

Nebraska National Forests and Grasslands

U.S. Forest Service, Rocky Mountain Region

Monitoring & Evaluation Report

Fiscal Year 2011

1



Caring for the Land and Serving People.

Equal Employment Opportunity Act. - The U.S. Department of Agriculture (U.S.) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact U.S. s TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to U.S. , Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202)720-6382 (TDD). U.S. is an equal opportunity provider and employer.

INTRODUCTION

Land management on the Nebraska National Forests and Grasslands is guided by the “*Land and Resource Management Plan 2001 Revision, Nebraska National Forest and Associated Units*”. Each year, the Nebraska National Forests and Grasslands’ staff and cooperators conduct monitoring of that plan. Such monitoring is required by federal law (i.e. *The National Forest Management Act* of 1976).

This report summarizes the results of our Plan monitoring, from October 1, 2010 to September 30, 2011 (i.e. FY2011).

OUR APPROACH

The bulk of this document contains the Land and Resource Management Plan monitoring questions, and our response to those questions. The questions themselves derive from a variety of sources, including the Code of Federal Regulations (CFR) that was developed to implement the National Forest Management Act and other federal laws. The basis for each of the monitoring questions is noted in the Plan (see the column titled “Monitoring Question” on pp. 4-11 to 4-31).

TYPES & FREQUENCY OF MONITORING

The Land and Resource Management Plan, Monitoring Purpose (p. 4-2) identifies three types of monitoring:

1. **Implementation Monitoring**: this type of monitoring monitors compliance with LRMP standards and guidelines, i.e. did we do what we said we would do?
2. **Effectiveness Monitoring**: this monitoring evaluates how effective our management actions are at achieving desired outcomes, i.e. did what we think would happen actually happen?
3. **Validation Monitoring**: this monitoring verifies assumptions and models used in LRMP implementation, i.e. was the basis for our analyses and decisions logical & accurate?

In the following pages, we have specified the relevant monitoring type. It is listed below each monitoring question.

The Land and Resource Management Plan, (pp. 4-11 to 4-31) contains 52 monitoring questions. Not all questions are answered each year. In the following pages, we have specified the suggested reporting frequency, as stated in the Plan (ibid). That reporting frequency is listed in the following pages below each monitoring question.

THE AREA COVERED

The Nebraska National Forests and Grasslands (Figure 1) encompass approximately 1.1 million acres of National Forest System land in central and northwest Nebraska and in central and southwest South. Some unique features on the Forest include: the internationally known Hudson-Meng Bison Bonebed; the Bessey Tree Nursery (the oldest federal tree nursery and listed on the National Register of Historic Places); the western hemisphere's largest hand-planted forest; black-footed ferret recovery program; and Toadstool Geological Park, one of the few areas in the world exposing fossil trackways of the Oligocene Epoch.

It is comprised of five Ranger Districts.

The Bessey Ranger District
Bessey Unit
Samuel R. McKelvie National Forest

The Buffalo Gap National Grassland: Fall River Ranger District
Fall River Northeast
Fall River Southeast
Fall River West

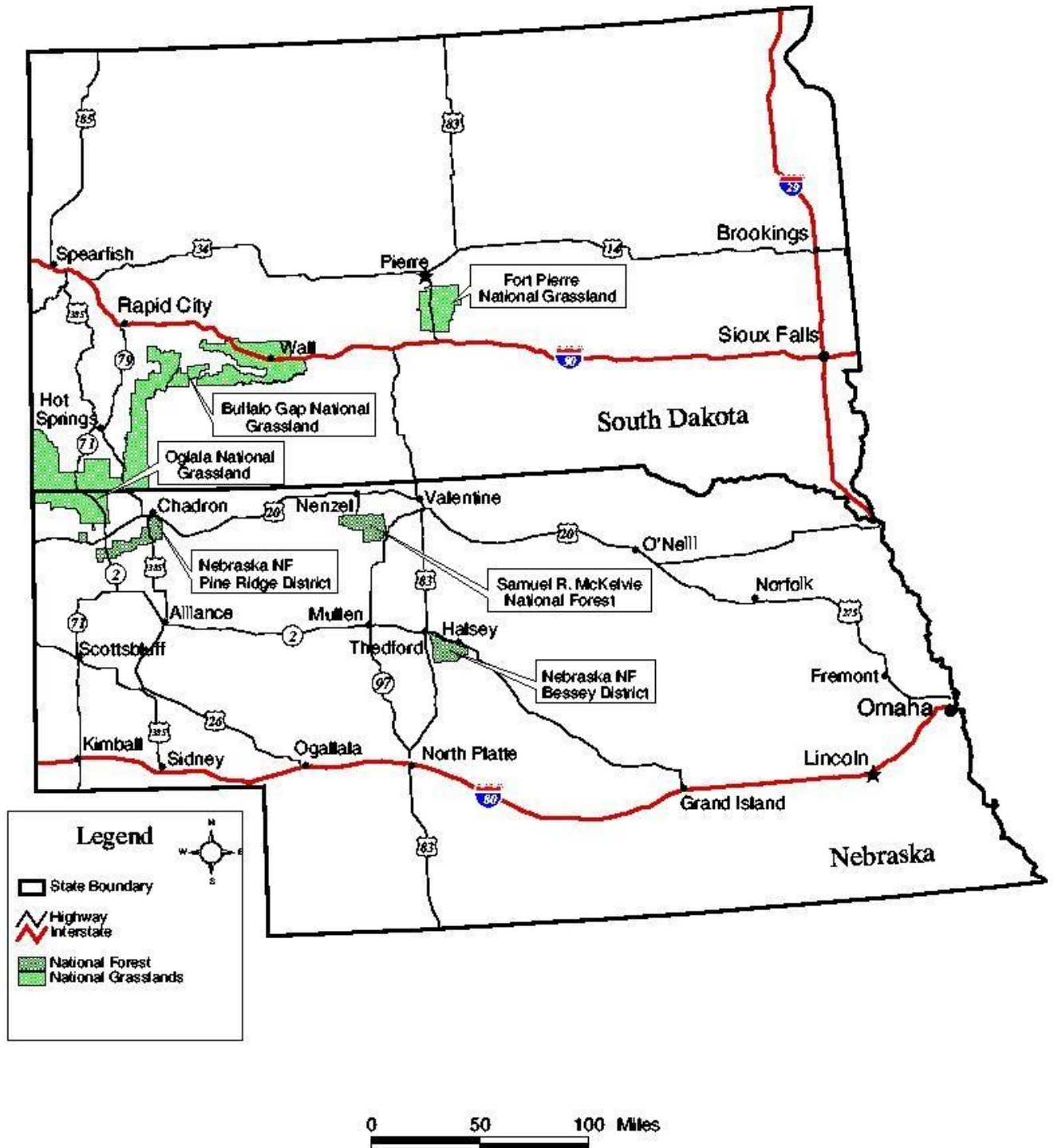
The Buffalo Gap National Grassland: Wall Ranger District
Wall North
Wall Southeast
Wall Southwest

The Fort Pierre National Grassland: Fort Pierre Ranger District

The Pine Ridge Ranger District
Oglala National Grassland
Pine Ridge Unit

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

Figure 1. Map of the Nebraska National Forests and Grasslands.



THE MONITORING QUESTIONS

The following pages contain the 52 monitoring questions listed in Chapter 4 of the 2001 Land and Resource Management Plan, and our answers to those questions.



RIPARIAN 1

To what extent are perennial streams in proper functioning condition and riparian areas and wooded draws regenerating?

Monitoring Type: Effectiveness
Frequency of Reporting: Five Years

Forest-wide Watershed Condition Assessments were done during FY 10 and FY 11. Each watershed was scored based on 12 resource indicators comprised of individual attributes, using the standardized written criteria and rule sets outlined in the National Watershed Condition Classification protocol. Based on the best available data, professional judgment, and interdisciplinary discussions, each of the attributes for all 12 resource indicators were assigned a score of functioning properly, functioning at risk, and impaired function. No impaired watersheds were identified on the NNFG.

What came out of this process was the need to design and implement a standardized, consistent strategy to first inventory, and then monitor soil, water, and aquatic resources on the NNFG. Also two priority watersheds were chosen, Ash Creek watershed on the PRRD and Sage Creek Watershed on WRD.

Multiple resource programs influence riparian condition and trend. The implementation of Forest Plan standards and guidelines, Regional Watershed Conservation Practices, and Best Management Practices contribute to maintaining or enhancing riparian habitat Forest-wide. Forest-wide riparian condition and trend should be monitored in unison with future Forest-wide stream health monitoring.

SOIL 1

To what extent have soils eroded or disturbed by Forest Service management or permitted activities been restored?

Monitoring Type: Effectiveness
Frequency of Reporting: Five Years

Several districts are reporting that soil erosion is occurring along many of the riparian areas and some upland areas due to off road travel and/or designated non-maintained roads. Areas of soil erosion and associated resources concern was addressed in district's Travel Management decisions. In that decision, design criteria were developed in accordance with Forest Service design standards and R2 Watershed Conservation Practices Handbook.

WATERSHED 1

To what extent has water quality condition on watersheds containing National Forest System lands that have been restored, maintained or improved?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Forest-wide Watershed Condition Assessments were done during FY 10 and FY 11. Each watershed was scored based on 12 resource indicators comprised of individual attributes, using the standardized written criteria and rule sets outlined in the National Watershed Condition Classification protocol. Based on the best available data, professional judgment, and interdisciplinary discussions, each of the attributes for all 12 resource indicators were assigned a score of functioning properly, functioning at risk, and impaired function. No impaired watersheds were identified on the NNFG.

What came out of this process was the need to design and implement a standardized, consistent strategy to first inventory, and then monitor soil, water, and aquatic resources on the NNFG. Also two priority watersheds were chosen, Ash Creek watershed on the PRRD and Sage Creek Watershed on WRD.

The State of Nebraska and South Dakota Water Resources Division continues to monitor water quality conditions and beneficial use attainment across the NNFG in preparation of the Section 303(d) list of impaired waters. Water body assessments have been ongoing across the NNFG. Data that is collected is shared with the forest and used in LRMP revisions and range allotment management planning.

WATERSHED 2

To what extent have waterbodies on National Forest System lands that have been degraded by Forest Service permitted or management actions be restored?

Monitoring Type: Effectiveness
Frequency of Reporting: Five Years

Numerous large dams and smaller livestock water impoundments have been repaired and/or reconstructed across the NNFG. At the Fort Pierre National Grassland (FPNG), a restoration effort was partnered with the South Dakota Game, Fish and Parks (SDGFP) to restore Richland Dam. The Sherriff Dam was repaired by the Forest Service, while the emergency spillway was reconstructed through another partnership with SDGFP. Both Richland and Sherriff Dams are highly valued as a fishery and recreation resource to the public users of the grassland. Other dams repaired and/or restored on the FPNG through State assistance include Williams Dam, which serves primarily as waterfowl habitat.

At other Districts across the NNFG similar reconstruction and repair efforts have been occurring. At the Wall Ranger District, Kadoka Dam was reconstructed. Kadoka Dam and associated area is an important wildlife habitat area and was originally developed through a Ducks Unlimited program. On the Oglala National Grassland several water impoundments were reconstructed to allow proper function and water holding capacities for livestock grazing, but also benefiting aquatic related species. Another major waterfowl dam on the Fall River Ranger District, Nolan Dam, is scheduled to be reconstructed this year.

WATERSHED 3

To what extent have instream flows been assured to provide adequate water for fisheries and other riverine flora and fauna in streams and rivers with high resource values?

Monitoring Type: Effectiveness
Frequency of Reporting: Five Years

Providing for public uses is one of the original intents of the National Forests and Grasslands. We periodically monitor the quality of water produced from these lands to ensure that public uses can be met.

