



National Park Service
U.S. Department of the Interior
Devils Tower National Monument
Devils Tower, Wyoming

Finding of No Significant Impact Prairie Dog Management Plan

Background

In compliance with NEPA, the National Park Service (NPS) prepared an Environmental Assessment (EA) to examine various alternatives and environmental impacts associated with the proposed Prairie Dog Management Plan (PDMP) for Devils Tower National Monument (the Monument). The Monument does not currently have a prairie dog management plan or standard operating procedures for management of disease outbreaks in prairie dog populations. Black-tailed prairie dogs have become an issue in high-use visitor areas, such as the campground and picnic area, threatening resources, infrastructure and visitor safety. The PDMP is needed to manage black-tailed prairie dogs as a keystone species, protect visitors and infrastructure, and develop procedures for the management of disease outbreaks.

Selected Action

Alternative C, Adaptive Management, is the preferred alternative, and NPS's selected action because it best meets the purpose and need for the project as well as the project objectives: 1) Develop a Plan/EA that will provide the Monument with the strategies and compliance necessary to manage prairie dogs; 2) Maintain a healthy prairie dog population with a distribution that will fulfill the ecological role of the species and allow other Monument objectives to be achieved; 3) Reduce the probability, severity, and impact of a plague outbreak, and; 4) Protect human health and safety and Monument infrastructure from hazards and damage associated with prairie dogs.

Alternative C, Adaptive Management Will Include:

Monitoring, Adaptation, and Record Keeping

The key to successful implementation of this Plan/EA is adaptive management. Prairie dog management calls for the use of a number of different treatment methods to effectively deal with this species. Adaptive management means that staff will monitor the populations (i.e. numbers, locations, and effectiveness of treatments) and allow for flexibility in adjusting our integrated treatments to respond to changing conditions. Adjustments may include changing the preferred treatment method, treatment location, timing or frequency of treatments to effectively deal with the pest species, or the need to treat pest species in a location not currently affected. It also allows for the use of new treatment methods or materials not currently available. Adaptation of this plan will allow for the adoption of new methods that become available and are better suited to a situation than those currently recognized. Adjustments and adaptations could be made if the effects remain similar to or less than those described in this document.

For the purposes of this Plan/EA, adaptive management includes the following:

- The use of strategies that may not be specifically listed in the proposed action but are approved for use by the NPS and have similar environmental effects to strategies analyzed in this assessment.
- If prescribed management fails to result in desired outcomes, alternative strategies will be developed and management will be adapted until the desired conditions are achieved. New alternative strategies will be reviewed on a site-specific and case-by-case basis. If it is demonstrated through analysis that the environmental impacts of a new approach fall outside the impacts as disclosed in this document, then additional environmental and cultural analysis will be undertaken under NEPA and §106.
- Timing of treatments may be adjusted to allow for maximum effectiveness, protection of non-target species, and to minimize effects on visitor use and experience.

Through continued monitoring, adaptive management, and education, prairie dog management will be conducted in a proactive and responsible manner. This approach is interdisciplinary and uses a full range of available methods including education, prevention, and adaptive land management.

Prairie Dog Population Monitoring: Annual monitoring of the Devils Tower prairie dog colony will take place to determine the occupied acreage and estimate general density of the Monument's prairie dog population. This will ensure that acreage level and population size are consistent with the objectives of the plan. The Monument will monitor black-tailed prairie dogs by measuring annual prairie dog colony acreage and using weekly visual counts of prairie dog density throughout the summer. Visual counts of prairie dog density will be done during periods of high prairie dog activity by walking through the colony and counting visible prairie dogs. The occupied acreage of the colony is monitored annually by mapping the boundary of the colony based on clipped vegetation lines several times throughout the summer.

Flea Monitoring: In addition to the above monitoring of prairie dog populations, flea monitoring and collection will occur following the protocols established in Appendix B of the PDMP/EA if at any point during the year a significant reduction in prairie dog density is noted or dead prairie dogs are found. If at any point an outbreak of sylvatic plague is suspected, the appropriate authorities will be notified and the appropriate actions taken. See Appendix B and C of the PDMP/EA.

Management Effects Monitoring: Monitoring prior to and following a management action will be completed to determine the effectiveness of the action. This monitoring needs to be appropriate for the management action taken. For example, vegetation transects to determine plant density or other parameters may be done if a vegetative barrier is developed to control prairie dog movements, as well as monitoring prairie dog presence and or densities on either side of the barrier.

Record Keeping and Follow Up: Management actions conducted under this plan will be fully documented as to methods used and effects on prairie dogs and their habitat. Completed reports will be kept on file in the Resource Management files. Examples: annual reports to provide monitoring data on prairie dog occupation, population level, flea sampling, etc.; a report documenting passive management efforts; reports documenting plague detection and associated management actions taken.

Management actions will be evaluated and critiqued by participants, Devils Tower National Monument Natural Resource personnel and others (researchers, biologists, etc.) as needed, for improving management strategies and procedures. Examples: analysis of monitoring data to evaluate relocation and reintroduction efforts; assembling data and information on actions taken during a plague outbreak to review and determine if more effective or efficient actions could be recommended for the future.

