SUPPLEMENTAL INFORMATION REPORT

TO THE PROPOSED NORTHERN GREAT PLAINS PLANS REVISION
FINAL ENVIRONMENTAL IMPACT STATEMENT
AND
2001 REVISION THUNDER BASIN NATIONAL GRASSLANDS PLAN

DISCLOSING

CHANGES TO BLACK-TAILED PRAIRIE DOG HABITAT
WITHIN PROPOSED MANAGEMENT AREA 3.63
OF
THE THUNDER BASIN NATIONAL GRASSLAND PLAN
RESULTING FROM 2001 SYLVATIC PLAGUE OUTBREAK

CONVERSE and CAMPBELL COUNTIES, WYOMING

January 14, 2002

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SUPPLEMENTAL INFORMATION REPORT

Introduction

In July of 2001, the Final Environmental Impact Statement for the Northern Great Plains Management Plans Revision (May, 2001) for U.S. Forest Service Regions 1 and 2 (Final EIS), and covering eight National Grasslands and two National Forests in the States of North Dakota, South Dakota, Nebraska and Wyoming, was released to the public for review and comment. Also released was the Land and Resource Management Plan, 2001 Revision, Thunder Basin National Grassland (Thunder Basin National Grassland Plan) that will provide guidance for the management of the Thunder Basin National Grassland in Wyoming, administered by the Medicine Bow-Routt National Forests. The Record of Decision for the Thunder Basin National Grassland Plan has not yet been issued.

After the Final EIS was completed and sent to the printer in May, 2001, the U.S. Forest Service was made aware of new information that triggered the need to prepare this Supplemental Information Report (SIR). This report was developed to inform Region 2 Regional Forester, the Deciding Official for the Thunder Basin National Grassland Plan, of this new information so he could consider these facts prior to making his decision.

The new information at the heart of this report pertains to the 2001 sylvatic plague outbreak in black-tailed prairie dog colonies in the proposed Management Area 3.63, *Black-Footed Ferret Reintroduction Habitat* (Proposed Management Area 3.63) of the Thunder Basin National Grassland. It is important to understand that throughout this document, Proposed Management Area 3.63 (approximately 53,820 acres) includes approximately 47,890 acres designated as Proposed Management Area 3.63 in addition to 5,930 acres designated as Proposed Management Areas 3.63/2.1 concurrent management areas. Proposed Management Area 2.1 is the Cheyenne River Zoological Special Interest Area (SIA).

This 53,820-acre area has been designated as reintroduction habitat for the endangered black-footed ferret under the Thunder Basin National Grassland Plan. Black-footed ferret prey on black-tailed prairie dogs. Two maps showing the affected areas where sylvatic plague recently occurred on the Thunder Basin National Grassland are attached as Appendix A and Appendix A-1. A map showing Proposed Management Areas including Proposed Management Area 3.63 and 2.1 of the Thunder Basin National Grassland is attached as Appendix B.

Chapter 1 - Background and Scope of Supplemental Information Report (SIR*)*

In late spring, 2001, U.S. legislators were contacted by individual constituents about the sylvatic plague outbreak indicating that they believed the plague resulted in a "changed condition" within Proposed Management Area 3.63. The U.S. legislators contacted the Wyoming Office of Federal Land Policy to help determine if they should request that the U.S. Forest Service delay the release of the Final EIS and associated Thunder Basin National Grassland Plan until the "changed condition" was assessed. Instead of delaying the release of the documents, the U.S. Forest Service agreed to prepare a SIR on the "changed condition" once the sylvatic plague had run its course. This SIR addresses the extent of the "changed condition" and the effects, if any, on the analysis disclosed in the Final EIS.

Direction for preparing a SIR is found in Forest Service Handbook (FSH) 1909.15(18) (1), *Review and Documentation of New Information Received After a Decision Has Been Made* (Appendix C). There is no direction about procedure for preparing a SIR for a Final EIS with no approved Record of Decision, as in this case, but we have elected to follow the procedures outlined in FSH 1909.15(18)(1) cited below:

> "If new information or changed circumstances relating to the environmental impacts of a proposed action come to the attention of the responsible official after a decision has been made and prior to completion of the approved program or project, the responsible official must review the information carefully to determine its importance. If, after an interdisciplinary review and consideration of new information within the context of the overall program or project, the responsible official determines that a correction, supplement or revision to an environmental document is not necessary, implementation should continue. Document the results of the interdisciplinary review in the appropriate program or project file. If the responsible official determines that a correction, supplement, or revision to an environmental document is necessary, follow the relevant direction in section 18.2-4."

Supplements are often prepared according to federal regulation. 40 CFR 1502.9 (c) (1) (ii), *Draft, Final and Supplemental Statements* (Appendix D) states: "Agencies shall prepare supplements to either draft or final environmental impact statements if …(ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."

This SIR evaluates whether or not the plague event created a "significant new circumstance" or resulted in "new information" relevant to environmental concerns that may have a bearing on the proposed action or its impacts. This SIR will also provide technical information to the Regional Forester to assist him in determining whether or not a correction, supplement, or revision to the Final EIS for the Northern Great Plains Management Plans Revision (May 2001) or the Thunder Basin National Grassland Plan is necessary, prior to signing the Record of Decision.

This SIR has been prepared relative to Alternative 3, the preferred alternative identified in the Final EIS and as described in the Thunder Basin National Grassland Plan, and focuses on changes to black-tailed prairie dog habitat caused by the plague within Proposed Management Area 3.63.

Chapter 2 - What is Sylvatic Plague? (Historical and Recent Occurrences)

Plague is an infectious disease caused by the bacterium, *Yersinia pestis*. All forms of plague in wild animals are generally referred to as "sylvatic plague". When humans contract the disease, it is referred to as "bubonic plague". Plague bacteria are transmitted to animals and humans by fleas and/or by contact with infected or flea-carrying animals.

Plague and Animals (Sylvatic): While seventy-six species of mammals carry plague, it is predominately a disease of wild rodents, including black-tailed prairie dogs. A sylvatic plague outbreak in a black-tailed prairie dog colony will result in 100% mortality of infected individuals. Black-tailed prairie dogs show neither effective antibodies nor immunity to plague and die-off occurs usually within 7 days of the animal being infected. Therefore, the black-tailed prairie dog is unlikely to contribute to the spread of plague in the United States. Although most prairie dogs have fleas, few fleas are infected, and public health officials believe the chance of humans contracting plague from prairie dog fleas is very low. Prairie dog fleas do not care for human hosts, preferring instead to bite other animal species.

Dogs (canine) are mostly immune to the plague. Cats are extremely susceptible to plague, although the occurrence of plague in cats is very rare. Although rare, cats can pass the disease directly to people. Rabbits and occasionally wild carnivores such as coyotes or bobcats are reported sources of human infection. However, awareness of the disease and avoidance of close contact with wild rodents and other potential carriers or their fleas is the key to protection. (Please see Internet Article - Plague, Gale Encyclopedia of Medicine, Appendix E, for specific public information regarding the plague discovered on and near the Thunder Basin National Grassland).