Several cold water streams on the Pine Ridge Ranger District are considered high value aquatic/biological and recreational resources. They include Bordeaux Creek, Chadron Creek, East and West Ash Creeks, and Soldier Creek. Due to past and recent wildfires in 1989 (Soldier Creek) 2006 (Bordeaux and Chadron Creek) and most recently 2012 (East and West Ash Creeks), these waterways face several threats, including movement barriers, augmentation and sedimentation loads. Another live-water stream on the McKelvie National Forest that is considered an important aquatic and biological value is Steer Creek. Threats to Steer Creek are off-road vehicle use and improper livestock grazing practices. Both of these threats are being

addressed through two recent management decisions, travel management and allotment management planning.

The NNFG does not have a hydrologist on staff, but has been operating over the last several years with a hydrologist trainee through the Student Career Experience Program (SCEP). Close monitoring of these streams have been identified as a high priority for the NNFG and will be part of the assigned tasks of our SCEP hydrologist working under an off-Forest journey level qualified hydrologist.

Other instream flows are located across our national grasslands. These streams are ephemeral in nature and are highly dependent on precipitation. Instream flows within these stream resources are commonly threatened by drought. Those flows might also be threatened by the numerous livestock water impoundments that have been constructed within the stream's watersheds. The collective impact of those impoundments has not yet been assessed.

WATERSHED 4

To what extent have surface water, sub-surface flows, and aquifers been protected from contamination from abandoned wells?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

The focus of this monitoring question is on water contamination that might result from our actions or non-actions (i.e. unplugged water wells).

The NNFG continues to inventory non-functioning wells and assess them for possible decommissioning. Several wells on the NNFG have been decommissioned in the last several years following appropriate state requirements to insure that no contamination of surface waters, subsurface flows and/or aquifers occurred. In particular, seven wells have been identified and decommissioned per State decommissioning standards at the Bessey Ranger District and Bessey Nursery.

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

MIS 1

What is the potential habitat capability for each management indicator species?

Monitoring Type: Effectiveness
Frequency of Reporting: 10 years

Management indicator species (MIS) have been selected to serve as a barometer for species diversity and viability at the national grassland and forest level. Five MIS were selected and include greater prairie chicken, sage-grouse, plains sharp-tailed grouse, black-tailed prairie dog and pygmy nuthatch. Determining and identifying potential habitat for each management indicator species is a regulatory requirement under the National Forest Management Act.

During the development of the Land and Resource Management Plan (LRMP), potential habitat capability for each MIS was completed (LRMP-Final Environmental Impact Statement, Chapter 3, pages 258-264). Potential habitat for the prairie chicken and sharp-tailed grouse is high residual vegetation, sage-grouse is the amount of quality sage brush, prairie dogs is defined by the extent of the colony size, and pygmy nuthatch is forested areas of older mature ponderosa pine. Specific habitat requirements for these MIS can be found in the LRMP-FEIS, Chapter 3. We do not believe that the potential habitat for these five MIS has changed from when the LRMP was first developed.

Estimated Acres of Potential Habitat Capability per Unit for MIS.

Unit	Greater Prairie Chicken	Plains Sharp-tailed Grouse	Sage Grouse	Black-tailed Prairie Dog	Pygmy Nuthatch
Nebraska National Forest (PRRD)	n/a	27,000	n/a	n/a	11,900
Nebraska National Forest (BRD)	4,000	78,000	n/a	n/a	n/a
Samuel R. McKelvie National Forest	31,000	113,000	n/a	n/a	n/a
Buffalo Gap National Grassland	n/a	323,000	15,800	455,000	n/a
Fort Pierre National Grassland	115,000	115,000	n/a	96,000	n/a
Oglala National Grassland	n/a	92,000	n/a	84,000	n/a

MIS 2

What is the current habitat suitability for each management indicator species?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Management indicator species (MIS) have been selected to serve as a barometer for species diversity and viability at the national grassland and forest level. Five MIS were selected and include greater prairie chicken, greater sage-grouse, plains sharp-tailed grouse, black-tailed prairie dog and pygmy nuthatch. Evaluating the current condition and trend of key habitats for each MIS is a regulatory requirement under the National Forest Management Act.

Precipitation from April through September is a major factor in determining the amount vegetative structure the following year. The Nebraska National Forest has implemented various management strategies aimed at improving habitat for the prairie grouse and the other species that benefit from high grassland structure. Livestock grazing serves as an important tool to meet desired habitat conditions. There have been reductions in stocking rates (both temporary during drought periods and permanent through the allotment management planning process). Also, many grazing strategies aimed at producing higher residual cover have been implemented. These include rest rotations, skim rotations, and winter grazing.

Greater Prairie Chicken

The greater prairie chicken is identified as an MIS and can be found on the Nebraska National Forest (BRD), Samuel R. McKelvie National Forest and Fort Pierre National Grassland. A key component of suitable nesting habitat for this species is the availability of high (tall) residual structure vegetation. High structure grasslands that provide suitable cover for prairie chickens average VORs of 4 inches or more across the more productive range sites on the Fort Pierre National Grassland. In the Sandhills (Nebraska – Bessey Unit) and McKelvie National Forests) average spring VORs of 3 inches or more typically provide high vegetation structure in the valley areas (USDA Forest Service, 2001a). It should be noted that prairie chickens will also utilize habitat for nesting in the hills adjacent to the valley areas.

The Nebraska National Forests and Grasslands have been monitoring structure vegetation by recording landscape level visual obstruction readings (VOR) and/or a photo-key application (Sandhills areas). The percent of habitat suitability (nesting cover) were estimated from these monitoring activities.

Percent of Habitat Suitability (nesting) per Unit for Greater Prairie Chicken.

Unit	2001 Habitat Suitability	Current Habitat Suitability
Nebraska National Forest (BRD)	Unknown	20-30%
Samuel R. McKelvie National Forest	1-10%	5-25%
Fort Pierre National Grassland	15-25%	30-40%

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

Plains Sharp-tailed Grouse

The Plains sharp-tailed grouse is identified as an MIS and can be found on all units of the Nebraska National Forests and Grasslands. A key component of suitable nesting habitat for this species is the availability of high (tall) residual structure vegetation. High structure grasslands that provide suitable cover for sharp-tailed grouse average VORs of 4 inches or more across the more productive range sites on most northern mixed grass units. Average spring VORs of 3 inches or more typically provide high vegetation structure if forage utilization by livestock has been patchy rather than uniform. In the Sandhills (Nebraska – Bessey Unit and McKelvie National Forests) average spring VORs of 2 inches or more typically provide high vegetation structure in the hills areas (USDA Forest Service. 2001a).

The Nebraska National Forests and Grasslands have been monitoring structure vegetation by recording landscape level visual obstruction readings (VOR), ocular estimates and/or a photo-key application (Sandhills areas). The percent of habitat suitability (nesting cover) were estimated from these monitoring activities.

Percent of Habitat Suitability (nesting) per Unit for Plains Sharp-tailed Grouse.

Unit	2001 Habitat Suitability	Current Habitat Suitability
Nebraska National Forest (BRD)	45-55%	45-60%
Samuel R. McKelvie National Forest	25-35%	30-60%
Nebraska National Forest (PRRD)	Unknown	1-5%
Oglala National Grassland	1-10%	1-10%
Buffalo Gap National Grassland (FRRD)	1-10%	15-25%
Buffalo Gap National Grassland (WRD)	10-20%	30-40%
Fort Pierre National Grassland	15-25%	30-40%

Greater Sage-Grouse

The greater-sage grouse is identified as an MIS on the Fall River West Geographic Area (FRWGA) of the Buffalo Gap National Grassland. A key component of suitable habitat for this species is the availability of big sagebrush shrubland. Sagebrush with areas of >20% canopy cover and tall, dense grass are generally quality habitat for sage-grouse.

The FRWGA has designated 45,760 acres as MA 3.64 Special Plant and Animal Habitat: Sage-Grouse Management Area 3.64. Within this area approximately 15,800 acres are considered potential sage-grouse habitat. Sagebrush exists on the landscape of the Sage Grouse Management Area in scattered patches. Some of this pattern can be attributed to the fact that the area is on the fringe of the large sagebrush communities to the west. Other reasons for the patchy distribution are the sagebrush in the area was treated with herbicide in the past and fire.

A comprehensive vegetative study was conducted in the Sage-Grouse Management Area 3.64 in 2003 & 2004 (Hodorff 2004). Based on Connelly et al. (2000) the habitat variables that are

important to assess in sage grouse habitat are: canopy coverage of sagebrush, height of the sagebrush, canopy coverage of grasses, canopy coverage of forbs, and height of grass-forbs during the nesting period. Annual habitat requirements for sage grouse are partitioned into 3 categories: breeding habitat, brood rearing habitat, and winter habitat.

Measurements taken in the sage grouse area indicate that where there is sagebrush the canopy coverage is sufficient, but there is not enough of the area with sagebrush to meet the optimum values. This indicates a limiting factor for sage grouse productivity in the sage grouse area is likely amount of sagebrush.

The entire sage grouse management area exceeds the minimum herbaceous cover requirements with the exception of the shale areas. Measurements taken during the sagebrush study indicate that the canopy coverage of forbs within the sage grouse area fall below the optimum minimum. The highest canopy coverage of forbs occurred on the shale area and was 3.27%. All the rest of the forb canopy coverage measurements averaged below 2.3 %.

The optimum height of the herbaceous cover in breeding habitat is droop height that is greater than 18 cm (Connelly et al 2000). The droop heights obtained in 2003 averaged 32.9 which are considerably higher than the minimum value of for productive sagebrush habitat (Connolly et al 2000). Considering that precipitation measured in Edgemont in 2003 was 1.38 inches below average, it would follow that plant production in 2003 was below average. It can be surmised that in years when the precipitation is slightly below, at or above average the 18 cm value for droop height will be exceeded which should lead to adequate cover for nesting and brood rearing.

The cover values obtained in 2004 are lower than the minimum needed for productive sagebrush habitat. In 2004, Edgemont recorded 11.68 inches of precipitation, which is 4.39 inches below average. These are drought conditions. It is doubtful that plants would grow to 18 cm in height with or without livestock grazing in these conditions.

To summarize the data indicates the sage grouse area is lacking in amount of sagebrush that contains the optimum canopy coverage of sagebrush, canopy coverage of forbs, and droop height in during drought conditions. The height of the sagebrush, canopy coverage of grasses and droop height of herbaceous vegetation in 2003 fell within the optimum values for productive sage grouse habitat.

Black-tailed Prairie Dog

The black-tailed prairie dog is identified as an MIS and can be found on all units of the Nebraska National Forests and Grasslands except the McKelvie National Forest. A key component of suitable habitat for this species is the availability of low (short) residual structure vegetation. Most soils on all units (except Sandhills units) are suitable for prairie dog burrowing. The low vegetation is maintained by the prairie dogs burrowing, foraging and clipping activities (USDA Forest Service. 2001b).

Black-tailed prairie dog habitat is regularly monitored on the Nebraska National Forests and Grasslands. Each colony perimeter is mapped using global positioning satellite (GPS) technology. All prairie dog colonies on the NNFG units have been mapped annually or on a rotating basis.

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

Approximate Acreage of Active Prairie Dog Colonies

Unit	2001	2004	2006 - 2007	2010 - 2011
Nebraska National Forest (BRD)	70	70	<50	<50
Samuel R. McKelvie National Forest	0	0	0	0
Nebraska National Forest (PRRD)	0	.25	.75	1
Oglala National Grassland	864	2,223	2,377	2,000
Buffalo Gap National Grassland (FRRD)	1,690	4,436	6,326	2,726
Buffalo Gap National Grassland (WRD)	13,230	21,598	35,350	11,203
Fort Pierre National Grassland	720	1,286	2641	2,143

Prairie dog colonies across the Buffalo Gap National Grassland (Conata Basin) have been drastically reduced by a plague epizootic that first appeared in 2008 and has been active ever since. Active prairie dog colonies within the Conata Basin only exist today because of a large-scale dusting program that has been implemented on a yearly basis to mitigate the impacts of plague. On the Wall Ranger District, prairie dog colonies have been reduced from 35,350 acres in 2007 (pre-plague) to 11,203 acres in 2011; a 68% reduction. Approximately 10,000 acres is dusted annually on the Wall Ranger District and plague can be found throughout all geographic areas, which has caused a downward trend in occupied prairie dog acres since 2007 (see the following table). Although plague is responsible for the majority of this reduction, above-average precipitation since 2008 has resulted in increased vegetation structure and the shrinking/patching-up of most prairie dog colonies, even those being dusted. The eventual return of normal precipitation and/or drought could lead to prairie dog expansion again if plague subsides on the landscape.