The Resource Management Division will be responsible for preparing and submitting annual summary reports for prairie dog management activities for the year, and for updating or modifying approved strategies as appropriate. Review of the Management Plan may be conducted on an annual basis and will be conducted by the Monument Management Team with employee input encouraged. Major review and changes with NEPA compliance will be carried out every 5-10 years or when environmental conditions change significantly from when the plan was first approved. Other agencies and the public will be sent copies of the Management Plan for review, when the major review process is undertaken, for their evaluation and comments. Comments and suggestions received will be considered and substantive comments will be incorporated into the Management Plan as appropriate.

Research: Research opportunities for studying prairie dogs in the Monument will continue to be encouraged and will occur on a funding available basis. Issuance of permits and ensuring permit compliance will continue to occur.

Decision Making

Decisions will be made on a case-by-case basis based on good judgment, applicable law, regulations, best management practices, and approved management strategies. Decision-making tools will be utilized based on triggers and appropriate actions for those triggers. See Appendix A and C of the PDMP/EA.

Human Health and Safety

In the short term, trails will be periodically cleared of debris from prairie dog burrowing. High-use visitor areas will be closed if prairie dog activity is considered hazardous to public safety. In the long term, trails and high-use visitor areas will be improved by curbing, horizontal sub surface barriers, or other means to reduce hazards to the public.

Plague Management

A bait-delivered oral vaccine for prairie dogs has had great success in laboratory settings and is currently being tested for efficacy in the field. If a vaccine is approved, it could be utilized in the Monument to protect wildlife and the public from the threat of a

plague outbreak. In lieu of a vaccine, plague can be managed through standard operating procedures. Plague procedures in this document identify standard operating procedures for collection of biological samples, treatment of prairie dog colonies with pesticide, notification of cooperating agencies, and posting warning and closure signs when outbreaks of sylvatic plague occur.

The standard operating procedures found in Appendix C of the PDMP/EA include:

- I. Background
- II. Purpose and Need
- III. Monitoring the Black-tailed Prairie Dog Population and Occurrence of Fleas that Inhabit Prairie Dog Burrows
 - a. Black-tailed Prairie Dog Monitoring
 - b. Flea Monitoring
- IV. If an Outbreak of Plague is Suspected: Collecting, Handling, Shipping Prairie Dogs
 - a. Black-tailed Prairie Dog Sample Collection
 - b. Flea Sample Collection
 - c. Burrow Dusting Protocol
 - d. Communication Protocol
- V. Detection Determination
 - a. If Plague IS NOT Detected
 - b. If Plague IS Detected
- VI. Literature Cited
- VII. Plague SOP Flow Chart
- VIII. Material Safety Data Sheet – Deltamethrin
- IX. Prairie Dog Mortality/Flea Collection Data Sheet
- X. Three Sample Signs for Posting in Areas of Plague Detection
- XI. Sample Press Release

Re-establishment

If the black-tailed prairie dog colony at Devils Tower National Monument were to collapse or be eliminated by disease, reintroduction will be used to re-establish prairie dogs within the existing prairie dog colony boundaries. Re-establishment will be subject to funding and approval by the state of Wyoming.

The Wyoming Game and Fish Department will be consulted prior to any reestablishment efforts so that permits (Chapter 10 and 33) may be obtained. The Wyoming Game and Fish Commission must approve any reintroduction of black-tailed prairie dogs within the state of Wyoming. Approval is given on a case-by-case basis and under consultation with Wyoming Game and Fish permitting office and the regional biologist. If this management option is pursued, the Wyoming Game and Fish Directors Office will be contacted early in the process to get the reestablishment proposal on the WGF Commission agenda in a timely manner.

The PDMP/EA will follow best techniques to date, including:

1. Capture prairie dogs between late June and mid-September using wire mesh live traps. Place the traps on level ground within 1-2 yards of the burrow entrance and bait them with horse sweet feed, mixed grain, or whole oats. Check traps several times per day (more frequently in hot, sunny weather or during snow or cold rain; overheating in hot weather is the most common cause of prairie dog mortality during live trapping). The source population should have as high a prairie dog density as possible. Colonies that have been little disturbed by poisoning or trapping should be favored. Note that live trapping is easiest on those colonies (portions of colonies) that have little or low-quality forage (Long et al. 2006). Transplant success may be enhanced by relocating as many family members as possible (Shier 2004, as cited by Long et al. 2006).
2. Reintroduction should involve 60-100 prairie dogs, for which ages and sexes approximate natural conditions (i.e. more adults than juveniles and more females than males).
3. Consider dusting the prairie dogs while they are in the live traps with insecticide dust such as carbaryl or permethrin to kill fleas.
4. Transport prairie dogs in holding cages, such as "Havahart" rabbit hutches. Be sure to protect the prairie dogs from prolonged direct sunlight, precipitation, or high (>70F) or low (<40F) temperatures.
5. The new site should have had all tall vegetation removed from at least an area of 4-5 acres by mowing, grazing, or burning.
6. Post-release monitoring of prairie dogs should be implemented.

Interpretation and Education

Interpretive signs and pamphlets will be evaluated on a regular basis to determine the need for updating information. Prairie dog crossing signs will be posted along the entrance road to alert vehicles to slow down near the prairie dog colony to reduce prairie dog mortality. Additionally, new signs indicating human health and safety hazards associated with prairie dogs using a One Health message will be implemented both at the pullouts on the entrance road and where the trails around prairie dog colony come into the visitor-use areas. Information will be provided indicating potential hazards associated with prairie dog towns (i.e. biting, plague, stepping in burrows, rattle snakes, spiders, and feeding prairie dogs human foods).