Plague and People (Bubonic): History

Plague has been responsible for three great world pandemics that caused millions of deaths and significantly altered the course of history. A pandemic is a disease that occurs throughout the entire population of a country, a people, or the world. Although the cause of the plague was not identified until the third pandemic in 1894, scientists are virtually certain that the first two pandemics were plague because a number of the survivors wrote about their experiences and described the symptoms. The first pandemic occurred in A.D. 542 and killed millions of citizens, particularly along the Mediterranean Sea. The second occurred during the 14th century and was known as the "Black Death" and killed nearly a fourth of the entire European population. The third pandemic began in northern China, reaching to Hong Kong by 1894. It then spread to all continents, killing millions of people.

These pandemic events occurred when wild rodents spread the disease to rats that lived in cities, and then to humans when the rats died. Another route for infection came from rats coming off

ships that had traveled from heavily infected areas. That last rat-borne epidemic in the United States occurred in Los Angeles, California in 1924-1925. Since then, all plague cases in this country have been sporadic, acquired from wild rodents or their fleas. The most common source of plague is the ground squirrel flea.

Plague and People: Today

Around the world, there are between 1,000 and 2,000 cases of bubonic plague each year. However, the incidence of plague in Wyoming has been very small. "Since 1970, there have been four human cases of plague diagnoses in Wyoming. All four of these cases occurred after contact with infected animals. Three of these cases were hunters or trappers. The remaining case occurred in a veterinary technician who came into contact with an infected cat." Dr. Karl Musgrave, State Epidemiologist with Wyoming Department of Health.

Since 1950, the Fort Collins, Colorado branch of the U.S. Centers for Disease Control and Prevention has recorded 393 cases of plague in humans. Of the 240 cases (61%) for which a source of infection was identified, 31 (13%) were attributed to contact with prairie dogs or their fleas from actually handling the animals. Only 2 of the 31 cases (both in Colorado) were in areas where the black-tailed prairie dog is the only species of prairie dog that could have been the source of infection (Centers for Disease Control and Prevention, National Center for Infectious Diseases, Division of Vector Borne Infectious Diseases, Bacterial Zoonosis Branch, Plague Section, unpublished data, 1998).

Plague is curable in humans if diagnosed and treated in its early stages. Improved sanitation practices and modern insecticides and antibiotics have reduced the threat of plague in the United States. Plague can be treated successfully if caught early. Recognizing the symptoms of plague, such as sudden fever, chills, swelling in armpits, groin and neck can help with early diagnosis and quick treatment.

Plague and Prairie Dogs on the Thunder Basin National Grassland

In the spring of 2001, Douglas District Wildlife Biologist Tim Byer was contacted by local private land owners Earl Reed and Bob Harshberger who expressed their concerns through personal observation of a potential black-tailed prairie dog die-off associated with colonies in the Cheyenne River area of the Thunder Basin National Grassland. Prairie dog hunters in that area also contacted the Douglas Ranger District of the Medicine Bow-Routt National Forests and Thunder Basin National Grassland to report what seemed to be reduced sightings of black-tailed prairie dogs on burrows. Other forest specialists that frequented the area also reported the lack of visible sightings of black-tailed prairie dogs in traditionally heavily populated colonies.

Tim Byer contacted Mary Jennings of the U.S. Fish & Wildlife Service in Cheyenne, Wyoming, to discuss the possibility of a sylvatic plague outbreak. Ms. Jennings scheduled a field trip shortly thereafter to the suspected plague area to collect sample field data from suspected prairie dog colonies. Local rancher, Earl Reed, assisted Ms. Jennings during the field trip. Ms. Jennings swabbed several openings to the black-tail prairie dog burrows in several areas and collected flea samples for testing at the Center for Disease Control in Fort Collins, Colorado

using the appropriate protocol (See Appendix F, Procedure for Flagging (swabbing) Rodent Burrows). The heart of a coyote that was taken from the area by local rancher, Earl Reed, tested positive for plague antigens. In addition, a dead black-tailed prairie dog obtained from the Harshberger Ranch near the suspected plague area was sent to State of Wyoming Veterinarian Lab, Laramie, Wyoming. The dead prairie dog tests and the swab tests produced positive results for plague.

On Friday, May 25, 2001, both the U.S. Forest Service and the Wyoming Department of Health were notified of the presence of plague in the Thunder Basin National Grassland based on the findings of the Wyoming State Veterinary Lab (See *Final Report*, Wyoming State Veterinary Lab, Appendix G). The U.S. Forest Service and Dr. Karl Musgrave developed a public warning notice (please see Public Notice, Plague, Appendix H) to advise visitors and U.S. Forest Service employees of the presence of plague. Information regarding the plague was posted on the Douglas District website and signs were physically posted in the area where plague was believed to have occurred. A U.S. Forest Service Law Enforcement Officer distributed information flyers on the site and news releases were distributed to local and statewide newspapers and radio stations.

Based on these reports, wildlife technicians were sent to potential plague areas in the Thunder Basin National Grassland to collect field data from existing prairie dog towns throughout the summer and into the fall of 2001 (See field data records, Prairie Dog Town Info, 2001, Appendix I). (See also U.S.D.A. Job Hazard Analysis for surveying plague-infected prairie dog colonies, Appendix J).

Chapter 3–Changed Condition-Criteria for Significance and Analysis of New Information and Changed Circumstances Relevant to Environmental Concerns

Based on the most recent information on habitat use by black-footed ferrets in the Conata Basin/Badlands reintroduction area in South Dakota (pg. H-38, Appendix H, Final EIS, Appendix K) prairie dog colony complexes of 1,000 to 1,800 acres are sufficient to support the minimum adult population of 30 ferrets, as specified in the *National Black-Footed Ferret Recovery Plan* (Recovery Plan), (Appendix L).

For the purposes of this document, significant new circumstances would exist if post-plague conditions left occupied black-tailed prairie dog habitat of less than a 1,000-acre colony complex within the Proposed Management Area 3.63 of the Thunder Basin National Grassland. At levels below 1,000 acres, population augmentation may have to occur. Questions A-C respond to this significance test. Questions D and E disclose information relevant to environmental concerns and bearing on the proposed action or its impacts. Question F discloses recommendations from affected public agencies. Question G summarizes results of entire analysis and of all questions

This analysis was based on prairie dog colony field surveys since the 2001 plague outbreak and reanalyzing expected colony recovery and expansion over 10 years. These questions being answered are relevant to Proposed Management Area 3.63 on the Thunder Basin National Grassland.

Here are the questions that will be answered using the following format: *Finding, Evaluation, and Conclusion*.

A. How has the acreage of black-tailed prairie dog colonies disclosed in the Final EIS for Proposed Management Area 3.63 changed as a result of the recent outbreak of sylvatic plague? Is that change significant?

B. Will black-tailed prairie dog towns, affected by sylvatic plague in Proposed Management Area 3.63, repopulate?

C. What is the expected acreage of black-tailed prairie dog colonies in Proposed Management Area 3.63 over the next 10 years, given the effects of the sylvatic plague?

D. Does the sylvatic plague event have any effect on the analysis in the Final EIS relative to other resources, i.e. recreation, range/grazing, oil & gas activities or wildlife within Proposed Management Area 3.63?