Acres of active prairie dog colonies by GA and 3.63 MA for 2007 (pre-plague) through 2011. Colonies were verified as being active, GPS'd and mapped.

Year	Wall North	Wall SE*	Wall SW**	MA 3.63: Conata Basin	MA 3.63: Steer Pasture	TOTAL
2007	508	1,677	1,060	31,372	733	35,350
2009	550	1,891	1,371	15,926	725	20,463
2011	368	562	552	9,114	607	11,203

*=Does not include Steer Pasture MA 3.63 **=Does not include Conata Basin MA 3.63

Prairie dog colonies began to die out from plague on the Fall River Ranger District in 2005. Colonies have been lost in all of the geographic areas of the district. The Southeast Geographic Area, where the Smithwick black-footed ferret reintroduction site is located, has been especially hard hit. Prairie dog colonies have been reduced from a high of 2,198 in 2004 to less than 300 acres in 2011 with little sign of recovery.

Sylvatic plague is also suspect of occurrence on the Fort Pierre and Oglala National Grasslands in 2011 but has not been officially confirmed. Plague will continue to place uncertainty on the habitat suitability for prairie dogs if the virus continues to exist in the endozoic form.

Pygmy Nuthatch

The pygmy nuthatch is identified as an MIS and can be found on the Nebraska National Forest (PRRD). The pygmy nuthatch is a cavity-nesting species that favors open mature and late successional ponderosa pine forests with a snag component. Potential habitat on the Pine Ridge Geographical Area is estimated at 11,900 acres which is equivalent to the long-term objective of having approximately 60% of the current forest cover in structural stages 4 and 5 (USDA Forest Service. 2001b). Presence/absence inventory surveys for PYNU have been conducted in 2002 and 2004. During both surveys PYNU were found to be widely distributed across the Pine Ridge Geographic Area (PRGA), and in 2004 forested areas of the Oglala Geographic Area (OGA) were also surveyed with the similar findings. In addition this species have also been detected several since 2009 times by bird banders during mist net surveys in Chadron State Park which is sandwiched between 2 parcels of Forest Service property on the PRGA. In general where there is suitable habitat on the Pine Ridge, PYNU is likely to be present. The existing available habitat for the nuthatch on the district is currently unknown due to a series of fires from 2006 to 2012 that have dramatically reduced the late ponderosa pine structural stage community.

Connelly J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2000. Guidelines to Manage Sage Grouse Populations and their Habitats. Wildlife Society Bulletin 2000, 28(4): 967-985.

Hodorff R. A. 2004. Final Report for project 03-CS-11020700-014 M3. Done in Cooperation with the South Dakota Game Fish and Parks. USDA Forest Service Hot Springs SD.
USDA Forest Service. 2001. Land and Resource Management Plan. Nebraska National Forest and Associated Units.

USDA Forest Service. 2001a. Land and Resource Management Plan. Nebraska National Forest and Associated Units. Appendix H. Habitat Descriptions.

USDA Forest Service. 2001b. Final Impact Statement for the Land and Resource Management Plan 2001 Revision.

MIS 3

What are the long-term population trends for each management indicator species and the relationships between long-term population trends and the effects of management activities on habitats on NFS lands?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Management indicator species (MIS) have been selected to serve as a barometer for species diversity and viability at the national grassland and forest level. Five MIS were selected and include greater prairie chicken, sage-grouse, plains sharp-tailed grouse, black-tailed prairie dog and pygmy nuthatch. Evaluating the long-term population trends for each MIS is a regulatory requirement under the National Forest Management Act. The relationships between long-term trend and changes in habitat quality and quantity as a result of management activities are expected to be directly correlated. Livestock grazing remains the most prominent management activity that could affect MIS habitat and population trends. As management on the NNFG focuses on moving towards or meeting the desired condition objectives for vegetation structure, population trends of prairie grouse are expected to increase due to higher quality habitat.

Greater Prairie Chicken

The greater prairie chicken can be found on the Nebraska National Forest (BRD), Samuel R, McKelvie National Forest and Fort Pierre National Grassland. Monitoring of active grouse display grounds (leks) and harvest records can give an indication of prairie chicken population trends.

Long-term Population Trends per Unit for Greater Prairie Chicken 2001 - 2011.

Unit	Trend
Nebraska National Forest (BRD)	Slightly positive
Samuel R. McKelvie National Forest	Slightly positive to neutral
Fort Pierre National Grassland	Positive

Plains Sharp-tailed Grouse

The Plains sharp-tailed grouse can be found on all units of the Nebraska National Forests and Grasslands. Monitoring of active grouse display grounds (leks) and harvest records can give an indication of prairie chicken population trends.

The long-term trend for sharp-tailed grouse is really dependent on the availability of quality habitat. Grouse habitat is mainly influenced by grazing pressure and precipitation. In 2000, the population was relatively high before declining significantly during the drought years of 2001-2007. Above-average precipitation from 2008-2011 across most geographic areas resulted in higher vegetation structure across the grasslands and a corresponding increase in the number of grouse seen on lek sites during this time frame.

Long-term Population Trends per Unit for Plains Sharp-tailed Grouse 2001 - 2011.

Unit	Trend*
Nebraska National Forest (BRD)	Slightly positive
Samuel R. McKelvie National Forest	Slightly positive
Nebraska National Forest (PRRD)	Neutral to slightly positive
Oglala National Grassland	Negative
Buffalo Gap National Grassland (FRRD)	Neutral to positive
Buffalo Gap National Grassland (WRD)	Neutral to slightly positive
Fort Pierre National Grassland	Neutral to slightly positive

*Precipitation dependent.

Greater Sage-Grouse

There are records of sage grouse occurring in the sage grouse area from the early 1980's. Before 1991, there was an established sage grouse lek that was checked periodically by different individuals. Between 3 and 8 birds were observed on the lek at different times.

Sage grouse numbers reached a high of 17 in 1991 but by 2003 no birds were observed. In 2003, a total of four sage grouse hens were observed in the study area (not at lek). No males were seen. In 2004, no sage grouse were observed anywhere in the study area during the courtship and nesting seasons. In 2005, one male was seen displaying. In April 2006 five males and three females were observed at another lek site. The birds were actively displaying. There were no birds observed during a subsequent visit to the area later in 2006. These were the last sage grouse observed on the Sage Grouse Area to the present time.

It is unknown the cause of the disappearance of sage grouse from the area. A range allotment management plan was written in 1991 that adjusted livestock stocking rates (reductions) with the objective of improving the overall health of the range and to bringing the area into compliance with the LRMP. Additional livestock numbers were reduced in 2003 to 2009 in response to the drought conditions that existed during this period. One coinciding event that occurred in western South Dakota with the disappearance of sage grouse was an outbreak of the West Nile virus, which has been known to affect sage grouse.

Black-tailed Prairie Dog

The black-tailed prairie dog can be found on all units of the Nebraska National Forests and Grasslands except the McKelvie National Forest. Plague can be found throughout the grasslands. Each geographic area has seen a decline in active prairie dog acres over the last few years due to plague and that trend will probably continue. Eventually, the epizootic will move into an enzootic phase where prairie dog numbers will start to increase again before plague moves back into epizootic phase and causes mass die-offs again. Prairie dog numbers may not reach 2007-levels again if that type of plague cycle continues.

Long-term Population Trends per Unit for Prairie Dog Colonies

Unit	2001	2004	2006 - 2007	2011
Nebraska National Forest (BRD)	70	70	<50	<50
Samuel R. McKelvie National Forest	0	0	0	0
Nebraska National Forest (PRRD)	0	.25	.75	1
Oglala National Grassland	864	2,223	2,377	2,000
Buffalo Gap National Grassland (FRRD)	1,690	4,436	6,326	2,726
Buffalo Gap National Grassland (WRD)	13,230	21,598	35,350	11,203
Fort Pierre National Grassland	720	1,286	2641	2,143

The population trend for prairie dogs across the Buffalo Gap National Grassland generally increased from 1999-2007 and then started to decline significantly in 2008 when a plague epizootic caused massive die-offs, mainly in the Conata Basin but did spread to the rest of the grassland. Active prairie dog acres would have declined even more if not for a large-scale dusting effort that has taken place every year since 2008 in the Conata Basin. Although plague is decimating the population as a whole, actual prairie dog densities seem to be holding steady where there are prairie dogs. Prairie dog density transects were conducted in the Conata Basin in 2006 and again in 2010; both active burrows per acre and the number of prairie dogs per acre were nearly identical at 38 and 12 respectively. Using the density estimate of 12 prairie dogs per acre the actual Conata Basin prairie dog population has gone from 376,464 animals in 2007 to 109,368 animals in 2011 – a 71% decline.

Plague can be found throughout the grassland. Each geographic area has seen a decline in active prairie dog acres over the last few years and that trend will probably continue. In the West Geographic Area of the Fall River Ranger District prairie dog acreages peaked in 2004 at about 1,350 acres but were reduced to 230 acres in 2006. Prairie dog acreages have increased steadily to 1,100 in 2012. In the Northeast Geographic Area of the Fall River Ranger District prairie dog acreages peaked in 2006 at about 4,413 acres and are now at about 910 acres in 2011. The Southeast Geographic Area, where the Smithwick black-footed ferret reintroduction site is located, has been especially hard hit by plague. Prairie dog colonies have been reduced from a high of 2,198 in 2004 to less than 300 acres in 2011 with little sign of recovery.

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

Pygmy Nuthatch

The pygmy nuthatch is identified as an MIS and can be found on the Nebraska National Forest (PRRD).

In 2002 pygmy nuthatches were found to be widely distributed on the Pine Ridge unit of the Nebraska National Forest and were seen predominantly in stands of structural stages 4 and 5 with some sightings in structural stage 3. Canopy cover was typically 40% or less. They were frequently observed in edge habitat. Travel in family groups was common.

In 2004 pygmy nuthatches were found to be widely distributed across the Pine Ridge Geographic area and forested portions of the Oglala National Grassland. Nuthatches were present in every pasture surveyed (47 pastures) and seemed to be in high numbers. PYNU were identified in a wide variety of ponderosa pine tree habitats. The existing population trend for the nuthatch on the district is currently unknown due to a series of fires from 2006 to 2012 that have dramatically reduced the late ponderosa pine structural stage community.

