Blind, Chairman
Cheyenne-Arapaho Tribes of Oklahoma
P. O. Box 38
Concho, OK 73022

Mr. Alex White Plume, Vice-President
Oglala Sioux Tribal Council
P. O. Box 2070
Pine Ridge, SD 57770

Mr. James Crawford, Chairman
Sisseton-Wahpeton Sioux Tribal Council
P. O. Box 509
Agency Village, SD 57262

Mr. White Buffalo Head, Chairman
Ponca Tribe of Oklahoma
20 White Eagle Drive
Ponca City, OK 74601

Mr. Harold Frazier, Chairman
Cheyenne River Sioux Tribe
P. O. Box 590
Eagle Butte, SD 57625

Mr. Michael Jandreau, Chairman
Lower Brule Sioux Tribal Council
P. O. Box 187
Lower Brule, SD 57548

Mr. Mark Peniska, Chairman
Ponca Tribe of Nebraska
P. O. Box 288
Niobrara, NE 68760

Mr. Roger Trudell, Chairman
Santee Sioux Tribal Council
425 Frazier Avenue N., Suite 2
Niobrara, NE 68760-7219

Ms. Julia Doney, President
Fort Belknap Community Council
RR1, Box 66
Harlem, MT 59526

Mr. Mark Allen, President
Flandreau Santee Sioux Executive
Committee
P. O. Box 283
Flandreau, SD 57028

Mr. Nathan Tselee, Chairman
Apache Tribe of Oklahoma
P. O. Box 1220
Anadarko, OK 73005

Mr. Tex Hall, Chairman
Three Affiliated Tribes Business Council
404 Frontage Road
New Town, ND 58763-9402

Mr. John Morales Jr., Chairman
Fort Peck Tribal Executive Board
P. O. Box 1027
Poplar, MT 59255

Mr. Eugene Little Coyote, President
Northern Cheyenne Tribal Council
P. O. Box 128
Lame Deer, MT 59043

Ms. Cecilia Fire Thunder, President
Oglala Sioux Tribal Council
P. O. Box 2070
Pine Ridge, SD 57770

Ms. Robert Cournoyer, Chairman
Yankton Sioux Tribal Bus. & Claims
Comm.
P. O. Box 248
Marty, SD 57361

Letter also sent to Bill Harlow, Mark + Mike Eagle. MMRR

United States Department of the Interior

NATIONAL PARK SERVICE
Wind Cave National Park
26611 US Highway 385
Hot Springs, South Dakota 57747

IN REPLY REFER TO:
H4217 (WICA)

LIST OF RECIPIENTS FOLLOWS LETTER

January 19, 2006

Mr. Tim Mentz, Historic Preservation Officer
Standing Rock Sioux Tribe
P. O. Box D
Fort Yates, ND 58538

Subject: Government-to-Government Consultation, Draft Black-tailed Prairie Dog Management Plan / Environmental Assessment, Wind Cave National Park

Dear Mr. Mentz:

Enclosed is a Draft Environmental Assessment for the Black-tailed Prairie Dog Management Plan for public review. The National Park Service is proposing to revise the Wind Cave National Park Prairie Dog Management Plan (NPS 1982) with management strategies that are consistent with the latest resource objectives and policies of the National Park Service. The primary purposes of revising the management plan for the black-tailed prairie dog at Wind Cave National Park are: to propose and evaluate an approach for sustaining a long-term population of prairie dogs that meets other park objectives; to conserve natural processes and conditions; to identify tools to manage the black-tailed prairie dog population in the park; to manage park resources in accordance with the park's general management plan, resource management plan, and NPS Management Policies 2001; and to protect public health, safety, and welfare.

In accordance with Section 106 of the National Historic Preservation Act of 1966, amended, and the Council's regulations, 36 CFR Part 800, we seek your review and comment regarding the above referenced project. Planning for this project began in January of 2005 with public workshops to develop alternatives. To meet environmental regulations, the park is considering four alternatives: a no action alternative that is defined as a continuation of current management of black-tailed prairie dogs (Alternative A); a high acreage target of 3,000-5,000 acres of prairie dogs (Alternative B); a mid-range acreage target of 1,000-3,000 acres of prairie dogs (Alternative C); and a low acreage target of 300-1,000 acres of prairie dogs (Alternative D). The Preferred Alternative is Alternative C.