Interpretive signage along the entrance road will remain in place. Interpretive information on prairie dogs' function in the ecosystem, the management policies and plans regarding prairie dog management actions, and prairie dog management issues (e.g. human health concerns and population dynamics) will be provided to the public through The Tower Columns (Monument newspaper), the pamphlet/map given to all visitors at arrival, and ranger interpretive programs.

Individuals who may be potentially affected by prairie dog management actions (adjacent land owners, Tribal members, other state and federal agencies) will be notified of such activities.

The Standard Operating Procedure for Plague Outbreak (Appendix C of the PDMP/EA) provides guidelines on providing accurate and timely information dispersal through public notices or to news media, particularly during plague occurrences.

Live-Trapping and Relocation

This control method could be used for animals encroaching on Monument facilities, assuming a suitable relocation area has been identified and adequate staff is on hand to set and monitor traps throughout the day. Live-trapping prairie dogs and relocating to a willing taker outside the Monument, or donating them to the Black-Footed Ferret Recovery Program could reduce prairie dog populations in the Monument in locations where they are not desired. If suitable habitat for prairie dog introduction were located in Devils Tower National Monument, new prairie dog colonies could be established by relocating the animals to prepared sites at the discretion of the Monument superintendent once appropriate NEPA compliance has been completed. See guidelines for live trapping methods in Appendix E of the PDMP/EA.

The Wyoming Game and Fish Department will be consulted prior to any relocation efforts so that necessary permits (Chapter 10 and 33) may be obtained. The Wyoming Game and Fish Commission must approve any relocation of black-tailed prairie dogs within and from outside the state of Wyoming. Approval is given on a case-by-case basis and under consultation with Wyoming Game and Fish permitting office and the regional biologist. If this management option is pursued, the Wyoming Game and Fish Directors Office will be contacted early in the process to get the relocation proposal on the WGF Commission agenda in a timely manner. See Appendix E of the PDMP/EA for live trapping protocol from NPS.

Passive Relocation

This control method could be used for animals encroaching on high-use visitor areas. A passive prairie dog relocation method where prairie dogs are moved without physically handling them will be employed. When prairie dogs develop burrows outside the allowed area, each burrow is closed by installing a one way wire door where prairie dogs can exit the burrow but cannot re-enter (see Appendix F of the PDMP/EA for example). When the burrow is inactive for 72 hours, the burrow is sealed with a large rock and horizontal sub-surface barrier such as poultry wire, hardware mesh or plastic geo grid. The closing of burrows will encourage prairie dogs to relocate back into the town. Passive Relocation is best used in conjunction with other strategies that will prevent movement back into the area.

Physical barrier

A physical barrier, either permanent or temporary, could be established between the prairie dog colony and campground, amphitheater, picnic area, sculpture and other areas as needed. Physical barriers are somewhat successful at maintaining or limiting prairie dog populations within certain areas. Other studies have found some types of physical barriers to be ineffective at reducing recolonization rates of prairie dogs. The physical barriers should be set up before emergence of juvenile prairie dogs in early- to mid-May. The most commonly used physical barriers are vinyl fencing or privacy

fencing but any and all viable alternatives will be considered including rock walls, erosion control fabric, etc. This barrier could serve as a control while a natural barrier of shrubs and tall grasses is established. Mowing could be limited or discontinued in areas to allow tall grasses to establish. Interpretive signs will be installed along the physical barrier to inform the public of the purpose of the barrier. Once vegetation is established the physical barrier could be removed.

For guidelines for establishing a physical barrier see guidelines developed by the Cities of Fort Collins and Boulder in Colorado in Appendix D of the PDMP/EA. The type of barrier installed will be determined by the site location, success of previous exclusion attempts, and will not be limited to fabric, rock, fence, or other materials. The disturbed soil will be reseeded with native plants following installation of the barrier and any exotic species encountered will be removed during barrier installation according to NPS IPM guidelines.

Natural Barrier

A vegetative buffer could be established between the prairie dog colony and the campground, amphitheater, picnic area, sculpture, and other areas as appropriate. Because prairie dogs are limited in their dispersal by habitat preferences, the presence of suitable soils, slope, and vegetation could control where prairie dog colonies are located on the landscape. Natural vegetation barriers could be used to maintain prairie dog populations within a certain area. Since a vegetative barrier requires time for vegetation to establish, this will be done in conjunction with a permanent or temporary physical barrier. The physical barrier (see Physical Barrier) will be established to prevent prairie dog expansion into undesirable areas and to protect the vegetative buffer until vegetation reaches a size and density great enough to deter prairie dog use (potentially several years).

Transplants of native shrubs and tall grasses will be planted in areas where future colony expansion is anticipated and will be undesirable (e.g. between prairie dog colony and the campground, amphitheater, and sculpture). Any exotic species encountered during planting of natural barrier will be removed according to NPS IPM guidelines. The vegetative buffer should be established at the maximum width possible given the constraints of the campground and trail location. If necessary for establishment, shrubs will be watered throughout the summer.