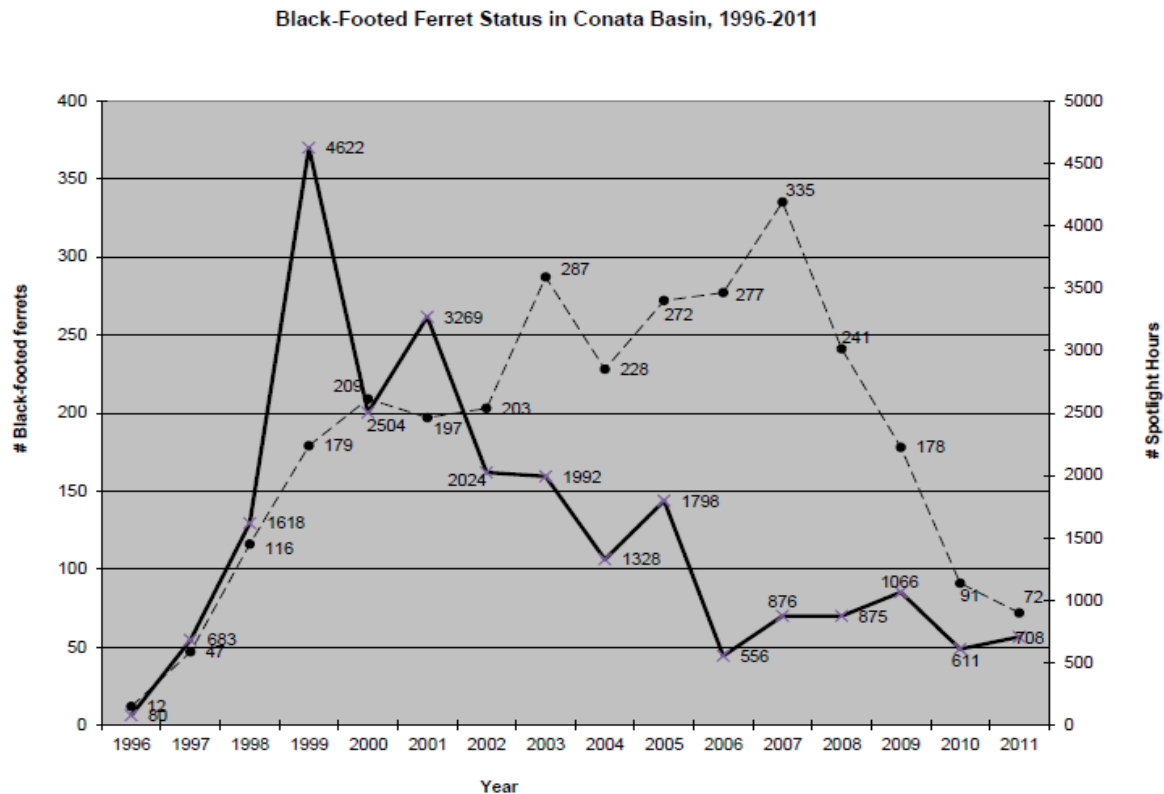
T&E 1

To what extent are NFS lands and their management contributing to the recovery and viability of black-footed ferrets?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

The Conata Basin black-footed ferret reintroduction site continues to be one of the most successful sites despite a current plague epizootic that has reduced the prairie dog population by 71% since 2008. The Conata Basin is one of just a few of the reintroduction sites that contains a self-sustaining population and would rank in the top 5 for total population. This site has proven to be critical to the overall recovery of the species by providing wild-born kits to other reintroduction sites. Since 1999, a total of 207 black-footed ferrets have been translocated from the Conata Basin to 6 of 8 states, 4 of 5 Indian Reservations and 11 of 19 sites participating in ferret recovery.

The population has decreased significantly since plague started impacting the Conata Basin in 2008 (see the chart below). The chart represents the Minimum Number Alive (MNA), which means these are just the animals we were able to trap and chip – there are more animals out there. In 2009, we conducted a statistically rigorous population estimate using Correlated Density Estimate (CDE) through the Mark-Recapture software program to get a more accurate population estimate. The results of that study indicated we had an actual population estimate of 201 (95% CI = 180-222) across the Basin as opposed to the MNA population estimate of 178.

Black-footed ferret status in the Conata Basin 1996-2011 (Griebel and Livieri 2012).

With the current plague epizootic, the prairie dog population in the Conata Basin has declined significantly from a high of 31,372 acres in 2007 to 9,114 acres in 2011. The territory adjusted Ferret Family Rating (FFR), which is based on both acres of active prairie dogs and prairie dog density is used as a measure to quantify both the amount and quality of black-footed ferret habitat. In 2006 the FFR came-out to 400.8 compared to 125.2 in 2011 (see table below). Although plague is the main “driver” for the decrease in the FFR, four-straight-years of above average precipitation (2008-2011) has also decreased the amount and quality of ferret habitat. Even colonies that have been dusted year-after-year experienced major shifts in occupied area with colonies shrinking and becoming more “patchy”, which impacts habitat availability for ferrets.

Territory adjusted FFR for the Conata Basin 2006-2011.

	2006	2008	2009	2010	2011
FFR	400.8	286.5	214.3	207.9	125.2
% Change from Prior Year		-28%	-25%	-3%	-40%

The Conata Basin reintroduction area on the Buffalo Gap National Grassland (WRD) is the only area on the Nebraska National Forests and Grasslands (NNFG) that currently support black-footed ferrets. The Conata Basin is one of only a handful of sites that supports the larger population goal for delisting criteria “establish a pre-breeding census

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

population of 3,000 free-ranging black-footed ferret breeding adults in 30 or more populations with no fewer than 30 breeding adults in any population and at least 10 populations with 100 or more breeding adults” (U.S. Fish and Wildlife Service. 2006. Draft Recovery Plan for the Black Footed Ferret (*Mustela nigripes*)(U.S. Fish and Wildlife Service, Denver, Colorado. 102 pp.). Conservation measures for the black-footed ferret include management that would expand prairie dog populations through reduction in rodenticide use, livestock grazing management, landownership adjustments, and prairie dog shooting restrictions (USDA Forest Service 2001b). The NNFG and numerous other partners (USFWS, NPS, Prairie Wildlife Research, and other NGOs) are major contributors to the recovery and viability of the black-footed ferret.

The Southeast Geographic Area, where the Smithwick black-footed ferret reintroduction site is located, has been especially hard hit by plague. Prairie dog colonies have been reduced from a high of 2,198 in 2004 to less than 300 acres in 2011 with little sign of recovery.

USDA Forest Service. 2001b. Final Impact Statement for the Land and Resource Management Plan 2001 Revision.

Griebel, R. L. and T. M. Livieri. 2012. Black-footed Ferret Reintroduction Site Summary of Activities: Conata Basin.

T&E 2

To what extent are NFS lands and their management contributing to the recovery and viability of blowout penstemon?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

Blowout penstemon is a perennial forb and is the rarest plant endemic to the Great Plains. This species was once common in active sandhill blowouts. Blowout penstemon requires blowouts that are devoid or nearly devoid of vegetation, sites usually created by a combination of disturbance processes and characterized by active wind erosion. This species is usually found on the leeward side of craters within the blowouts. Suitable blowouts are generally active and move across the landscape. The Samuel R. McKelvie and Nebraska National Forests contain significant potential and suitable habitat for the species (USDA Forest Service 2001b).

Existing populations inhabit three blowouts at the Nebraska National Forest Bessey Unit and four blowouts at the McKelvie National Forest. In 2011, total population was approximately 23,000 plants. In addition, since 2007 approximately 200 grams of seeds have been collected from these populations (90 grams in 2011) and propagated in the

Bessey Nursery. From these seedlings, approximately 1800 seedlings have been transplanted back into these blowouts (480 in 2011).

Conservation measures for the blowout penstemon include management emphasis to provide early seral and low structure grasslands within the desired condition limits identified in the Land and Resource Management Plan, initiate blowout penstemon transplants into suitable habitat to eventually establish two or more populations on each forest, retain selected blowouts through maintenance of disturbance processes, protect existing penstemon populations, and implement travel management restrictions if damage occurs to penstemon populations (USDA Forest Service 2001b).

Management across the NNFG units in the Nebraska Sandhills has focused on selected blowout habitat retention through disturbance processes (i.e. livestock grazing), translocating nursery grown seedling into suitable blowouts on the McKelvie and Nebraska National Forests, continue to collect blowout penstemon seed from known populations for propagation and translocation to other sites across the Sandhills (including FWS Refuge property), and implementing a 2010 travel management plan by restricting off-road motor vehicle travel to selected areas and routes.

In FY2011, the NNFG completed the “Conservation Strategy and Management Plan for the Blowout Penstemon”. It was reviewed and accepted as the roadmap for activities that will support our goals for the endangered species. In addition, the USFWS published their “Blowout Penstemon 5-Year Review: Summary and Evaluation”. In this document, the USFWS presented a complete analysis of the status of the blowout penstemon and recommended that it remain as a federally endangered species.

Based on the above information, the NNFG is contributing to the recovery and viability of the blowout penstemon not only on the US Forest Service lands but also to neighboring FWS Refuge lands.

USDA Forest Service. 2001b. Final Impact Statement for the Land and Resource Management Plan 2001 Revision.

T&E 3

To what extent are NFS lands and their management contributing to the recovery and viability of bald eagle?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

At the time of the Land and Resource Management Plan (LRMP) completion, the northern bald eagle was downlisted to threatened in 1995 under the federal Endangered Species Act. In 2007 the species was delisted. However, the bald eagle was then added to the Forest Service Regional Forester's sensitive species list.

Bald eagles occur primarily as spring and fall migrants across all units of the Nebraska National Forests and Grasslands (NNFG). Three elements are considered important for effective winter habitat: perches, roosts, and food. The Nebraska National Forests and Grasslands (NNFG) does not contain designated critical habitat for bald eagles (USDA Forest Service 2000).

Numerous conservation measures for the bald eagle are identified in the LRMP. Among the more prominent measures are: avoid projects that would reduce water flows that would threaten the integrity and health of riparian systems; emphasize regeneration and health of riparian habitats; expand prairie dog populations; and provide a diverse mosaic of seral stage and vegetation structure on grasslands to enhance prey base (USDA Forest Service 2000).

Management across the NNFG units has focused on healthy, regenerating riparian systems through livestock management (i.e. removal of livestock, short-duration grazing, etc.), promoting prairie dog populations by a 2008 LRMP amendment to increase prairie dog colony complexes (minimum of 1000 acres) from two to six complexes across the NNFG, and continuing to emphasize desired conditions of seral stage and vegetation structure diversity across the grasslands through livestock management and prescribed fire.

Based on these limited critical habitat components for the bald eagle, the conservation measures and management emphasis to meet desired conditions, the NNFG is contributing to the recovery and viability of the bald eagle.

USDA Forest Service. 2000. Land and Resource Management Plan – Final Environmental Impact Statement. Appendix H. Biological Assessment and Evaluation. December 2000.

T&E 4

To what extent are NFS lands and their management contributing to the recovery and viability of the American burying beetle?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

American burying beetles (ABB) are the largest carrion beetle in the United States. These insects require carrion up to 10 ounces in size for reproduction. Without an adequate food source for the young, successful reproduction cannot take place. Surveys have been conducted for ABB on the Nebraska and McKelvie National Forests in the Sandhills of Nebraska. The species has not been found on the FPNG, however it has been found on both Nebraska units. All other units of the Nebraska National Forests and Grasslands are not considered to have ABB (USDA Forest Service 2001b).

Existing populations inhabit a wide variety of habitats. Their broad geographic range may indicate that vegetation structure and soil types are not constraining the populations. Common attributes include level topography, well-drained soils, and well-formed detritus layer. ABB found in Nebraska and South Dakota were associated with sandy soils (U.S. Fish and Wildlife Service 1991).

Recent American burying beetle (ABB) monitoring has been conducted on the Bessey Ranger District since 2003 (Dobesh et al. Comprehensive Report 2003-2007). Initial surveys began on the Bessey Ranger District in 2003 in conjunction with fuels treatments that were to begin that summer. From 2004 to 2006 several additional ABB individuals were collected during the Dobesh thesis research. In 2005 surveying efforts on the forest were intended to be part of the state wide population estimate and the trap locations on the Nebraska National Forest and the McKelvie National Forest were run for 10 consecutive days in August. Attempts to identify critical habitat or estimate population densities on the Forest have failed due to the low capture rates encountered during these annual surveys.

From 2007 to 2011 several clearance surveys have been conducted on the Sandhills unit of the Nebraska National Forest and only 1 ABB has been trapped during those clearance efforts. In June of 2012 a certification training to handle ABB was conducted on the McKelvie National Forest where 7 ABB were captured across 4 different trap locations. Two of the capture sites were new locations for the species on the McKelvie National Forest.

Conservation measures for the ABB include restriction of pesticide use where it could have adverse effects on the species and enhancing habitat for prairie chicken and sharp-tailed grouse (optimum-sized carrion) populations (USDA Forest Service 2001b).

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

Management across the NNFG units in the Nebraska Sandhills has focused on continuing to emphasize desired conditions of seral stage and vegetation structure diversity across the grasslands through livestock management and prescribed fire.

Based on the above information the NNFG is contributing to the recovery and viability of the American burying beetle.

Dobesh et al. Comprehensive Report (2003-07) of US Forest Service Surveys for the Endangered American Burying Beetle (*Nicrophorus americanus*) on the Nebraska National Forest (Bessey Ranger District) 63pp.