E. Does the sylvatic plague event in Proposed Management Area 3.63 have any effect on the use of black-tailed prairie dogs as a Management Indicator Species in the Final EIS or Thunder Basin National Grassland Plan?

F. Is Proposed Management Area 3.63 still capable of supporting the objectives of the National Black-Footed Recovery Plan, related to re-introduction of black-footed ferret on the Thunder Basin National Grassland?

G. Did the sylvatic plague event create significant new circumstances or new information that would trigger additional analysis to supplement the Final EIS for the Thunder Basin National Grassland Plan or affect management direction for Proposed Management Prescription Area 3.63 in the Final 2001 Revised Thunder Basin National Grassland Plan?

Analysis - Findings, Evaluation and Conclusion

Question A: How has the acreage of black-tailed prairie dog colonies disclosed in the Final EIS for Proposed Management Area 3.63 changed as a result of the recent outbreak of sylvatic plague? Is that change significant?

The table below presents the changes in black-tailed prairie dog colony acreages between 1997 and 2001:

Table 3-1 Change in Prairie Dog Colony Acres

Management Area 3.63	Prairie Dog Colony Acres*
1997 Condition	12,430
2001 Condition	9,126
Net Loss of Acres	3,304

*It can be assumed that there was a growth factor in prairie dog colonies between 1997 and 2001 but that growth factor was not measured and can only be estimated. The figures above represent actual surveyed colonies.

Finding: Between 1997 and 2001, the acreage of black-tailed prairie dog colonies was reduced from 12,340 to 9,126 or by 3,304 acres as a result of sylvatic plague. This amounts to a 26% reduction in active colony acres.

Evaluation: Based on the most recent information on habitat use by ferrets in the Conata Basin/Badlands reintroduction area (page H-38, Appendix H, Final EIS, Appendix K), prairie dog colony complexes of 1,000 to 1,800 active acres should be sufficient to support the minimum adult population of 30, as specified in the Recovery Plan for reintroduction areas. As previously stated, significant new circumstances would exist if 2001 post-plague conditions fell below the 1,000-acre colony complex benchmark of active black-tailed prairie dogs.

Conclusion: With 9,126 active acres of black-tailed prairie dog habitat remaining post-plague within Proposed Management Area 3.63, the change in prairie dog habitat or populations due to plague is not significant.

Question B: Will black-tailed prairie dog towns, affected by sylvatic plague in Proposed Management Area 3.63 repopulate?

Within Proposed Management Area 3.63, there are active black-tailed prairie dog towns less than one mile from plague-killed towns. As early as mid-summer of 2001, natural re-colonization had already begun in several colonies. Under the current situation, the proximity of healthy towns to those impacted by the plague, is conducive to re-colonization or repopulation.

In 1994, a sylvatic plague event affected prairie dogs on the east side of the Thunder Basin National Grassland. Only limited monitoring of the event was done between 1994 and 1997. The table below shows the expansion of prairie dog colony acres after the 1994 plague event, as inventoried in 1997 and 2001 on the Thunder Basin National Grassland:

Table 3-2 Expansion of Prairie Dog Colony Acres after 1994 Plague (East Side of Grassland)*

1997 Prairie Dog Colony Acreage	2001 Prairie Dog Colony Acreage
425	1356

*There is no data or inventory for population numbers or colonies of black-tailed prairie dogs in 1994. We only know that plague occurred in that year but do not know what the baseline of active acres of habitat or populations were.

Finding: Table 3-2 above shows there was a 219% increase in active prairie dog acres in the plague-affected area of 1994 between 1997 and 2001. These measurements reflect both population recovery within affected colonies and, to a lesser extent, colony expansion. Past experience with plague shows that infected prairie dog colonies have and can repopulate on the Thunder Basin National Grassland.

Evaluation: The re-colonization and expansion of prairie dog populations and acreages after a plague outbreak is a reasonable expectation on Thunder Basin National Grassland based on the table above. Re-colonization rates depend on several factors:

1. Distance to healthy prairie dog populations;
2. Status of plague in the area and other potential carriers;
3. The use of translocation of healthy prairie dogs;
4. The condition of geographical and physical barriers between healthy populations and affected areas;
5. Impacts from recreational shooting and predation; and
6. Environmental factors such as drought or high precipitation.

While plague events in Proposed Management Area 3.63 may re-occur, scientists are currently developing vaccines to prevent plague in black-tailed prairie dogs and black-footed ferrets. Initial experiments on black-footed ferrets found that "vaccination with F1-V elicited an immune response that offered highly significant protection against subcutaneous challenge with virulent *Yersinia pestis*". (Rocke, T.E., November 14, 2001)

Rocke also reports that they "have generated reagents for and optimized the performance of enzyme-linked immunosorbent assays (ELISA) for analysis of both black-tailed prairie dog and black-footed ferret serum samples." These researchers are also "consulting with several scientists regarding other adjuvants and delivery systems for use with orally administered RCN-F1 vaccine in black-tailed prairie dogs, and will pursue these options as needed". (Rocke, T.E., November 14, 2001) Other researchers are currently testing insecticides such as Delta Dust as a method of removing plague infected fleas from a specific site. This dust is currently undergoing field tests.

With the development of these vaccines and insecticides, the future presence of plague in an area may have limited impacts to black-tailed prairie dog populations, and black-footed ferret recovery.

In the event that re-colonization is not occurring, or is not happening at an acceptable rate, translocation of healthy prairie dogs is an option. In the Thunder Basin National Grassland Plan, the following standard is established:

Fish and Wildlife

> 2. Relocation of prairie dogs to establish new colonies and accelerate growth of prairie dog populations in selected areas may occur only after consultation with appropriate State and Federal wildlife agencies. Standard. (Page 3-17, Thunder Basin National Grassland Plan, Appendix M)

This allows for the augmentation of populations where needed when coordinated with other wildlife agencies. If plague reaches a level where natural recruitment and re-colonization cannot occur, prairie dogs can still be re-established effectively through this method. Truett, et al, recently had an article published in the November 3, 2001 *Wildlife Society Bulletin* discussing this very activity. In their article "*Translocating Prairie Dogs, A Review",* (Appendix N) they provide an outline of recommended, and in some cases, discouraged procedures for improved survival of translocated prairie dogs. It is their belief that this can be a successful tool in recovering prairie dog populations. Also in their article, they cite several translocation projects used to re-establish or supplement prairie dog populations.

Translocation may also be used if geographic/physical barriers prevent the natural movement of prairie dogs back into a de-populated area. Barriers such as cliffs, rivers, open pit mines, and in some cases, large expanses of private lands where prairie dogs are actively controlled, may preclude movement back to de-populated sites. To mitigate these impacts, translocation may be the most desirable method of re-establishment of the base population.