The purpose and need for this project is found on page 1 of the enclosed document. Cultural resource impact topics included in this document are on page 15 and cultural impact topics dismissed are on pages 16-17. Alternatives considered are discussed on pages 19-35. Affected cultural resources and the no adverse effect determination are described on pages 90-95. Public involvement information and supporting documentation are on pages 119-121 and 139-153.

The preparation of an EA is necessary to meet the requirements of the National Environmental Policy Act. In addition, the process and documentation required for preparation of the EA will be used to comply with Section 106 of the National Historic Preservation Act. In accordance with section 800.8(c) of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), we notified your office in a letter dated January 13, 2005, of the park's intention to use the EA and accompanying Assessment of Effect to meet its obligations under Section 106.

The park is aware that American Indians value Wind Cave National Park as a very special place, so we want to be sure that the project will not affect it or other ethnographic resources valued by your tribe. Therefore, this letter continues the Government-to-Government consultation begun in our letter of January 13, 2005, when we provided you advance notice of this proposal and asked for any input that you might want to share with us during the preparation of this document. This in accordance with legislation, Executive Orders, regulations, and policy, including sections 101 and 106 of the National Historic Preservation Act of 1966 as amended, 36 CFR 800, National Park Service Management Policies and Director's Order 28, Cultural Resources Management (especially Chapter 10, Ethnographic Resources). A similar letter has been sent under separate cover to your tribal chairperson to inform them of the project and to request a response should there by any concerns about ethnographic resources.

The public review period runs until March 10. Comments will be accepted during this period and should be addressed to the Superintendent; Wind Cave National Park; 26611 US Highway 385; Hot Springs, SD 57747 or electronically at the National Park Service planning website http://parkplanning.nps.gov/wica. A copy of the environmental assessment can also be found at that site.

There will be an informal open house at the Wind Cave National Park Visitor Center on Thursday, February 16, from 4 p.m. to 7 p.m. to discuss the plan with park staff and to comment on the alternatives.

Your review and comment of this document and or attendance at our public meeting will help ensure that cultural resources valued by your tribe are adequately considered in issuing a final decision on the project. We look forward to receiving your input on our plans and any concerns you have about the project.

We would be pleased to discuss this project further, either by telephone or at the public meeting. If you have questions, please contact me or Tom Farrell, our Section 106 Compliance Coordinator. We can be reached at (605) 745-4600.

Sincerely,

Linda L. Stoll

Linda L. Stoll
Superintendent

Enclosure

cc: Bill Harlow, MWR
cc: Mike Evans, MNRR

Mr. Tim Mentz, Historic Preservation Officer
Standing Rock Sioux Tribe
P. O. Box D
Fort Yates, ND 58538

Mr. Albert LeBeau, Historic Preservation Officer
Cheyenne River Sioux Tribe
P. O. Box 590
Eagle Butte, SD 57625

Ms. Pemina Yellow Bird, Historic Preservation Officer
Three Affiliated Tribes Business Council
404 Frontage Road
New Town, ND 58763-9402

Mr. Russell Eagle Bear, Historic Preservation Officer
Rosebud Sioux Tribe
P. O. Box 658
Rosebud, SD 57570

Mr. Conrad Fisher, Historic Preservation Officer
Northern Cheyenne Tribe
P. O. Box 128
Lame Deer, MT 59043 59043

Ms. Joanna White, Historic Preservation Officer
Arapaho Business Committee
P. O. Box 1056
Fort Washakie, WY 82514

Mr. Gordon Yellow Man, Coordinator of Cultural and Heritage Programs
Cheyenne-Arapaho Tribes of Oklahoma
P. O. Box 137
Concho, OK 73022

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As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS November 2006