USDA Forest Service. 2001b. Final Impact Statement for the Land and Resource Management Plan 2001 Revision.

U.S. Fish and Wildlife Service. 1991. American burying beetle Recovery Plan. Newton Corner, MA.

T&E 5

To what extent are NFS lands and their management contributing to the recovery and viability of whooping crane?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

The Nebraska National Forests and Grasslands (NNFG) could be used by the whooping crane for occasional foraging and roosting stops on or near the national grasslands but would be uncommon and incidental (USDA Forest Service 2001b). No nesting or wintering habitat (large wetland complexes) is considered available on the NNFG units.

Occurrences of whooping cranes visiting the NNFG would be considered incidental during their migration periods. The Fort Pierre National Grasslands, Buffalo Gap National Grasslands (WRD), Nebraska National Forest (BRD and the McKelvie National Forest would be the more likely areas of visitation by whooping cranes. In fact, in 2010 a single whooping crane was observed on the Wall Ranger District during its spring migration (Griebel 2010).

Due to the rare, incidental and unpredictable nature of the whooping cranes on the NNFG units, specific conservation measures are unwarranted.

Based on the above information, the NNFG has very little potential to affect whooping crane recovery or viability.

Griebel 2010. Personal communication. Sighting of whooping crane on the Buffalo Gap National Grassland, Wall Ranger District.

USDA Forest Service. 2001b. Final Impact Statement for the Land and Resource Management Plan 2001 Revision.

T&E 6

To what extent are NFS lands and their management contributing to recovery and viability of Mountain Plover?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

At the time of the Land and Resource Management Plan (LRMP) completion, the mountain plover was proposed for listing in 2002 but subsequently in 2003 the proposed listing was removed based on information indicating the lack of threats to the plover and its habitat were likely not to endanger the species in the foreseeable future. In 2010, the Fish and Wildlife Service (FWS) reinstated the 2002 proposal for listing and invited public comment. Information again supported the 2011 FWS determination that the plover does not warrant protection under the Endangered Species Act. However, the mountain plover is listed as a Forest Service Regional Forester's sensitive species.

Historic breeding ranges of mountain plover included western Nebraska and extreme western South Dakota (Dinsmore, S.J. 2003.) South Dakota considers the mountain plover extirpated from that state (South Dakota Ornithologists' Union 1991). Mountain plovers prefer large, flat grassland expanses with sparse, short vegetation, and bare ground (USDA Forest Service 2000). Generally prairie dog towns provide this type of habitat. The Nebraska National Forests and Grasslands (NNFG) does contain prairie dog colonies considered to be potential habitat for plover. However, the NNFG units would be considered as marginal habitat for the mountain plover and on the northern and eastern periphery of today's breeding range. No nesting activity has been identified on the NNFG units. Occurrences of mountain plover on the NNFG would be incidental.

Numerous conservation measures for the mountain plover are identified in the LRMP. Among the more prominent measures are: expand prairie dog populations; and provide an early seral stage and low vegetation structure on grasslands.

Management across the NNFG units has focused promoting prairie dog populations by a 2008 LRMP amendment to increase prairie dog colony complexes (minimum of 1000 acres) from two to six complexes across the NNFG, and continuing to emphasize desired conditions of seral stage and vegetation structure diversity across the grasslands through livestock management and prescribed fire.

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

Based on the incidental occurrence and marginal habitat for plover, the NNFG has limited potential to affect mountain plover recovery or viability.

Dinsmore, S.J. (2003, December 8). Mountain Plover (*Charadrius montanus*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/mountainplover.pdf> [April 2012].

USDA Forest Service. 2000. Land and Resource Management Plan – Final Environmental Impact Statement. Appendix H. Biological Assessment and Evaluation. December 2000.

South Dakota Ornithologists' Union. 1991. The birds of South Dakota, 2nd edition. South Dakota Ornithologists' Union, Aberdeen, SD.

T&E 7

Does Ute ladies' tresses or potential habitat for the species occur on the NFS lands within the planning area?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

The Ute ladies' tresses is a perennial forb in the orchid family. This species of plant is unlikely or questionable to occur on the Nebraska National Forests and Grasslands. However, the Buffalo Gap National Grassland is within the species range and potential or suitable habitat may occur (USDA Forest Service 2001b). This species inhabits moist soils in mesic or wet meadows, gravel bars, wet stream banks and seems to require permanent sub-irrigation.

Occurrences of Ute ladies' tresses on the NNFG are not known to occur. No conservation measures have been identified in the Land and Resource Management Plan because of the lack of occurrence.

Based on the lack of occurrences of the Ute ladies' tresses, the NNFG has very little potential to affect this orchid's recovery or viability.

USDA Forest Service. 2001b. Final Impact Statement for the Land and Resource Management Plan 2001 Revision.

VIABILITY 1

To what extent are NFS lands and their management contributing to the viability of sensitive plant and animal species that are generally found in grassland and sagebrush habitats?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Manipulation of grassland and sagebrush vegetation is primarily accomplished through various land management activities including, livestock grazing, and travel management on public lands. Grazing management plans are designed to move vegetation towards or meet the desired condition objectives identified in the LRMP. The desired conditions of the LRMP were designed to provide for the habitat needs of grassland and sagebrush species and thus establish conditions that will contribute to the viability of grassland and sagebrush sensitive plant and animal species.

Some of the species that could be influenced by management activities and land uses in these habitats include: Barr's milkvetch, Dakota buckwheat, Tawny crescent butterfly, Regal fritillary butterfly, Greater prairie chicken, Sage grouse, Long-billed curlew, Upland sandpiper and Swift fox.

Monitoring all sensitive species is a difficult challenge under budget constraints and limited personnel resources. Sensitive species monitoring efforts have been evaluated and prioritized based on risk to the species, local or national interest of the species or as opportunities/funding for partnerships became available.

In 2011, complete surveys and GIS mapping were conducted of Barr's milkvetch on the Fall River Ranger District. These surveys indicate a healthy population scattered in several areas. In addition, mapping was done of known Dakota buckwheat occurrences on the Wall Ranger District. These show that the species occurs in numerous locations. Further surveys and mapping need to be done for both of these species.

Generally speaking, species that prefer higher grass structure have benefitted over the last four years from above-average precipitation and plague, which has significantly reduced prairie dog populations across the grassland. Other than prairie dogs and sharp-tailed grouse, the only other grassland species with detailed monitoring data is the swift fox. Swift fox were reintroduced by Badlands National Park in 2004 and since then, have become a self-sustaining population on the Wall Ranger District. In 2009, a total of 51 litters were detected with a minimum of 178 pups produced. A minimum of 152 litters and 561 pups have been produced in this reintroduced population from 2004-2009 (G. Schroeder, Badlands National Park, Wildlife Biologist, personal communication).

Swift fox occur naturally on the Fall River Ranger District and have been monitored since the early 1990's. Oscillations in the swift populations have occurred over the years

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

with individual populations blinking in and out. Swift fox flourish in shortgrass areas and prefer areas with limited cover. In general the swift fox populations on the Fall River Ranger District have been high during drought years and low during years that high precipitation that resulted in high cover.

VIABILITY 2

To what extent are NFS lands and their management contributing to the viability of sensitive plant and animal species that are generally found in riparian and wetland habitats?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Manipulation or protection of riparian and wetland habitat is primarily accomplished through various land management activities including, livestock grazing, forest management, and travel management on public lands. Land use management plans are designed to move vegetation or resources towards or meet the desired condition objectives identified in the LRMP. The desired conditions of the LRMP were designed to provide for the habitat needs of riparian and wetland species and thus establish conditions that will contribute to the viability of riparian and wetland sensitive plant and animal species.

Some of the species that could be influenced by management activities and land uses in these habitats include: American bittern, Trumpeter swan, Yellow-billed cuckoo and Loggerhead shrike.

Monitoring all sensitive species is a difficult challenge under budget constraints and limited personnel resources. Sensitive species monitoring efforts have been evaluated and prioritized based on risk to the species, local or national interest of the species or as opportunities/funding for partnerships became available.

In the past, lesser panicked sedge, yellow widelip orchid, and lesser bladderwort have been found at the McKelvie National Forest. The areas where it was last seen need to be surveyed and mapped.

In 2007, nearly all wetlands on the Buffalo Gap National Grassland were completely dry after seven years of continuous drought, this included some of our largest wetlands such as Weta Dam and Kadoka Lake, both 3.64 Special Plant and Wildlife Habitat MA's. However, by early summer of 2008 most, if not all wetlands and impoundments were full of water after a very wet spring and run-off from above average snowfall. Monitoring of wetlands on the Wall Ranger District for trumpeter swans resulted in both individual birds and pairs observed in 2010 and 2011 after years of absence. In 2010, a 40-acre prescribed burn was implemented to stimulate riparian shrub regeneration along a semi-perennial stream and for upland habitat enhancement on the Wall Ranger District.

Additionally, a cooperative wildlife and fisheries habitat enhancement project was implemented between the US Forest Service, South Dakota Game, Fish and Parks and the National Wild Turkey Federation. This project expanded an exclosure from 98 to 245 acres, resulting in protection and enhancement of a stream corridor and pond from cattle grazing. Additionally, a prescribed burn was conducted in that same area in 2011 to stimulate native vegetation and set-back invasive species

VIABILITY 3

To what extent are NFS lands and their management contributing to the viability of sensitive plant and animal species that are found in aquatic habitats?

Monitoring Type: Effectiveness
Frequency of Reporting: Five Year

Manipulation or protection of aquatic habitat is primarily accomplished through various land management activities including, livestock grazing, forest management, and travel management on public lands. Land use management plans are designed to move vegetation or resources towards or meet the desired condition objectives identified in the LRMP. The desired conditions of the LRMP were designed to provide for the habitat needs of aquatic species and thus establish conditions that will contribute to the viability of aquatic sensitive plant and animal species.

Some of the species that could be influenced by management activities or land uses include: flathead chub and northern leopard frog.

Monitoring all sensitive species is a difficult challenge under budget constraints and limited personnel resources. Sensitive species monitoring efforts have been evaluated and prioritized based on risk to the species, local or national interest of the species or as opportunities/funding for partnerships became available.

In 2011, northern leopard frogs were surveyed on the Wall Ranger District. The objectives for the survey were to locate important habitat features required by northern leopard frogs for continued persistence on the grasslands. Habitat features analyzed included overwintering sites, breeding ponds, and foraging habitat on. Little is known of potential overwintering sites for northern leopard frogs on the grassland; however, winter habitat is expected to be similar to that throughout the species' range (Smith and Keniath 2007). Northern leopard frogs begin to emerge from overwintering sites when average temperatures are greater than 10 degrees Celsius (50 degrees Fahrenheit) (Smith and Keniath 2007). Afterwards, emerging adults will immediately move to breeding ponds for preparation of the mating season; subadults will follow shortly after (Smith and Keniath 2007). Mating season begins in late April and May. Throughout the summer months and during the couple of months subadults have emerged; it is theorized leopard frogs forage closely around breeding ponds (Smith and Keniath 2007). The extent and distance they move is unknown. From mid-September to October northern leopard frogs begin migrating back to their overwintering sites (Smith and Keniath 2007).

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

Of the 5 overwintering sites surveyed, 4 had northern leopard frogs present. Most of the breeding ponds surveyed during the summer months were located in prairie dog towns. The summer surveys were spent mostly looking for sub-adult leopard frogs emerging from breeding ponds. The surveys took place from June - September (until sub-adults dispersed from breeding ponds). A total of 25 breeding ponds were surveyed across the District, of the 25 breeding ponds visited, 17 had northern leopard frogs present. Leopard frogs were found in prairie dog towns, outside of prairie dog towns, with fish, and without fish. All ponds surveyed during the summer had emergent and sub emergent vegetation, most likely due to the wet spring. During the summer survey no adult leopard frogs were seen.