Impacts to re-populating colonies from recreational shooting may also reduce the rate of re-colonization. Within Proposed Management Area 3.63, this issue should not be a concern. Direction for Proposed Management Area 3.63 specifically addresses this issue in the Thunder Basin National Grassland Land Management Plan as follows:

Recreation

1. To help expand and maintain suitable black-footed ferret habitat, coordinate and consult with the state wildlife agency to prohibit prairie dog shooting within black-footed ferret reintroduction habitat. Standard. (Page 3-17, Thunder Basin National Grassland Plan, Appendix M)

Predators have a reduced impact to recovering populations since they generally will shift their focus to prey species that are more abundant. This allows for less energy to be spent on food acquisition by the predator, and a higher survival rate for the recovering prey population. In addition to natural selection, within the general area of Proposed Management Area 3.63, livestock producers actively support predator control activities.

Conclusion: Prairie dog populations in colonies on the eastern edge of the Thunder Basin National Grassland that were affected by plague in 1994 are recovering. This, along with the fact that some 2001 plague-affected colonies were already starting to repopulate in the summer of 2001, is additional evidence that population recovery in Proposed Management Area 3.63 can be expected. Under the current situation, the close proximity of healthy towns to those impacted by the plague, is conducive to repopulation.

Question C. What is the expected acreage of black-tailed prairie dog colonies in Proposed Management Area 3.63 over the next 10 years, given the effects of the sylvatic plague?

This analysis uses the same model for predicting growth in prairie dog colonies as that used for the Final EIS. Table 3-3 below displays predicted prairie dog colony acres in 10 years using the 1997 baseline and the 2001 post-plague baseline:

Table 3-3 Predicted Prairie Dog Colony Acres in 10 Years (2012)

Management Area 3.63	Predicted Prairie Dog Colony Acres
1997 Condition	20,300 to 32,200
2001 Condition	14,900 to 23,600
Total Net Change	5,400 to 8,600

Finding: Long-term expansion rates for prairie dog colony complexes on the northern plains commonly range from approximately 5 to 10% annually in the absence of plague and poisoning and as long as suitable habitat is available for expansion (Page H-98, Appendix O). Applying these rates to the latest colony acreage of approximately 9,126, it would not be unreasonable to expect a sum of colony acreages of approximately 14,900 to 23,600 in Proposed Management Area 3.63 over the next 10 years.

Evaluation: Based on the most recent information on habitat use by ferrets (page H-38, Appendix H, Final EIS, Appendix K), prairie dog colony complexes of 1,000 to 1,800 acre are sufficient to support the minimum adult population of 30 adults as specified in the Recovery Plan for reintroduction areas. However, the authors of the Recovery Plan and others studying black-footed ferret (Biggins and Godbey, 1995; Bevers, et al. 1997) have suggested the need for much larger colony complexes to increase the probability of long-term persistence of ferret populations.

Various authors have provided estimates of minimum viable populations (MVP). Frankel and Soule' (1981) provided a general rule that at least 50 adults are needed to maintain short-term (30 generations) genetic fitness. Groves and Clark, (1986) using data from the Meeteetse ferret population suggested that a MVP of 214 breeding adult ferrets would be needed to maintain an effective population of 50 adults. Using the area requirements of ferrets in the Conata Basin/Badlands reintroduction area, a minimum complex size of 7,490 to 12, 840 acres would be needed to support 214 adult ferrets.

Currently, there is remaining post-plague 9,126 active acres of black-tailed prairie dog colonies in Proposed Management Area 3.63 with the predicted range of between 14,900 and 23,600 acres of available active prairie dog colonies at the end of the 10-year planning period. This range falls within the minimum complex size of 7,490 to 12,840 needed to support 214 adult ferrets.

Conclusion: Harris, et al. 1989 (page H-38, Appendix H, Final EIS, Appendix K) used demographic data from both South Dakota and Wyoming ferret populations in a computer simulation model and suggested that 90 to 100 ferrets would have a 95% probability of surviving 50 to 100 years. The 2001 data indicates that there would be enough ferrets available to provide survivability of ferret populations for 50 to 100 years.

Question D: Does the sylvatic plague event have any effect on the analysis in the Final EIS relative to other resources i.e. recreation, range/grazing, oil & gas activities or wildlife within Proposed Management Area 3.63?

Recreation

One of the most popular recreational uses on the Thunder Basin National Grassland in Wyoming is prairie dog shooting. This activity draws hundreds of people, many from out of state, to the Thunder Basin National Grassland each year. However, a portion of the Thunder Basin National Grassland has been identified in the Thunder Basin National Grassland Plan as being a high-priority area for the reintroduction of the endangered black-footed ferret. This area has been proposed for designation as Management Area 3.63.

In the spring of 2001, Forest Supervisor Mary Peterson issued an emergency firearm discharge restriction within the main identified habitat recovery area for black-footed ferret to prevent additional impacts to ferret reintroduction habitat. This restriction was in effect from May 15, 2001 through September 14, 2001, which is the breeding and rearing season for the black-tailed prairie dog. While this firearm discharge restriction affected a portion of a popular area for recreational prairie dog shooting, it did not prohibit the discharging of firearms or the shooting of prairie dogs in other areas of the Thunder Basin National Grassland and recreational shooting activities continued.

Another recreation activity that occurs on the Thunder Basin National Grassland is big game hunting in late summer and fall. Antelope and deer are the predominant species being hunted while elk are hunted on a limited license basis. Other recreation uses that occur throughout the year are dispersed camping, viewing of scenery and wildlife, hiking and horseback riding, and shooting of other State of Wyoming classified varmints.

Effect on Recreational Opportunities – Prairie Dog Shooting:

The plague and the firearm discharge restriction on the Thunder Basin National Grassland has displaced a number of people who desire to continue this recreational shooting activity, especially within the proposed black-footed ferret reintroduction habitat. However, there are other shooting opportunities available to the public elsewhere on the Thunder Basin or on adjacent private lands, where the plague has not occurred and where prairie dog populations remain relatively high. While the shooting of prairie dogs has declined on some portions of the Thunder Basin National Grassland due to a reduction of prairie dog populations from the sylvatic plague, recreational shooting of prairie dogs will continue except where firearm discharge restrictions are in effect, whether or not there is another sylvatic plague outbreak. The effects of implementing shooting restrictions on recreational activities were analyzed in the Final EIS. The effects of the recent outbreak of the sylvatic plague, potential shooting of prairie dogs, and firearms discharge restrictions have also been considered as part of this analysis.

Field and office observations of the numbers of prairie dog shooters on the Thunder Basin National Grassland the past several years have steadily increased until the firearm discharge restriction was enacted in 2001. Recreational shooters became aware that prairie dog shooting opportunities were reduced on the Thunder Basin during 2001, due to the combination of plague and firearm discharge restrictions within the proposed black-footed ferret reintroduction areas. However, it is anticipated that this shooting activity will continue to increase, though possibly not to the high levels observed in 2000, as the prairie dog colonies recover and repopulate over the next few years and prairie dog shooting opportunities on private and state lands becomes better known.

While sylvatic plague has reduced numbers of prairie dogs in Proposed Management Area 3.63, there is no significant effect on the recreational opportunity of prairie dog shooting because other areas and other prairie dog populations continue to be available for this activity.