Modifications to trails, roads, and visitor-use areas (“modifications”)

Prairie dogs causing safety issues around trails, roads, and visitor-use areas could be managed by modifying those features. Modification can be made to eliminate tripping hazards created by burrows adjacent to paved trails or borrows made on dirt trails by adding a horizontal sub-surface barrier. Depending on the location and need, a barrier consisting of poultry wire, hardware mesh, or plastic geo grid could be placed horizontally, three to eight inches under the surface of the soil. The horizontal sub-surface barrier will prevent prairie dogs from burrowing next to or on trails. This method was successfully used to install the dirt path and viewing area around the Circle Sacred Smoke Sculpture in 2008. Gravel Pave² by Invisible Structures, a grid of plastic rings,

was placed under the trail and viewing area. The sculpture trail and viewing area are still free of burrows. Another type of sub-surface barrier that could be used is EcoGrid/EcoRaster by Terraform Enterprises.

Curbing could be placed along the edge of trails or roads to prevent prairie dog burrow debris from spilling over onto surface and prevent visitors stepping off the trail into a burrow. Areas or burrows on, or directly adjacent to, trails or roads could be covered or filled with like material (rock, asphalt, concrete) as a repair or buffer. A low barrier or wall could be placed along trails, roads, and pullouts to prevent visitors from walking into prairie dog town, limit interaction between visitors and prairie dogs, prevent tripping, and reduce maintenance. A vertical sub-surface mesh could be buried four to six feet deep along trails, barriers, structures and roads to prevent burrowing under and undermining features. This will most likely be done when the feature was being installed or renovated.

Lethal Control for Reduction or Eradication

Nuisance and pest animals will be controlled in limited or localized situations where a problem exists because of conflicts with human health and safety, property, natural features, cultural resources, or Monument facilities or operations. Lethal control could be used to remove prairie dogs from areas where these conflicts exist.

In accordance with NPS IPM methodology, this plan will emphasize prevention of pest problems, and will consider lethal applications only when nonlethal controls are ineffective or impractical. In such circumstances, lethal control could be used where immediate removal is needed, and as a short-term resolution while longer-term solutions (e.g. natural or physical visual barriers) are being put in place. Lethal control could be used at Devils Tower to prevent the encroachment of prairie dog colonies into areas utilized to meet other Monument goals, such as the campground, amphitheater, picnic area, and sculpture, and to prevent excessive contact between visitors and prairie dogs.

When encroachment into these areas occurs, lethal control could be used following the protocols outlined below.

Gas cartridges are incendiary devices designed to give off carbon monoxide when ignited. They are specifically made for use in rodent burrows (Gas Cartridge – EPA Reg. No. 56228-2). These are most effective when the ground moisture is high, such as in the spring or after soaking precipitation. Care should be used during dry weather and vegetation as the gas cartridges can present a fire hazard. Gas cartridges are also non-selective, and can kill any non-target species in the burrow. The use of gas cartridges must be approved through the Integrated Pest Management process and requires an annual Pesticide Use Proposal (PUP). All NPS staff involved in the application of fumigants will follow all label directions and the appropriate Job Hazard Analysis, and other safety considerations will be reviewed and adhered to.

Due to the limited number of animals needing control and the proximity to high-use visitor areas, the preferred method of lethal control for use at Devils Tower is fumigation with gas cartridges. Gas cartridges are recommended as the most efficient for a small number of burrows (less than 25) and the safest around humans and pets.

Zinc phosphide is a common rodenticide and has been in use since the 1940's. Typical mode of use is in the form of poisoned bait or poisoned oats. The poisoned bait/oats are placed in the entrance of the prairie dog burrows. When consumed, the zinc phosphide reacts with moisture and acid in the stomach to form toxic phosphine gas. Zinc phosphide poisoned bait/oats must be ingested to become toxic. Because the toxicity comes from the phosphine gas, bio-accumulation and secondary poisoning does not occur, thereby protecting predator species. Zinc phosphide is toxic to humans and other animals. The strong garlic-like odor of the chemical typically repels other animals, but is attractive to rodents. Zinc phosphide rodenticides have an added emetic to causes vomiting in case they are accidentally ingested by humans or other non-target animals. However it is still effective against rodents because they lack the ability to vomit. Zinc phosphide has no residual environmental effects. It is expected to degrade in soil within two weeks and has low soil motility.

Zinc phosphide is labeled as a Restricted Use pesticide due to its hazard to non-target species, most notably birds. Applicators will be licensed pesticide applicators and mitigations will be in place to reduce the hazards to non-target species and visitors.

The use of zinc phosphide must be approved through the Integrated Pest Management process and requires an annual Pesticide Use Proposal (PUP). All NPS staff involved in the application of zinc phosphide will follow all label directions and the appropriate Job Hazard Analysis and other safety considerations will be reviewed and adhered to. In accordance with IPM methodology, this plan will emphasize prevention of pest problems and will consider pesticide applications only when nonchemical controls are ineffective or impractical. If lethal control is necessary, gas cartridges will be the preferred method. Zinc phosphide will be used only if gas cartridges are ineffective.

Mitigation Measures

- All construction or use of methods described above will be done in a manner to minimize soil compaction and topsoil removal. Soil disturbance within the proposed PDMP will be minor, involving closing prairie dog burrows in high-use visitor areas, installing barriers, and modifying existing features. Most projects within the proposed plan will be in previously disturbed areas. Any disturbance will be rehabilitated upon completion of the projects.
- The use of geo grid, poultry wire, or other ground barriers will only be used in high-use visitor areas if prairie dog burrows will, or have the potential to, impact visitor safety or threaten infrastructure.
- During the installation of new infrastructure or renovation of existing infrastructure, the installation of ground barriers and other modifications will be done in conjunction with the installation or renovation of the feature.