Palustrine system ponds are used widely by leopard frogs, thus, nearly every single water body on the Wall Ranger District can be used for breeding. From the breeding ponds surveyed 68 percent of them had leopard frogs and all of the ponds were palustrine system ponds. The reason for the absence of leopard frogs at 32 percent of surveyed water bodies is unknown. Breeding ponds within creeks south of the Badlands National Park were also found. With heavy rains during this survey period, pools of water were left residing in creek bottoms long enough to allow tadpoles to reach maturity. As a result, two areas were found with many sub adult leopard frogs. This only seems to happen with creeks capable of holding water for longer periods of time. Deep creeks found in the Conata Basin are probably popular sites for leopard frogs to breed since the creeks can hold water as long as there is enough rain. When looking at historical data done during 1995, leopard frog surveys were conducted in drainages with several frogs being found. In all, the Wall Ranger District has a good quantity of leopard frog habitat, whether it is breeding ponds or foraging habitat.

The long-term trend of Northern Leopard Frog population on the FPNG appears to be relatively healthy (trend based on field observations). During wet years, almost all water bodies visited by FPNG staff hosted an abundant population. In select areas, where water was inadequate, amphibians were scarce and sometimes locally nonexistent. Currently climatic and range conditions are favorable for frogs and the FPNG is noticing large populations similar to past wet years.

The summers of 2009 and 2010 the University of South Dakota conducted a study to determine if chytrid fungus (*Batrachochytrium dendrobatitis*), which is causing global declines in amphibian populations, was finding its way into the state of South Dakota. Swab samples from some of the most visited FPNG ponds were collected. Chytrid fungus was not detected.

Smith, B.E. and D.A. Kienath. (2007, January 16). Northern Leopard Frog (*Rana pipiens*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/northernl>

VIABILITY 4

To what extent are NFS lands and their management contributing to the viability of sensitive plant and animal species that are generally found in forested habitats?

Monitoring Type: Effectiveness
Frequency of Reporting: Five Years

Manipulation of forested habitat is primarily accomplished through various land management activities including, livestock grazing, forest management, and travel management on public lands. Land use management plans are designed to move Forest resources towards or meet the desired condition objectives identified in the LRMP. The desired conditions of the LRMP were designed to provide for the habitat needs of forest species and thus establish conditions that will contribute to the viability of forest sensitive plant and animal species.

Some of the species that could be influenced by management activities in these habitats include: Northern goshawk, Merlin, Pygmy Nuthatch, Lewis woodpecker, and Fringed-tailed Myotis.

Monitoring all sensitive species is a difficult challenge under budget constraints and limited personnel resources. Sensitive species monitoring efforts have been evaluated and prioritized based on risk to the species, local or national interest of the species or as opportunities/funding for partnerships became available.

Several thinning and prescribe burn projects have occurred over the past decade on both the Pine Ridge and Bessey Ranger Districts which are designed to open the canopy, reduce hazardous fuels, and to manage for a variety of structural stages. This will result in larger healthier trees and enhance the habitat for a variety of species including the pygmy nuthatch and Lewis's woodpecker.

VIABILITY 5

To what extent are NFS lands and their management contributing to the viability of sensitive animal species that are heavily dependent on prairie dog colony habitat?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 Years

Manipulation or protection of prairie dog colony habitat is primarily accomplished through livestock grazing and prairie dog colony management on public lands. Land use management plans are designed to move vegetation towards or meet the desired condition objectives identified in the LRMP. The desired conditions of the LRMP were designed to provide for the habitat needs of low vegetation structure species and thus establish conditions that will contribute to the viability of sensitive plant and animal species dependent on prairie dog colony habitat.

Some of the species that could be influenced by management activities and land uses in these habitats include: Western burrowing owl, Ferruginous hawk, and Black-tailed prairie dog.

Monitoring all sensitive species is a difficult challenge under budget constraints and limited personnel resources. Sensitive species monitoring efforts have been evaluated and prioritized based on risk to the species, local or national interest of the species or as opportunities/funding for partnerships became available.

Species that rely on prairie dogs have seen their habitat shrink considerably over the last four years from a major plague outbreak. In 2007, there were 35,350 acres of active prairie dogs across the Wall Ranger District; that number is now at 11,203 acres. However, with the large-scale dusting effort, there is still a fairly significant amount of prairie dog habitat available for those species. For example, burrowing owl breeding pair density, figured as breeding pairs/ha of each occupied prairie dog colony averaged 0.16 pairs per hectare (0.064 pairs per acre) (15.625 acres per pair) of prairie dog colony ([Griebel 2000](#)). Including all colonies, even those not selected, breeding pair density averaged 0.12 pairs per hectare (0.049 pairs per acre) (20.408 acres per pair) of prairie dog colony.

Using the 20.408 acres/pair formula, the estimated number of breeding pairs for 2011 would be 549 (i.e., 1,098 individual adults) for the 11,203 acres of active prairie dogs found on the Wall Ranger District. Then, using a mean fledge rate of 2.6 young per nesting attempt (i.e., Conata Basin results for 1999 and 2000 combined; [Griebel 2000, 2007](#)), then the total fall population theoretically could be 2,525 individuals (i.e., total young + total adults). Thus, there is still plenty of available habitat and the viability of burrowing owls across the District seems to be secure although there has been a major decline in available habitat and a theoretical population decline from 7,967 individuals in 2007.

Griebel, R. L. 2000. Ecological and physiological factors affecting nesting success of burrowing owls in Buffalo Gap National Grassland. M.S. Thesis, University of Nebraska, Lincoln.

Griebel, R.G., and J.A. Savidge. 2007. Factors influencing burrowing owl reproductive performance in contiguous shortgrass prairie. *Journal of Raptor Research* 41(3):212-221.

VIABILITY 6

To what extent are NFS lands and their management contributing to the viability of sensitive plant and animal species that are generally found in special habitats like caves, cliffs, buttes, blowouts, and barren habitats?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Protection of caves, cliffs, buttes, blowouts, and barren habitat is primarily accomplished through avoidance of various land management activities including, livestock grazing, forest management, and travel management on public lands. Land use management plans are designed to avoid or minimize the impact to these kinds of geological features. The desired conditions of the LRMP were designed to provide for the habitat needs of species found in these special habitats and thus maintain conditions that will contribute to the viability of these sensitive plant and animal species.

Some of the sensitive species that could be influenced by management activities and land uses in these habitats include: Dakota buckwheat, Barr's milkvetch and Bighorn sheep.

Monitoring all sensitive species is a difficult challenge under budget constraints and limited personnel resources. Sensitive species monitoring efforts have been evaluated and prioritized based on risk to the species, local or national interest of the species or as opportunities/funding for partnerships became available.

By surveying and mapping known occurrences of Dakota buckwheat and Barr's milkvetch, we are better able to target management activities to improve the viability of these sensitive species. Surveys for both Dakota buckwheat and Barr's milkvetch have occurred with limited occurrence observations.

VIABILITY 7

To what extent has cooperative agreements and the landownership adjustment program been effective in reducing private land conflicts involving prairie dogs and enhancing long-term opportunities for development of prairie dog colony complexes in the priority National Grassland areas?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Landownership adjustments and cooperative agreements provide the key to long-term opportunities for expanding prairie dog populations and for reducing conflicts over prairie dog management.

The latest landownership adjustment with the Forest Service was the Indian Creek Land Exchange, which was finalized in 2009. The difference in prairie dog acres acquired vs. loss from the land exchange resulted in a net gain of approximately 118 acres for the Wall RD. Additionally, one prairie dog boundary management zone (BMZ) colony of about 100 acres on the District now fell outside the BMZ area with the acquisition of adjacent private land through the exchange.

In addition to the Indian Creek Land Exchange, The Nature Conservancy has purchased two ranches and some isolated parcels in the Conata Basin, further reducing prairie dog conflicts between Forest Service and private land boundaries (boundary management zones – BMZ). The Nature Conservancy now owns close to 8.5 miles of boundary adjacent to FS and one in holding; all located in the Conata Basin. The number of complaints and total acres treated in the boundary management zone since 2006 has decreased significantly on the Wall Ranger District (see table below).

BMZ prairie dog control in acres on the Buffalo Gap National Grassland by GA in the fall and winter of 2004-2011.

Geographic Area	2004	2005	2006	2007	2008	2009	2010	2011
Wall North	60	497	940	466	84	127	87	4
Wall SE	237	950	1370	908	100	246	164	0
Wall SW	0	0	279	36	0	31	80	0
Wall SW: Conata Basin MA 3.63	3196	2184	5251	3605	610	102	9	0
Fall River NE	2127	2258	2801	1998	1236	410	312	78
Fall River SE	359	480	330	54	267	179	0	32
Fall River W	769	784	376	245	178	135	0	163
Total	8752	9158	13353	9319	4483	3239	2662	2288

WILDLIFE 1

Is habitat effectiveness on designated big game range being maintained or enhanced?

Monitoring Type: Effectiveness

Frequency of Reporting: 5 years

Big game viewing and hunting are popular recreational activities on these lands and both contribute to the economic diversity of local and state economies. Management of designated big game ranges on NFS lands can help meet big game objectives established by State Wildlife Agencies. Land uses and developments on these lands can have significant effects on big game habitat.

All federally funded or sponsored land management projects are subject to the National Environmental Protection Act (NEPA) which analyzes (through a biological assessment) the impacts that the proposed project could have on the biological resources. In this assessment big game and its habitats are also evaluated. Conservation measures are regularly incorporated into the project design for big game and their habitat.

Since 2006 there have been several incidents and management decisions that have changed the landscape across the Pine Ridge Ranger District. These include fire, travel management and fuels reduction projects. Some of the major fires include Spotted-tail (2006), Roberts Tract (2006), and Ash Creek (2012). These fires have all had a significant changes on big game management areas (3.51 Bighorn Sheep Habitat), or areas that are being used by bighorn sheep. In addition travel management implementation began in 2010. This decision reduced the amount of motorized access available to the public on the Nebraska National Forests and Grasslands, especially in management areas with big game emphasis. Thinning has also continued to occur under both the Bordeaux and Chadron Creek Fuels Decisions, along with extensive work on other adjacent public and private lands. Given the extensive changes to the landscape over the last 5-10 years in addition to the new bighorn sheep reintroductions, potential changes in herd movement, the continued struggle with pasturella pneumonia, forest management changes, and the potential threat to forested ecosystems by mountain pine beetle, it may be of value exploring a habitat effectiveness study for the bighorn sheep on the Nebraska National Forests and Grasslands.

COMMUNITY RELATIONS 1

To what extent are noxious weeds, invasive species, and animal damage spreading from NFS lands to other ownerships or from lands managed by other government agencies to NFS lands?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Surveys have not been completed. Continue to analyze data collected from 2012 to 2017 and report in the 2017 five year summary cycle.

DAMAGE CONTROL 1

To what extent are destructive insect and disease outbreaks prevented following management activities? (See also Community 1)

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Survey and monitor the area of known past destructive insect and disease outbreaks. Coordinate with State Foresters to identify areas, acres and dates of previous and current timber activities on State and private lands. Coordinate with Forest Health Program Entomologists to discuss areal detection surveys and presence or absence trapping. Continue to analyze data collected from 2012 to 2017 and report in the 2017 five year summary cycle.

DAMAGE CONTROL 2

To what extent are noxious weeds, invasive species, and animal damage expanding or being reduced?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Surveys have not been completed. Species, location and acres of noxious weeds are known. Continue to analyze data collected from 2012 to 2017 and report in the 2017 five year summary cycle.

VEGETATION 1

To what extent are rangeland vegetation structure objectives being met?

Monitoring Type: Effectiveness

Frequency of Reporting: 5 years

The mosaic of vegetation structure on rangelands helps determine the diversity of native plants and animals occurring in an area. Vegetation structure and its diversity is largely determined by the frequency, intensity and duration of grazing by livestock, wildlife and other factors such as fire, annual weather patterns, and plant species composition.