Effect on Big Game Hunting, Dispersed Camping, Scenery and Wildlife Viewing, Hiking and Horseback Riding:

The Douglas Ranger District, responsible for the management of the Thunder Basin National Grassland, provided information in the form of news releases, maps, internet warnings, and postings on bulletin boards within the Thunder Basin that informed the public about the potential hazard to humans from the plague. This public notification also identified the plague and shooting restriction areas. Despite the occurrence of the plague, the observed recreation uses for most of the recreation activities on the Thunder Basin remained about the same as in the past. This included the big game hunting use levels as well as the other types of recreational use activities listed above, except for prairie dog shooting. Big game hunting opportunities were readily available in other portions of the Thunder Basin as were opportunities for all other recreational activities.

Range Resources

Effects on Livestock Grazing

Prairie dog colonies were not used as a criteria for determining capable and suitable rangelands in the Final EIS, so the plague event and subsequent reduction in prairie dog colony acreages does not change the acres of capable and suitable range presented in the Final EIS. However, forage consumption by prairie dogs and other wildlife was taken into account in a predictive model used to predict effects of each alternative on livestock forage availability (Table 3-37 on page 3-91 of the Final EIS, Appendix P). As discussed on page 3-95 of the Final EIS (Appendix Q) desired vegetation structure conditions were used in the model to help predict and compare the relative amounts of livestock forage under each alternative. The predicted acreage that would be grazed by prairie dogs was considered when determining the desired amount of low vegetation structure in each geographic area.

The desired amount of low structural rangeland in Proposed Management Area 3.63 is 30-40%. This exceeds the predicted prairie dog colony acreages (with or without plague effects) from the Prairie Dog Colony Acres Prediction Model run for the Final EIS. Since the predicted prairie dog acres are less than 30-40% low structural range used in the Forage Availability Model, the estimated levels of livestock forage presented in the Final EIS remains unchanged.

Effect on Rangeland Vegetation Health

The vegetation **composition** in plague areas will not change. The vegetation **structure** may experience an insignificant change due to the temporary decrease in prairie dog numbers, but it is a short-term effect and is anticipated to return to pre-plague conditions as black-tailed prairie dog populations recover over time.

Mineral Resources

The Thunder Basin National Grassland allows for energy and mineral development under lease and/or special use permit for oil and gas wells, coalbed methane, coal mines, bentonite mines and power plants/energy transmission lines. The sylvatic plague occurrence within Proposed Management Prescription Area 3.63 of the Thunder Basin National Grassland has not altered or changed the operations, maintenance or function of these developments.

There are no significant effects on energy and mineral development in the Thunder Basin National Grassland due to the sylvatic plague. The only anticipated change is the inclusion of information on the sylvatic plague with any future energy and mineral development decision in the areas of the affected prairie dog colonies. Operators will be encouraged to disseminate that information to their field personnel.

Wildlife Resources

Black-tailed prairie dog colonies provide habitat for other wildlife species. The loss of prairie dogs causes a loss in the prey base for some predators and a change in habitat conditions for other wildlife species. However, the effect of the current reduction of prairie dog habitat within the overall Thunder Basin National Grassland area ecosystem is not significant. Prey bases and habitat conditions continually fluctuate in nature, and the effects of this plague event are not expected to significantly affect wildlife populations. Alternate prey species are readily available for local predators. The vegetation composition in plague areas will not change while the vegetation structure may experience an insignificant change due to the temporary decrease in prairie dog numbers, but is it a short-term effect and is anticipated to return to pre-plague conditions as black-tailed prairie dog populations recover over time.

Findings of the Interdisciplinary Team by Resource

Within the recreation resource spectrum, the sylvatic plague event did not create significant new circumstances or new information that would trigger additional analysis of the recreation resource that would cause a supplement to the Final EIS for the proposed Thunder Basin National Grassland Plan or cause any change in proposed management direction in the Thunder Basin National Grassland Plan.

Within the range resource spectrum, the sylvatic plague event did not create significant new circumstances or new information that would trigger additional analysis of the range resource that would cause a supplement to the Final EIS for the proposed Thunder Basin National Grassland Plan or cause any change in proposed management direction in the Thunder Basin National Grassland Plan.

Within the minerals resource spectrum, the sylvatic plague event did not create significant new circumstances or new information that would trigger additional analysis of the minerals resource that would cause a supplement to the Final EIS for the proposed Thunder Basin National Grassland Plan or cause any change in proposed management direction in the Thunder Basin National Grassland Plan.

Within the wildlife resource, the sylvatic plague event did not create significant new circumstances or new information that would trigger additional analysis of wildlife resources that would cause a supplement to the Final EIS for the proposed Thunder Basin National Grassland Plan or cause any change in proposed management direction in the Thunder Basin National Grassland Plan.

Question E: Does the sylvatic plague event in Proposed Management Area 3.63 have any effect on using the black-tailed prairie dog as a Management Indicator Species in the Final EIS or the Thunder Basin National Grassland Plan?

Finding: Any factor, including plague, which reduces long-term black-tailed prairie dog populations and colony acreages will reduce long-term habitat availability and suitability for other closely-associated wildlife species. Plague and its effect on prairie dogs and other associated wildlife species was considered when black-tailed prairie dogs were selected as a Management Indicator Species (Final EIS, page 3-262, Appendix S) for Proposed Management Area 3.63 and elsewhere on the Thunder Basin National Grassland.

Evaluation: The following criteria were used to determine suitable species for consideration as a Management Indicator Species (pages B-34-35, Appendix B, Final EIS, Appendix T):

- Species is indigenous.
- Species is a year-long resident of the vicinity (non-migratory) or population trends of the species in the local or regional vicinity area closely tied to habitat conditions resulting from land uses on National Forest System lands in the same area.
- Species is considered a keystone species or habitat specialist.
- Species is sensitive to management activities on National Forest System lands in the local or regional vicinity. Population trends of the species are assumed to be related to changes in habitat composition, structure, ecological processes, and/or human activities.
- Species is appropriate for the scale that best represents the key issues or management concerns.
- Biologically and economically feasible to monitor populations and habitat of the species at similar spatial scales. Populations are of sufficient size or density to be reasonably detected and monitored. Accepted survey protocols exist. Analysis and interpretation of inventory data should produce meaningful and reliable trend information. Species that require high investment for low returns or suspect results should be avoided.
- Species where the scientific literature supports the assumed limiting factors and habitat association.

Conclusion: Plague and its effect on prairie dogs and other associated wildlife species was considered when the black-tailed prairie dog was selected as a management indicator species. The recent plague event does not present new information that would suggest selection of this management indicator species is inappropriate or no longer effective.

Question F: Is Proposed Management Area 3.63 still capable of supporting the objectives of the National Black-Footed Recovery Plan, related to re-introduction of black-footed ferret on the Thunder Basin National Grassland?

Finding: To prepare the answer to this question, we first looked at the Thunder Basin National Grassland Plan Proposed Management Area 3.63, Black-Footed Ferret Reintroduction Habitat. A full description of Proposed Management Area 3.63 can be found pages 3-16 and 3-17 of the Thunder Basin National Grassland Plan, Appendix U.