- To reduce compaction and disturbance, vehicles and equipment will be parked on paved surfaces. Off road vehicle use, including UTVs, will be utilized only when necessary and when no other alternatives are available. Low weight vehicles will be preferred to higher weight vehicles.
- To minimize possible petrochemical leaks, all vehicles and equipment will be inspected and repaired as needed, prior to use in the project area.
- Fugitive dust generated during construction or management activity will be controlled by spraying water on the site if necessary.
- Vegetation displaced, disturbed, or compacted within the proposed PDMP will be restored. Disturbed areas will be reseeded as appropriate and de-compacted utilizing hand tools and, if necessary, agricultural implements to facilitate the revegetation process. No trees will need to be removed under the PDMP.
- For all projects, equipment and vehicles used in the project area will be washed prior to work to prevent the spread of invasive species.
- Any exotic species encountered during projects will be removed according to NPS IPM guidelines. Disturbed areas will be reseeded to prevent exotic species from establishing the site.
- All seed mix used for revegetation will be certified weed free, contain only native species of grasses and forbs, and be approved by the Chief of Resource Management.
- All vegetative barriers will be comprised of native species and will be approved by Chief of Resource Management.
- To minimize the potential for impacts to Monument visitors, when feasible, prairie dog management will be conducted during times of lowest visitation, most likely early morning, evening or overnight.
- To reduce the threat to non-target species, zinc phosphide rodenticide used in the Monument will contain an emetic. Bait/oats will be placed inside the burrow. Bait/oats will not be applied in a broadcast fashion or applied to barren soil.
- To prevent the overuse of pesticides and help protect non-target species, if zinc phosphide oats are used, burrows will be pre-baited with non-toxic oats to ensure prairie dogs are accepting of oats. If the non-toxic oats are not accepted by prairie dogs, zinc phosphide oats will not be applied.
- Before applying toxic oats, applicators will determine the potential for exposing non-target organisms. Applicators will pre-bait with non-toxic oats and conduct daily observations prior to applying toxic bait. Applicators will not apply toxic oats if non-target species are observed to be feeding on pre-bait.
- Areas treated with zinc phosphide will be closed to visitor use during treatment and remain closed until all remaining bait is removed.
- Under all aspects of the plan, if unknown archeological resources were unearthed at any time during ground disturbing activities, all activities will be

suspended in that immediate area until NPS personnel could assess the find. After an assessment, and consultation with the State Historic Preservation Officer and Advisory Council on Historic Preservation, as necessary, according to 36 CFR 800.13, Post Review Discoveries, management recommendations will be made regarding whether the activities will be allowed to resume. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 will be followed.

- While managing exotic plants in the project area: 1) physical disturbance will be avoided; 2) some mechanical treatments such as tilling will not be used; 3) herbicides will be used only if there is no other alternative; 4) only low potential toxicity herbicides will be used; 5) herbicides that do not readily break down in the soil will not be used; and 6) UTVs will avoid physically disturbing colonies.
- To prevent soil erosion, standard erosion control measures such as silt fences and sand bags will be used when necessary.

Alternatives Considered

Alternatives are designed to meet the purpose, objective and needs of the PDMP. Three alternatives were developed based on the results of internal and external scoping. The alternative included: 1. Alternative A, No Action; 2. Alternative B, Passive Management, and; 3. Alternative C, Adaptive Management, the preferred alternative. Under Alternative A, no change in management of prairie dogs would take place. Live-trapping is the only approved method under an EA for controlling prairie dog activity in high-use visitor areas. Categorical Exclusions have been utilized to use lethal control on individuals in high-use visitor area. There are currently no standard operating procedures for management of or response to plague in the Monument. The no action alternative is the baseline for analyzing impacts of the alternatives to manage the prairie dogs at Devils Tower National Monument. Alternatives B and C have identical key components and differ only in their management strategies. Alternative B involves completely passive management strategies (passive relocation, physical barriers, natural barriers, and modifications) while Alternative C includes passive management strategies, live trapping and lethal control.

Environmentally Preferable Alternative

According to the CEQ regulations implementing NEPA (43 CFR 46.30), the environmentally preferable alternative is the alternative "that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative."

Both Alternative B (Passive Management) and Alternative C (Adaptive Management) will achieve the following: 1) provide for the management of a healthy prairie dog population as a keystone species; 2) have standard operating procedures in place for protecting prairie dogs from disease; 3) outline procedures for the reintroduction of prairie dogs in the event of a population collapse.

Alternative C: In addition to achieving the above, this alternative will cause the least amount of damage to the physical environment, and therefore is the environmentally preferable alternative. Alternative C provides for long-term sustainability and reduced disturbance. By providing more flexibility in management methods, this alternative will produce more immediate results, reducing immediate threats to infrastructure. By protecting infrastructure, this alternative will prevent disturbance to the environment resulting from infrastructure repairs.