GEOGRAPHIC AREA	ACREAGE	STRUCTURE OBJECTIVES		
		HIGH	MODERATE	LOW
Bessey	90,170	40-60%	40-60%	0-5%
McKelvie	116,060	40-60%	40-60%	0-5%
Fall River NE	91,908	25-45%	45-65%	1-20%
Fall River SE	111,621	15-15%	40-60%	15-35%
Fall River West	119,749	10-30%	50-70%	10-30%
Wall North	69,600	35-45%	35-45%	15-25%
Wall SE	94,300	30-40%	35-45%	20-30%
Wall SW	102,500	25-35%	35-45%	25-35%
Ft. Pierre	116,080	30-50%	30-50%	10-30%
Oglala	94,174	10-30%	50-70%	10-30%
Pine Ridge	50,529	10-20%	65-85%	5-15%

GEOGRAPHIC AREA	BASELINE STRUCTURE ¹			CURRENT STRUCTURE		
	HIGH	MODERATE	LOW	HIGH	MODERATE	LOW
Bessey	85%	16% ²	---	79%	17%	4%
McKelvie- hills	62%	38% ²	---	22%	44%	35%
McKelvie-valleys	6%	50%	45%	8%	40%	52%
Fall River NE	15% ³	52% ³	33% ³	19%	42%	39%
Fall River SE	15% ³	52% ³	33% ³	36%	42%	22%

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

Fall River West	15% ³	52% ³	33% ³	12%	62%	26%
Wall North	19% ³	68% ³	13% ³	no data	no data	no data
Wall SE	19% ³	68% ³	13% ³	no data	no data	no data
Wall SW	19% ³	68% ³	13% ³	no data	no data	no data
Ft. Pierre	3%	64%	33%	41%	45%	14%
Oglala	4%	21%	75%	29%	68%	3%
Pine Ridge	N/A ⁴	N/A ⁴	N/A ⁴	8%	70%	22%

1. VOR data from Final Environmental Statement (FEIS) for the Northern Great Plains, 2001.
2. The VOR data only broke the results down to no less than <2” (low structure is now defined as <1”) so moderate and low structure results are lumped for the baseline.
3. Baseline VOR data from the FEIS was not broken down by geographic areas, but by administrative units.
4. There is no baseline structure data in the FEIS.

VEGETATION 2

To what extent are rangeland vegetation composition objectives being met?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

Plant species composition on rangelands is largely determined by soils productivity, weather, fire, and the frequency, intensity, timing, and duration of grazing by livestock and wildlife.

GEOGRAPHIC AREA	ACREAGE	SERAL STAGE OBJECTIVES			
		LATE	LATE INTERMEDIATE	EARLY INTERMEDIATE	EARLY
Bessey	90,170	30-50%	30-50%	1-20%	1-20%
McKelvie	116,060	30-50%	30-50%	1-20%	1-20%
Fall River NE	91,908	20-40%	40-60%	5-15%	5-15%
Fall River SE	111,621	20-30%	40-60%	15-25%	1-10%
Fall River West	119,749	10-30%	50-70%	10-20%	1-10%
Wall North	69,600	20-40%	30-50%	10-30%	1-20%
Wall SE	94,300	20-40%	30-50%	10-30%	1-20%
Wall SW	102,500	20-40%	20-40%	10-30%	10-30%
Ft. Pierre	116,080	20-40%	30-50%	10-30%	1-20%
Oglala	94,174	10-30%	50-70%	10-20%	1-10%
Pine Ridge	50,529	15-25%	40-70%	5-15%	1-20%

GEOGRAPHIC AREA	CURRENT SERAL STAGE			
	LATE	LATE INTERMEDIATE	EARLY INTERMEDIATE	EARLY
Bessey	No current data	No current data	No current data	No current data
McKelvie ¹	18%	30%	45%	7%
Fall River NE	No current data	No current data	No current data	No current data
Fall River SE	No current data	No current data	No current data	No current data
Fall River West	15%	64%	17%	4%
Wall North	No current data	No current data	No current data	No current data
Wall SE	No current data	No current data	No current data	No current data
Wall SW ²	0%	85%	15%	0%
Ft. Pierre ³	6%	40%	54%	0%
Oglala	28%	47%	24%	1%
Pine Ridge	14%	56%	25%	1%

1. Six allotments sampled for a total of 47,658 acres, or 41% of the GA.
2. 12% of GA sampled in the last 5 years.
3. Sampled 67 sites during 2007, 2008, and 2009.

VEGETATION 3

To what extent are desired vegetation conditions in forested areas being met?

Monitoring Type: Effectiveness

Frequency of Reporting: 5 years

Continue to monitor annually in Chadron Creek and Bordeaux project areas to confirm we are proceeding towards the desired conditions. Continue to monitor annually in the Bessey I and Bessey II project areas to confirm we are proceeding towards the desired conditions. Continue to analyze data collected from 2012 to 2017 and report in the 2017 five year summary cycle.

VEGETATION 4

To what extent are desired vegetation conditions in wetlands being met?

Monitoring Type: Effectiveness

Frequency of Reporting: 5 Years

A thorough analysis of the data collected is needed to assess the vegetation conditions within wetland and riparian areas across the Nebraska National Forests and Grasslands. Need to gather data; input into electronic formats (GIS databases) that are accessible; inventory mapping of wetlands; and wetland assessments.

RECREATION 1

To what extent are trails managed to meet regional standards and to minimize conflicts among users?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

Trail condition surveys are assigned annually by the Washington Office for all Trail Class 1-4 trails. Trail Class 5 trails are required to be surveyed every five years.

The Bessey, Pine Ridge, Fall River and Wall Ranger Districts have completed condition surveys as part of annual maintenance and have reported the miles of trail meeting regional standards. The Fort Pierre District does not have any system trails.

The Bessey and Pine Ridge Districts completed condition surveys using the TRACS protocol on the Poison Ivy Trail and 10.5 miles of the Pine Ridge Trail in 2011 as assigned for Trail Class 1-4 trails. The remainder of the trails have been surveyed but the TRACS protocol has not been used.

There is only one Trail Class 5 trail on the forest, the Hudon-Meng Interpretive Trail. A condition survey is scheduled to be completed on the trail in September of 2012.

There have been no reports of conflicts among users in FY12.



RECREATION 2

Where does the demand for recreation opportunities warrant development of additional opportunities such as trails or campgrounds?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 Years

No district specific information has been documented.

Forestwide, results from the National Visitor Use Monitoring indicate visitors to the Nebraska National Forests and Grasslands are generally very satisfied with the developed sites provided and do not feel crowded during their visit.

Within the next five years the forest will develop a method for tracking when developed site capacities are exceeded and where general forest areas are degraded due to overuse.

RECREATION 3

To what extent are Grassland and Forest visitors informed of the recreation opportunities available to them; are they adequately guided to those recreation opportunities; and do they receive adequate interpretive information on national Register of Historic Places and other heritage sites, geologic, paleontologic, wildlife, plant, and recreation resources or opportunities?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 Years

No district specific information has been documented.

Forestwide, results of the 2008 National Visitor Use Monitoring indicate that less than half of our visitors are satisfied with the adequacy of our signing and we have received complaints about the forest website. In the last five years and with implementation of the Travel Management decision, we have made a concerted effort to improve signage along roads and trails. The interpretive panels at the Toadstool Geologic Park were updated and replaced and a new interpretive panel regarding Blowout Penstemon a threatened and endangered species was installed at the Bessey Ranger District. The Interpretive Master Plan for the National Grasslands Visitor Center is in the process of being updated and should be completed in FY13.

We will continue to work to improve our forest website and will review and update sign plans for each district including needs/opportunities for interpretive signing. The Interpretive Master Plan for the Hudson-Meng National Historic Site will be reviewed and a plan developed for the Bessey Historic District.



TRAVEL AND ACCESS 1

What are the effects of vehicle use off roads?

Monitoring Type: Effectiveness

Frequency of Reporting: 2 Years

During the Travel Management analysis, roads and trails including those created by users were evaluated for inclusion in the transportation system for each district. Roads and trails deemed unnecessary or environmentally unacceptable were not included in the record of decision.

During the next five years incidents of erosion caused by off-road vehicles on system roads and trails will be documented during condition surveys. A protocol for documentation of new unauthorized roads or trails will be developed as part of travel management implementation.

HERITAGE 1

To what extent are National Register sites and districts being protected and preserved?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 Years

. There are six (6) historic properties on the Nebraska National Forests and Grasslands (NNFG) that are listed on or are eligible for the National Register of Historic Places (NRHP): the Bessey Nursery and District Ranger Offices, the Scott Lookout Tower, the McKelvie District Office Complex, the Hudson-Meng Bison Bonebed, the Warbonnet Battlefield site, and Whiskey Cave.

- The Bessey Nursery and District Ranger Offices were listed on the National Register in 1978. The nomination for the historic district needs to be amended to include the entire Bessey Nursery, District, and Recreation Area Complex, since all of the extant buildings and structures within the complex were assessed as eligible by the National Park Service (NPS) in 2006. The NNFG needs to update the historic district's existing preservation plan and develop a systematic management plan in consultation with the Nebraska State Historic Preservation Office (SHPO). This plan would address continued use of the site as a nursery and administrative site, in tandem with the preservation of contributing properties within the historic district.
- Scott Lookout Tower was also evaluated by the NPS in 2006, and was found to be eligible for listing on the National Register. Rehabilitation of the site was completed in 2011. The lookout should be included either as part of the updated Bessey Nursery, District, and Recreation Area Complex NRHP nomination, or it should be nominated as a separate entity. Due to its proximity with the rest of the complex, the lookout should also be included in the management plan for the Bessey Nursery, District, and Recreation Area Complex.
- The McKelvie District Office Complex was also evaluated by the NPS in 2006 and found to be eligible for listing on the National Register. Currently slated for decommissioning in 2014, the six existing structures will be reviewed and documented using HABS/HAER/HALS methodologies in early Fall of 2012. Once this documentation is completed, it will be forwarded to the Advisory Council for Historic Preservation, and the site will no longer be deemed NRHP eligible.
- The Hudson-Meng Bison Bonebed was listed on the NRHP in 2004. Although the NNFG needs to develop a systematic management and preservation plan in consultation with the Nebraska SHPO, the site is being actively researched through partnerships with the University of Nebraska – Lincoln and St. Cloud

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

- State University. Volunteers from throughout the surrounding community assist in the research and interpretation of the site. The facility is open to the public each year from May through September. Collections from the site need to be consolidated and moved to an appropriate curation facility.
- A NRHP nomination for the Warbonnet Battlefield was submitted to the Keeper of the Register in September of 2005; however, the site has not yet been listed on the National Register. This nomination needs to be tracked down and corrected to include updated interpretation of the site prior to resubmission for listing. The NNFG also needs to develop a systematic preservation and management plan for the site in consultation with the Nebraska SHPO.
 - Whiskey Cave was evaluated in 1999 as eligible for listing on the NRHP. The site remains protected primarily due to its remoteness. A NRHP nomination form needs to be completed for the site and submitted to the Keeper for review. The NNFG also needs to be developed a systematic preservation and management plan for the site in consultation with the Nebraska SHPO. Interpretation of the battlefield needs to be updated and made available to the public.

HERITAGE 2

To what extent are traditional cultural properties being protected?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 Years

There are presently no known traditional cultural properties on the Nebraska National Forests and Grasslands (NNFG). Currently, the NNFG is participating in quarterly/biannual Tribal Consultation Meetings to discuss potential areas of importance to the affected tribes. The NNFG needs to better integrate NEPA Tribal Consultation, NEPA Consultation, and Section 106 project-specific consultation to identify areas of significance. The NNFG also needs to manage areas accordingly, with deference from locations of traditional/cultural use.

SPECIAL INTEREST AREAS

To what extent have the special features found Special Interest Areas been conserved or enhanced?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 Years

No formal monitoring has been completed. Special Interest Areas are patrolled by employees and Field Protection Officers during periods of high use. Some areas are regularly visited by the general public, such as Hudson-Meng and Toadstool Park, where visitation numbers are documented for use but that information does not answer the specific monitoring question above. There is a need to monitor Special Interest Areas for the special features.