Proposed Management Area 3.63 was developed, in part, based on the existing conditions that were known in 1997 and used in the modeling and compilation of acres of land with known populations and colonies of black-tail prairie dogs.

Evaluation: As discussed on page H-38, Final EIS (Appendix K) a black-tailed prairie dog colony complex of approximately 1,000 to 1,800 acres may provide habitat for 30 adult ferrets, the minimum ferret population size recommended in the National Black-Footed Ferret Recovery Plan for individual reintroduction areas. Also, the black-footed ferret habitat modeling results presented on page H-45 of the Final EIS (Appendix V), suggests that the ferret habitat that existed in the Proposed Management Area 3.63 in 1997 may have been able to support over 200 adult ferrets (approximately 160 ferret families). Given the 26% reduction in colony acres from the 1997 level due to plague, it is assumed that the reintroduction habitat could still support over 140 adult ferrets, well above the minimum population of 30 ferrets recommended in the National Black-Footed Ferret Recover Plan and well above the 90 to 100 adult ferrets thought to be needed for the long-term (50 to 100 years) population persistence (pages H-38 and H-45, Final EIS, Appendix K and Appendix V). Another important consideration is that the modeling results do not include additional ferret habitat provided in prairie dog colonies located outside, but near the Proposed Management 3.63 habitat area.

The effects of possible future plague events in Proposed Management Area 3.63 cannot be ruled out, as discussed on page H-45 of the Final EIS (Appendix V). This possibility has been recognized and considered throughout the development and preparation of the Final EIS and Thunder Basin National Grassland Plan. The 2001 plague event was the first documented plague event in Proposed Management Area 3.63 and because of the unpredictable nature of plague, we cannot at this time say that plague will be problematic in the future and eventually reduce ferret habitat in this area below threshold levels.

The U.S. Fish and Wildlife Service was asked to advised us on answering Question F, above. J. Michael Lockhart, Black-footed Recovery Coordinator for the U.S. Fish & Wildlife Service in his letter of December 11, 2001 to Mary Peterson, Forest Supervisor, (attached as Appendix W) described the impact of sylvatic plague on black-footed ferret habitat and reintroduction as follows:

"The plague event in the Thunder Basin National Grassland is a substantial setback to the ferret recovery program and may affect the schedule of proposed reintroduction efforts in Thunder Basin. Nevertheless, it is imperative that this site continue to be managed as a future ferret

recovery area as set forth in the pending Northern Great Plains Revision Plan. Among the factors justifying this continued Forest Service management prescription, please consider the following:

1. *From what we have learned from reintroduction efforts over the past several years, viable, self-sustaining ferret populations require large, dense prairie dog colonies.*

2. *There are few areas of existing high quality prairie dog habitat that remain in North America today (perhaps only four priority sites); and, current ferret recovery objectives cannot be reached under existing habitat conditions.*

3. *There are relatively few areas that can be managed over the long-term to restore and maintain prairie dog complexes suitable for ferret populations. Federal public lands offer the best hope of securing large habitat bases to support future ferret populations.*

4. *Until this past summer, the proposed Cheyenne River ferret reintroduction area in Thunder Basin supported the larges contiguous colonies of prairie dogs in the U.S. Although plague may have degraded current habitat quality, the importance of this large complex to future ferret recovery is unchanged. Given the extensive burrow systems still available, we believe the potential exists for rapid prairie dog recovery, particularly with proactive management. To date, ferret reintroduction efforts have occurred in other plague-affected/recovered prairie dog complexes in Colorado, Montana, and Utah.*

   Note: To promote more rapid recovery of prairie dog populations, it is even more critical now to limit other sources of prairie dog impact (i.e. shooting), and we are grateful for the Forest Service decision to restrict shooting in 2001. We further recommend that the Forest Service and Wyoming Game and Fish Department work to establish a more permanent, year-round prairie dog shooting closure on all lands within the primary ferret reintroduction area circumscribed in the Forest Service closure.

5. *There have been some promising results in the development of plague management applications that may ultimately reduce the effects of plague on ferret recovery areas (i.e. development of a plague vaccine by the National Fish and Wildlife Health Lab; management of plague impacts on prairie dog colonies using the insecticide Delta Dust by the U.S. Geological Survey, Biological Resources Division).*

6. *When habitats in Thunder Basin National Grassland recover, we believe that a viable ferret population could be rapidly established (given the demonstrated success of ongoing Forest Service ferret recovery efforts in nearby Conata Basin, South Dakota, and the availability of proven ferret preconditioning pens and a pool of wild born kits for translocation.*

Conclusion (in letter): *To meet our respective agency recovery obligations for the black-footed ferret, it will be necessary to establish no less than 10 self-sustaining populations of ferrets in the wild. Several more populations would be needed to achieve species de-listing. It is essential then that no potential opportunities for ferret recovery are foreclosed and that the Forest Service continue to actively manage and expand prairie dog habitats and ferret recovery areas, as defined in the Final EIS. We view the plague situation in Thunder Basin as a temporary setback, and in no way diminishes the overall importance of the area for future ferret recovery or justifies a change in management prescription."*

On October 11, 2001, the Intergovernmental Grasslands Working group met in Douglas, Wyoming, and the U.S. Forest Service presented information to the group on the sylvatic plague event on the Thunder Basin National Grassland and its plan to prepare a Supplemental Information Report to address this new circumstance. Minutes of this meeting are attached as Appendix X.

Douglas Ranger District Wildlife Biologist Tim Byer discussed plague on the Thunder Basin National Grassland with Bob Oakleaf, Wyoming Game and Fish Department Non-Game Coordinator on November 31, 2001 (documentation of discussion attached as Appendix Y. Thereafter, on December 13, 2001, another meeting between Tim Byer, Bob Oakleaf, and Reg Rothwell (Wyoming Game and Fish Department), who are also members of the Wyoming State Prairie Dog Working Group, was held and it was the consensus of this group, along with the U.S. Fish & Wildlife Service (letter referenced above) that the management direction of Proposed Management Area 3.63 is still appropriate, despite the recent plague event, and is consistent with Wyoming Game and Fish Department goals for managing black-tailed prairie dogs and U.S. Fish & Wildlife and Recovery Plan goals for management and reintroduction of black-footed ferrets (Minutes of Meetings, Appendix Y).

Conclusion: A black-tailed prairie dog colony complex of approximately 1,000 to 1,800 acres will provide habitat for 30 adult ferrets, the minimum ferret population size recommended in the National Black-Footed Ferret Recovery Plan for individual reintroduction areas. Therefore, since there are now (post-plague) 9,126 acres of active prairie dog habitat Proposed Management Area 3.63 is capable of continuing to support reintroduction objectives for black-footed ferret. The management boundaries of Proposed Management Area 3.63 are still appropriate because they encompass a sufficient acreage of occupied prairie dog colonies necessary to meet the colony complex size requirements of the Recovery Plan.

Question G: Did the sylvatic plague event create significant new circumstances or new information that would trigger additional analysis to supplement the Final EIS for the Thunder Basin National Grassland Plan or affect management direction for Proposed Management Prescription Area 3.63 in the Thunder Basin National Grassland Plan?