Alternative B: With passive control measures, this alternative may cause more damage to the physical environment; therefore is not the environmentally preferable alternative. Although this alternative will better protect individual prairie dogs, passive measures could take considerable time for control to be achieved. If infrastructure is in immediate jeopardy and damage occurs, the repairs to the infrastructure could cause disturbance to the environment and overall ecosystem.

Alternative A: The No Action alternative is not the environmentally preferable alternative, because it will not ensure an ecologically viable prairie dog population and a healthy ecosystem. This alternative allows only for live-trapping to control prairie dogs. This alternative will not allow for the management of prairie dogs as a keystone species, there will be no plans in place for monitoring and managing disease and there will be no plans for the reestablishment of the species should the population collapse. In addition, this plan could also take considerable time for control to be achieved. If infrastructure is in immediate jeopardy and damage occurs, the repairs to the infrastructure could cause disturbance to the environment and overall ecosystem.

Why the Selected Action Will Not Have a Significant Effect on the Human Environment

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

Implementation of the preferred (selected) alternative will result in some adverse impacts; however, the overall benefit of the project, particularly to visitor use and experience, and monument operations, outweighs these negative effects. The adverse effects are summarized as follows. Monitoring prairie dog populations could cause intrusion on wildlife viewing and will have a directly adverse, site-specific, short-term, minor effect on visitor experience, but the ability to identify potential disease outbreak will protect human health and safety having a beneficial effect. Construction activity while implementing management strategies under this alternative, such as installing barriers and modifications to trails, could have a minor to moderate effect on visitor use and experience. However, through the use of mitigation measures, effects to visitor use

and experience in the management area are expected to be minor. Ultimately, these actions will have a beneficial effect on visitor use and experience because of the long-term improvements to the human health and safety aspects of the Monument, interpretive opportunities, and functionality of the Monument.

Management strategies requiring passive or active relocation or lethal control to remove prairie dogs from developed visitor areas could have a minor-to-moderate adverse effect on visitor experience. Passive or active relocation could create visual pollution or tripping hazards. During lethal control, areas will be temporarily closed to visitors to insure their health and safety. Closures will be rare and lasting a few days to a week having only minor effects on overall visitor use. Some visitors may strongly object to lethal control of prairie dogs, adversely affecting visitor experience. To mitigate these effects, control will take place when visitors are not present, most likely in the early morning, late evening, or overnight. Passive relocation, active relocation, and lethal control will also have long-term minor-to-moderate beneficial effects on visitor use and experience by improving human health and safety and allowing continued access to developed areas.

The overall benefit of implementing the preferred (selected) alternative is that human health and safety, and monument operations will be improved to a minor-to-moderate degree, because hazards to human health and safety, and monument infrastructure will be remedied with the management of prairie dogs.

The degree to which the proposed action affects public health or safety

The preferred alternative will have an overall beneficial effect on public health and safety. In the short term, trails will be periodically cleared of debris from prairie dog burrowing. High-use visitor areas will be closed if prairie dog activity is considered hazardous to public safety. In the long term, to reduce tripping hazards and human-prairie dog encounters, trails and high-use visitor areas will be improved by curbing, horizontal sub surface barriers, or other means to reduce hazards to the public.

New signs indicating human health and safety hazards associated with prairie dogs using a One Health message will be implemented both at the pullouts on the entrance road and where the trails around the prairie dog colony come into the visitor-use areas. Information will be provided indicating potential hazards associated with prairie dog towns (i.e. biting, plague, stepping in burrows, rattle snakes, spiders, and feeding prairie dogs human foods).

Standard Operating Procedure for Plague Outbreak will be implemented with guidelines on providing accurate and timely information dispersal through public notices or to news media, particularly during plague occurrences. A bait-delivered oral vaccine for prairie dogs has had great success in laboratory settings and is currently being tested for efficacy in the field. If a vaccine is approved, it could be utilized in the Monument to protect wildlife and the public from the threat of a plague outbreak.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas

The preferred alternative will not impact unique characteristics of the area including prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas because these resources do not exist in the project area. The preferred alternative will impact mainly the areas disturbed by the prairie dog town and high-use visitor areas.

The degree to which the effects on the quality of the human environment are likely to be highly controversial

Throughout the environmental process, the proposal to manage prairie dogs at THE MONUMENT was not highly controversial, nor are the effects expected to generate future controversy. The scoping and review process generated few comments. The plan/EA will maintain a healthy prairie dog population in the Monument and protect visitor use areas.

The degree to which the possible effects on the quality on the human environment are highly uncertain or involve unique or unknown risks

The effects of managing prairie dogs according to this plan/EA are fairly straightforward and do not pose uncertainties. The environmental review process has not identified any effects that may involve highly unique or unknown risks.

The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

The preferred alternative is not expected to set a precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration. The management strategies described does not set precedent for any actions beyond the scope of the plan/EA.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

Cumulative effects were analyzed in the EA and no significant cumulative impacts were identified.

The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

The Monument contains several historic properties including four buildings, the Monument road, and eight stone culverts built by the CCC; and a historic ladder on the Tower. None of the buildings or the ladder lie in or are directly adjacent to prairie dog town or the proposed exclusion area. The asphalt road with stone culverts does pass through prairie dog town, but because of the nature of the structures there are no

expected impacts. If any prairie dog management activity will potentially affect a historic property, separate Section 106 consultation will be initiated.