Conclusion: Based on the data presented in this SIR, the recent outbreak of sylvatic plague in black-tailed prairie dog colonies within Proposed Management Area 3.63 of the Thunder Basin National Grassland is not a significant new circumstance as defined by 40 CFR 1502.9(c)(1) and FSH 190915(18.1) and has not resulted in new information relevant to environmental concerns that have a bearing on the proposed action or Proposed Management Area Prescription 3.63, identified in the proposed Thunder Basin National Grassland Forest Plan.

Chapter 4 – Final Summary

This Supplemental Information Report will be presented to the Region 2, U.S. Forest Service Regional Forester for his consideration and contains the following finding of Medicine Bow-Routt National Forests and Thunder Basin National Grassland Forest Supervisor Mary Peterson and the Interdisciplinary Team, in consultation with Wyoming Game & Fish Department and the U.S. Fish & Wildlife Service:

Finding: There is no need to correct, supplement or revise the Northern Great Plains Final EIS or change the proposed management direction in the Thunder Basin National Grassland Plan due to the recent sylvatic plague event on the Thunder Basin National Grassland.

This Supplemental Information Report will be made available to the public, Federal, State and local agencies, elected officials, and organizations as outlined in the Communications Plan, developed for the specific purpose of sharing this information as part of the public record for the Northern Great Plains Plan Revision.

Dated this _____ day of January, 2002.

Mary H. Peterson, Forest Supervisor
Medicine Bow-Routt National Forests and Thunder Basin National Grassland

Interdisciplinary Team:

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JoAnne Homuth, Minerals Specialist, Douglas Ranger District, Medicine Bow-Routt National Forests and Thunder Basin National Grassland

Clarke McClung, Range Specialist, Douglas Ranger District, Medicine Bow-Routt National Forests and Thunder Basin National Grassland

Greg Shenbeck, Northern Great Plains Wildlife Coordinator, Nebraska National Forest

Wendy Schmitzer, Project Coordinator, Medicine Bow-Routt National Forests and Thunder Basin National Grassland

Tim Byer, Wildlife Specialist, Douglas Ranger District, Medicine Bow-Routt National Forests and Thunder Basin National Grassland

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U.S. Forest Service Handbook 1909.15(18)(1), *Review and Documentation of New Information Received After a Decision Has Been Made.*

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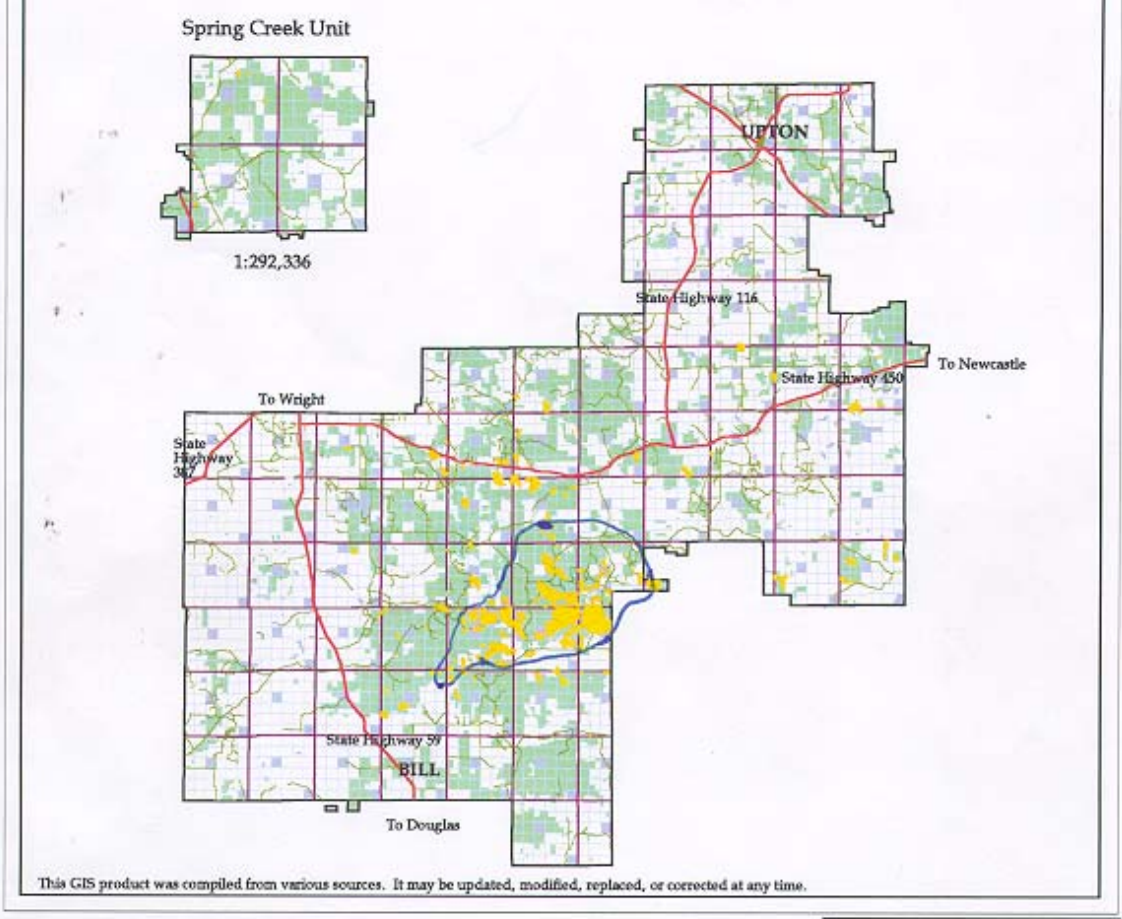
Wyoming State Veterinary Lab, *Final Report*