On November 13, 2013, a letter with a determination of effect was sent to the SHPO stating "None of the historic buildings or the ladder lie in or are directly adjacent to prairie dog town or the proposed exclusion area. The asphalt road with stone culverts does pass through prairie dog town. In addition, archeological site #48CK1789 (a Civilian Conservation Corps flagstone dump site) is within the prairie dog exclusion zone. No actions are anticipated in these areas, and given the nature of the sites there are no expected impacts. If any unforeseen prairie dog management activity would potentially affect a historic structure or archeological resource, a separate Section 106 consultation would be initiated.

Therefore, the National Park Service has determined that the Prairie Dog Management Plan and Environmental Assessment will result in a determination of *no adverse effect*, for which we request your concurrence."

The SHPO replied by letter dated November 20, 2013 [SHPO file # 1113JPL034] stating "We concur with your finding that no historic properties, as defined in 36 CFR 800.16(1)(1), will be affected by the undertaking as planned. We recommend that Devils Tower National Monument allow the undertaking to proceed in accordance with the state and federal laws subject to the following stipulation:

If any cultural materials are discovered during construction, work in the area shall halt immediately, the federal agency must be contacted, and the materials evaluated by an archaeologist or historian meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept 1983)."

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

There will be "no effect" on endangered or threatened species or habitat per §7 of the Endangered Species Act. A letter from the U.S. Fish and Wildlife Service (USFWS, 2012) titled *Endangered, Threatened, Proposed, and Candidate Species and Their Designated and Proposed Critical Habitat That Occur In or May Be Affected by Actions in Crook County, Wyoming* updated May 2012 indicated that the following species may be present in the project area:

Ute Ladies'-tresses (*Spiranthes diluvialis*)

Status: Threatened

Habitat: Seasonally moist soils and wet meadows of drainages below 7,000 ft.

Greater Sage-grouse (*Centrocercus urophasianus*)

Status: Candidate

Habitat: Sagebrush communities

Concerning Ute Ladies'-tresses

Potential habitat for *Spiranthes diluvialis* is not found on Devils Tower National Monument. It requires wetland habitat of short-stature grasses and grass-like plants.

Across its range, it requires a combination of hydrological and successional conditions that are associated with this wetland vegetation. The nearest populations are in northern Converse County, WY. Ute Ladies'-tresses, nor its habitat, exists at the Monument. No action in the PDMP will affect the species or its habitat.

Concerning Greater Sage-grouse

There are no known populations of Greater Sage-grouse in Devils Tower National Monument. The sage-grouse is considered "very rare or unconfirmed" at the Monument due to very limited suitable habitat. The Plan/EA will focus on maintaining prairie dog habitat and high-use visitor areas at their current levels. The Plan/EA will produce very little to no change in habitat levels for the sage-grouse.

The Wyoming Game and Fish Department was contacted by letter on September 19, 2012 requesting consultation on state-listed species or designated critical or essential habitat in the proposed project area. No response was received.

Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment

The action will not violate any federal, state, or local laws or environmental protection laws.

Public Involvement and Native American Consultation

The Environmental Assessment was made available for a 30-day public review and comment period ending August 30, 2013. To notify the public of this review period, a public review and comment brochure was sent out to 231 individuals and organizations. Brochures were mailed to 136 individuals, local businesses and land owners, area post offices, senators, representatives, county commissioners, land management agencies, 24 tribal councils, 11 newspapers, 18 radio stations, the governor's office, and others. Brochures were sent via email to 95 contacts including individuals, local businesses and land owners, senators, representatives, newspapers, radio stations, tribal members, and others expressing interest in Monument news. A press release was emailed to 112 contacts including newspapers, radio stations, tribal governments, TV news, universities, climbing websites, local businesses, county commissioners, other NPS areas, and NPS regional office employees. Information was provided on how to submit comments by mail, in person, and on the Planning, Environment and Public Comment (PEPC) site. Information and the EA in its entirety were posted on the NPS PEPC website at <http://parkplanning.nps.gov/>. An interview was conducted with the Monument's Chief of Resources by Wyoming Public Media and an article was published on-line August 5, 2013.

Three correspondences were received during this review period. One comment was received by mail and on the PEPC website from the Wyoming Game and Fish Department, making the Monument aware of permit requirements for trapping and moving wildlife. A second comment was received by mail from Crook County [Land Use Planning and Zoning Commission] who stated their support for the preferred alternative because it allows for lethal control and will cause the least amount of damage to the

physical environment. Crook County also expressed opposition to the live-trapping and relocation of prairie dogs to any other locations inside or outside the Monument. The third comment was received on the PEPC website from WildEarth Guardians who supports Devils Tower's efforts to maintain the population of black-tailed prairie dogs within the Monument and would prefer adoption of Alternative B. WildEarth Guardians also suggests an alternative that considers only non-lethal methods, both active and passive by expanding Alternative B to include live-trapping and relocation, which might obviate the need for lethal control. No comments were received from Native American tribes. Substantive comments centered on two topics: expanding alternative B and permits to move wildlife. These comments are addressed in the Errata Sheets attached to this FONSI. The FONSI and Errata Sheets will be sent to all commenters.

Conclusion

As described above, the preferred alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity with adverse impacts that are site-specific, short-term, and negligible to moderate. There are no unmitigated adverse effects on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, NPS has determined that an EIS is not required for this project and thus will not be prepared.