40 CFR 1502.9(c)(1)(ii), *Draft, Final and Supplemental Statements*

Thunder Basin National Grassland

All Prairie Dog Towns



N

Scale 1:617325

4 0 4 8 12 16 20 Miles

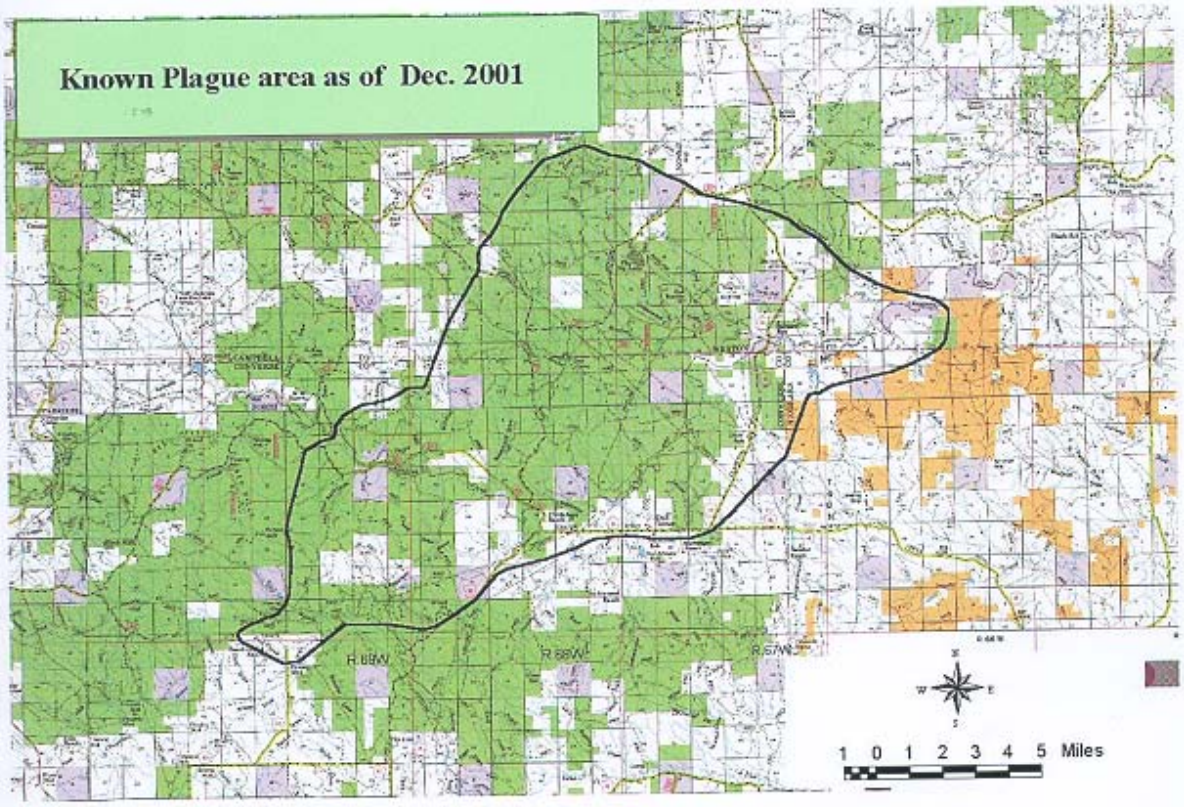
12/20/99

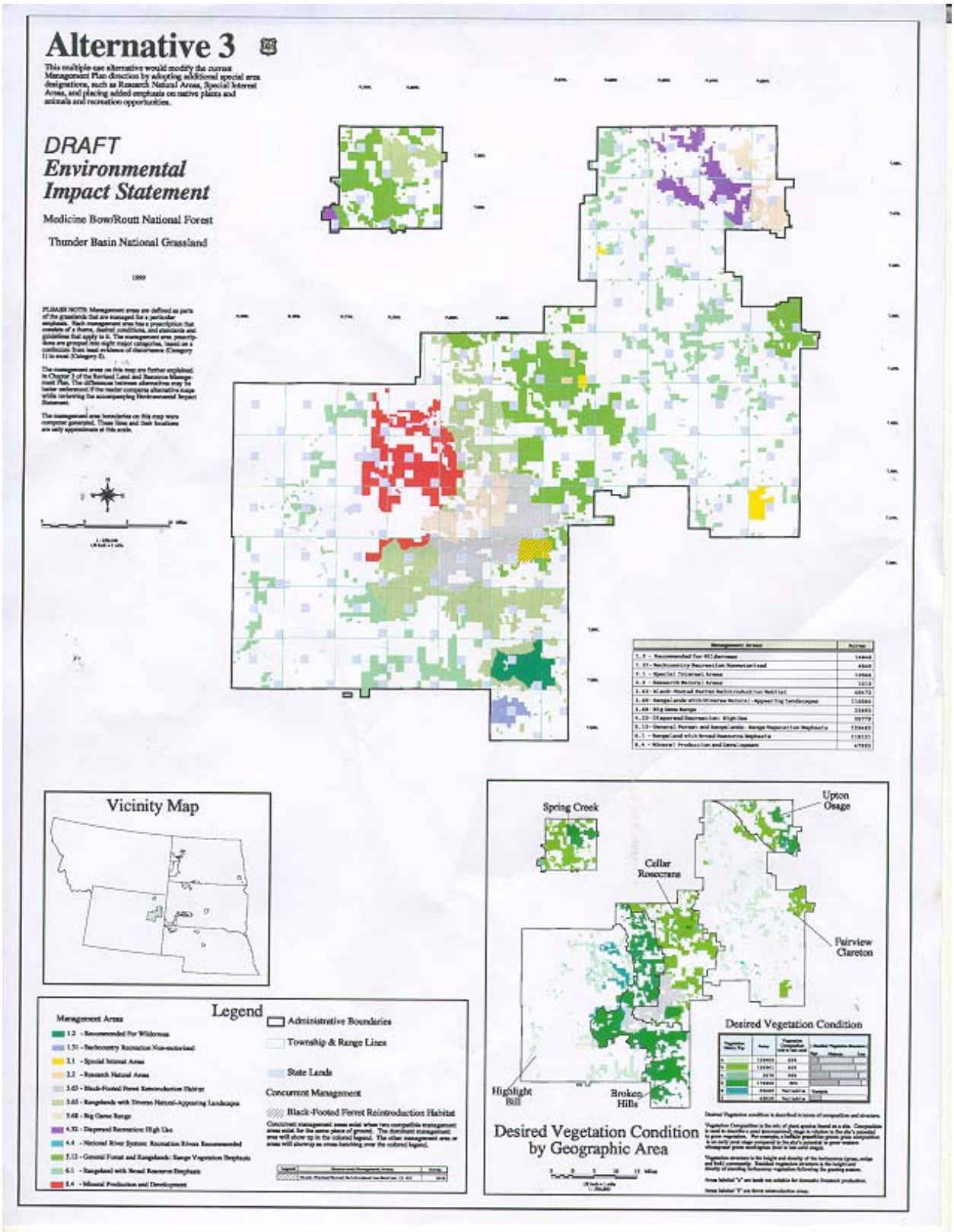
/fsfiles/office/plan/project/med/tb/boundaries/fssdmin/drd_dme.apr

Legend 2001 Plague Affected Area

- All prairie dog towns
- Forest Service Roads, Class 3
- Highway, Primary, Class 1
- Highway, Secondary, Class 2
- National Grassland Boundary
- Township & Range Lines
- Sections Lines
- National Grassland
- Non-Grassland
- State

APPENDIX A-1 SUPPLEMENTAL INFORMATION REPORT
THUNDER BASIN NATIONAL GRASSLAND, WYOMING
NORTHERN GREAT PLAINS PLANS REVISION




Alternative 3
This multiple-use alternative would modify the current Management Plan direction by adopting additional special area designations, such as Research Natural Areas, Special Interest Areas, and placing added emphasis on native plants and animals and recreation opportunities.
DRAFT
Environmental Impact Statement
Medicine Bow/Routt National Forest
Thunder Basin National Grassland
1999
Vicinity Map
Legend
Management Areas
Administrative Boundaries
Township & Range Lines
State Lands
Concurrent Management
Black-Footed Ferret Reintroduction Habitat
Spring Creek
Upton
Osage
Cellar
Rosecrans
Fairview
Clareton
Highlight
Bell
Broken
Hills
Desired Vegetation Condition
Desired Vegetation Condition
by Geographic Area