Approved:

for 
Sue E. Masica
Regional Director, Intermountain Region, National Park Service

2/14/14
Date

Errata Sheets

Prairie Dog Management Plan

Devils Tower National Monument

According to NPS policy, substantive comments are those that 1) question the accuracy of the information in the EA, 2) question the adequacy of the environmental analysis, 3) present reasonable alternatives that were not presented in the EA, or 4) cause changes or revisions in the proposal.

Some substantive comments may result in changes to the text of the EA, in which case, they are addressed in the *Text Changes* section of the Errata Sheets. Other substantive comments may require a more thorough explanatory response and are addressed in the *Response to Comments* section. NPS responds to all substantive comments in either or both of these sections.

Of the three comments that were received during public review of the EA, two of them are considered substantive. Substantive comments for this EA centered on 2 topics: an additional alternative and permits to move wildlife. These concerns resulted in no changes to the text of the EA and are explained more thoroughly in the *Response to Comments* section.

Text Changes:

Page 16, fourth paragraph, Ute Lady Trusses – the third sentence shall read “The nearest populations are in northern Converse County, WY (Heidel, personal communication, September 9, 2012).”

Page 26, third paragraph – the following sentences shall be added to the end of the paragraph: “If lethal control is necessary, gas cartridges will be the preferred method. Zinc phosphide will be used only if gas cartridges are ineffective.”

Page 30, second paragraph, Human Health and Safety – the last two sentences shall be moved to the next paragraph, Plague Management, to remove redundancy.

Page 30, third paragraph, Plague Management – the first two sentences shall be replaced by the last two sentences of the second paragraph, Human Health and Safety, to remove redundancy.

Page 42, last paragraph, Alternative C – the last sentence shall read “By protecting infrastructure, this alternative would prevent disturbance to the environment resulting from infrastructure repairs.”

Page 43, first paragraph, Alternative B – The last sentence shall read “If infrastructure is in immediate jeopardy and damage occurs, the repairs to the infrastructure could cause disturbance to the environment and overall ecosystem.”

Response to Comments:

Comment 1 – Please be aware of WYGFD Chapter 10 and Chapter 33 permits which are required for trapping and moving wildlife within the state of Wyoming.

Response 1 – The need for WYGFD Chapter 10 and Chapter 33 permits prior to the moving of wildlife is stated in the plan/EA in section 2.1 Alternatives Carried Forward, 'Live-Trapping and Relocation' page 22, and 'Re-establishment' page 31.

Comment 2 – Why was an alternative that used only non-lethal methods, both active and passive not considered? Alternative B could be expanded to include live-trapping and relocation, which might obviate the need for lethal control.

Response 2 – Alternative B was designed as a distinctly passive approach to manage prairie dogs. Through analysis, it was determined that passive measures could take considerable time for control to be achieved, which in some cases would be acceptable. Although Alternative B provides reasonable long term management options, it was not selected due to the lack of expedited control methods in the event that infrastructure or human health is in immediate jeopardy. Live trapping can take an extended period of time. Expanding Alternative B, to include live-trapping, will still lack an expedited method of control necessary to manage resources in certain situations. Therefore, expanding Alternative B will not achieve objective 4) protect human health and safety and Monument infrastructure from hazards and damage associated with prairie dogs. Live trapping is included as a control method in the selected action, and will be utilized when most appropriate. Lethal control is maintained as a management option and will be used in limited situations when no other method achieves the objectives of the plan.

Appendix – Non-Impairment Finding

National Park Service's *Management Policies, 2006* require analysis of potential effects to determine whether or not actions will impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values.

However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within park, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, will harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment. An impact will be more likely to constitute an impairment to the extent that 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
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

An impact will be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

The park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The NPS's threshold for considering whether there could be an impairment is based on whether an action will have significant effects.

Impairment findings are not necessary for visitor use and experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, because impairment findings relate back to park resources and values, and these impact areas are not generally considered park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values. After dismissing the above topics, one topic remained to be evaluated for impairment: wildlife resources.

Fundamental resources and values for the Monument are identified in the General Management Plan (GMP). According to the GMP, of the impact topics carried forward in this EA, only wildlife resources are considered necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; are key to the natural or cultural integrity of the park; and/or are identified as a goal in the park's General Management Plan or other relevant NPS planning document.

- **Wildlife Resources** - At Devils Tower National Monument, mountain and northern plains species meet in an ecological mix distinctive to the Black Hills. A goal for THE MONUMENT is to restore and maintain the health and diversity of the Monument's natural systems. Prairie dogs are a keystone species in the Monument's ecosystem. This plan/EA will help maintain the prairie dog as a keystone species at the Monument, and help protect the ecosystem they support. Some management strategies in this plan/EA will have short-term negligible-to-minor adverse effects on wildlife locally, resulting from disturbance and elimination or relocation of a few individuals in high-use visitor areas. Plague management and reintroduction of the prairie dog, if the population should collapse, will have long-term, moderate, beneficial effects on wildlife. The short-term, negligible-to-minor, adverse effects on individuals are outweighed by the long-term, moderate, beneficial effects on the ecosystem. Because this alternative will have overall, moderate, long-term benefits to local wildlife there will be no impairment to wildlife resources.

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent's professional judgment that there will be no impairment of park resources and values from implementation of the preferred alternative.