RESEARCH NATURAL AREAS

To what extent have the unique research features of Research natural Areas been conserved or enhanced?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 years

No formal monitoring has been completed. There is a need to monitor the Research Natural Areas identified in this Plan to ensure that management activities have not changed the special values these lands have been designated for.

WILDERNESS

To what extent are the Soldier Creek Wilderness special features and communities of special concern conserved or enhanced?

Monitoring Type: Effectiveness

Frequency of Reporting: 5 years

The following monitoring items have been implemented in the Soldier Creek Wilderness as a part of the Chief's 10 Year Wilderness Challenge: Invasive Species Inventory and annual monitoring/treatment, Wilderness Education Plan, Recreation Site Inventory using the Minimum National Protocol, an Air Quality Monitoring Plan was completed and an ozone monitoring station was installed adjacent to the wilderness area.

All items are recorded in the Infra-Wild database.

Emphasis for FY12 was for an information needs assessment; however one has not been completed to date. Therefore it will be emphasized again in FY13. Monitoring of invasive species, air quality and the wilderness education plan will be done annually. Recreation Site Inventory will be reviewed and updated every five years.



RECOMMENDED FOR WILDERNESS

To what extent are the Red Shirt and Indian Creek Recommended for Wilderness special features and communities of special concern conserved or enhanced?

Monitoring Type: Effectiveness
Frequency of Reporting: 5 Years

No area specific monitoring of the conditions or features that lead to recommending the Red Shirt and Indian Creek areas for wilderness has been conducted. However, impacts to wilderness characteristics are considered in the environmental document completed for any projects within the recommended wilderness boundaries.

In the next LRMP revision, further direction for monitoring and management actions to protect opportunities for solitude or primitive and unconfined recreation; direction to prevent degradation of the wilderness resource; and adequate direction for fire management should be addressed.

In addition, some elements of the Chief's 10 Year Wilderness Challenge should be addressed for each area. Specifically, invasive species inventories, air quality monitoring plans, education plans, recreation site inventories and information needs assessments if completed would provide baseline information for monitoring the features and communities within these areas.



COMMUNITY RELATIONS 2

What are the effects of National Forest System Management on adjacent communities?

Monitoring Type: Effectiveness
Frequency of Reporting: Annually

The NNF&G issued approximately \$105,000 dollars' worth of work to local contractors within the communities in and surrounding the Forests and Grasslands.

The NNF&G employs approximately 80 employees within the communities of Chadron and Halsey Nebraska, and Hot Springs, Wall, and Fort Pierre South Dakota. The NNF&G also hire a seasonal workforce, typically about 30 individuals which is generated from members of the local communities.

The NNF&G plays host to several organized events each year that brings tourist and visitors into our local communities. These events are managed through use of a special use permit which authorizes the events on National Forest System lands. Events range from an adventure race, horseback trail trials, fishing tournament, to a motorcycle enduro.

The Forests also provides special forest products, such as firewood and Christmas tree permits to individuals who desire them.

The NNF&G develops new releases and stories on a variety of topics to local media markets. Forests and Grasslands employees are active in community groups such as the local Chamber of Commerce, tourism committees, economic development boards and a variety of other community based groups.

MISCELLANEOUS PRODUCTS 1

To what extent is the demand for miscellaneous products being met?

Monitoring Type: Effectiveness

Frequency of Reporting: 5 years

Permits for Christmas trees, fuel wood and other miscellaneous forest products are sold as they are requested. Annually determine where miscellaneous products could come from on the districts. Continue to provide the public with opportunities to collect Christmas trees, fuel wood and other miscellaneous forest products. Continue to analyze the data collected.

SCENERY 1

To what extent have scenery management objectives been met?

Monitoring Type: Effectiveness

Frequency of Reporting: 5 years

No area specific monitoring of scenery management objectives has been conducted. However, impacts to scenic integrity objectives are considered in the environmental document completed for any projects on the forests and grasslands.



T&E

Are actions identified in national recovery plans for threatened and endangered species being implemented where opportunities exist on national grasslands and forests?

Monitoring Type: Implementation
Frequency of Reporting: Annually

Black-footed Ferret. National recovery plans have been prepared for each of the threatened and endangered species occurring on the national grasslands and forests. The recovery plans for the black-footed ferret, western prairie fringed orchid, American burying beetle, and blowout penstemon has specific action items that could be applied to the national grasslands and forests in the planning area. These lands can play a significant role in the recovery of these species.

The black-footed ferret/prairie dog management occurring on the Wall Ranger District, specifically the Conata Basin/Badlands reintroduction area continues to support the overall national recovery efforts in spite of the sylvatic plague outbreak of 2008.

The Conata Basin black-footed ferret reintroduction site is one of 19 that can be found throughout the Great Plains, Canada and Mexico. Black-footed ferrets were first released in the Conata Basin in 1996; this area is home to one of the few self-sustaining populations across all the reintroduction sites.

A revised black footed ferret recovery plan is under review at this time but under the current plan the Wall Ranger District is implementing actions to support ferret recovery. Specific items outlined in the plan that are being addressed include:

1. The Conata Basin is home to one of the largest populations of black-footed ferrets that contribute to the overall success of the program and delisting goals.
2. Managing prairie dog populations and distributions for black-footed ferrets.
3. Managing and surveying for plague.
4. Education through talks and National Grasslands Visitors Center display.
5. Monitoring ferrets to include annual census surveys and refining existing population models.
6. Providing wild-born black-footed ferrets for translocation to other sites.
7. Enforcing all laws protecting established populations.

Nebraska National Forests and Grasslands Monitoring and Evaluation Report

8. Conata Basin has served as a destination for researches and much of what we know about black-footed ferrets was through research conducted in the Basin since 1996. Research items of note include black-footed ferret habitat selection, movements, dispersal, prairie dog interactions and plague.

Blowout penstemon. Blowout penstemon can only be found in the Sandhills of Nebraska and a population in Wyoming. The NNFG is playing a large part in the recovery of the penstemon because of its administered land units in the Sandhills (Nebraska National Forest – Bessey Unit and the Samuel R. McKelvie National Forest). Both exhibit sandhill blowouts which is the only habitat where blowout penstemon occurs. The NNFG has developed the “Conservation Strategy and Management Plan for the Blowout Penstemon” that specifically takes into account specific management direction from the national recovery plan and recent Five Year Review published by the Fish & Wildlife Service. The Bessey Nursery, primarily for commercial tree growers, has taken measures to dedicate some nursery space for the propagation of blowout penstemon seed to eventually be translocated to NNFG lands as well as other Sandhill sites (i.e. Crescent Lake National Wildlife Refuge).

OUTPUTS

Are the projected annual outputs and services being met annually and at anticipated costs?

Monitoring Type: Implementation
Frequency of Reporting: Annually

There is no correlation between the outputs identified in the LRMP to the methods of accomplishment reporting conducted by the Nebraska National Forests and Grasslands for annual reporting. The Forest Service no longer utilizes the Management Attainment Report (MAR) reporting system. Currently, the Forest Service utilizes a variety of methods and databases to report annual accomplishments.

WILDLIFE

How do residual cover levels measured in the fall relate to nesting cover levels the following spring?

Monitoring Type: Validation
Frequency of Reporting: 5 Year

Visual obstruction readings (VOR) and stubble heights of residual cover are commonly made in the fall after livestock grazing, and this information is then used to predict the nesting cover suitability in the same area the following spring for prairie grouse and other ground-nesting birds. This monitoring is needed to assess the accuracy of these predictions. At the time of the LRMP 2001 Revision, visual obstruction readings (VOR) were conducted in the fall of the year across the planning unit. Fall readings were converted to spring VOR readings using a formula created by the NNFG employees for the Fort Pierre National Grassland. This applied formula provided an idea of what the potential spring nesting may look like; given a relatively mild winter. The Fort Pierre Ranger District conducted spring VOR comparisons in 2008 through 2011. The spring field results were very close to the formula calculations. Fort Pierre continues to conduct fall VOR monitoring, while other Districts (Bessey, Fall River and Pine Ridge) have opted to conduct VORs in the spring and eliminating the need for Fall to Spring conversions.

WILDLIFE

Are oil and gas stipulations effective, inadequate, or excessive in protecting and conserving raptors, prairie grouse, mountain plover, black-footed ferrets, bighorn sheep, and other wildlife species and their habitats?

Monitoring Type: Validation
Frequency of Reporting: 5 Years

Development, management, and recreational activities can have significant impacts on fish and wildlife. Negative impacts are avoided or lessened through the use of stipulations.

Most oil and gas leasing activities have occurred on the Fall River Ranger District. Approximately 40 leases are administered. The implementation of oil and gas stipulations has proven to be adequate. Issues arise when violations of these stipulations occur. These violations are handled and coordinated with the BLM and US Fish and Wildlife Service officials.

MIS

Are the selected management indicator species and their response to management activities in habitats on local NFS lands adequately representing the management effects on other species in the associated response guilds and is the species membership identified for each response guild reasonably accurate and complete?

Monitoring Type: Validation
Frequency of Reporting: 5 Years

The selected management indicator species for the Nebraska National Forests and Grasslands' LRMP continue to adequately represent the management effects on the associated species guild.

Population and reproduction data for sharp-tailed grouse and Greater prairie chicken appear to be stable and/or increasing across the administrative units. Fort Pierre National Grassland has seen an increase in prairie grouse numbers over the last several years. The Sandhill units have seen stable numbers reflected by the grouse harvest data.

The Buffalo Gap National Grassland (East) has two management indicator species on the Wall Ranger District, the black-tailed prairie dog for shortgrass dependent species and sharp-tailed grouse for medium-to-tall vegetation dependent species. These two species appear to be good indicators for the majority of other species found across the District. The only locations we find sharp-tailed grouse are in areas with good height and density of grass, they are very dependent on this type of habitat and if it is not there, you won't find grouse.

Prairie dogs are an excellent surrogate for shortgrass and burrow dependent species such as burrowing owls, black-footed ferrets and even swift fox seem to be found in higher concentrations in the Conata Basin compared to other non-prairie dog areas of the District.

The Buffalo Gap NG (West) has populations of sharp-tailed grouse that fluctuate with the amount of precipitation received. Greater precipitation results in higher cover which will produce more sharp-tails. During drought periods the populations decrease. The Oglala National Grassland continues to exhibit minimal numbers of sharp-tailed grouse due to its marginal habitat for grouse. These populations appear to support the effectiveness of these grassland obligate species as MIS.

The Buffalo Gap NG (West), specifically the Fall River West Geographic Area has exhibited marginal sage brush habitat. Also in 2011 and 2012 a large portion of the sagebrush habitat was lost to wild fire. Greater sage grouse populations have been only incidental to none over the last several years due to an earlier suspected West Nile virus outbreak in about 2002. Because of the lack of greater sage grouse populations, it may warrant the NNFG to consider a LRMP amendment designating a different species that could represent the sage brush community and associated species guild.

Black-tailed prairie dog populations across all units except the Buffalo Gap National Grasslands appear to be stable. Populations are above where they were since the implementation of the LRMP. The Buffalo Gap NG has experienced sylvatic plague and has reduced prairie dog numbers significantly especially at the Conata Basin area. Nonetheless, the black-tailed prairie dog continues to serve the short grass/prairie dog community-type habitats well.

The pygmy nuthatch can be found throughout the Pine Ridge. Unfortunately, only absence/presence surveys have been conducted. No site-specific population surveys have been implemented to date. Regardless, the pygmy nuthatch is still considered as species that will demonstrate management effects across the ponderosa pine escarpment of the Pine Ridge geographic area.

The species membership identified in each response guild continues to be accurate and no need for updates is recommended

MONITORING TEAM

For more information about this *Monitoring and Evaluation* report, call the Nebraska National Forests and Grasslands at: (308) 432-0300 to contact the appropriate team member.

NAME	RESOURCE AREAS
Carla Loop	Environmental Coordinator
Jeff Abegglen	Wildlife Program Manager
Mark Lane	Range Program Manager
Lisa Heiser	Recreation Program Manager
Matt Lucas	Forest Hydrology
Geri Mason	GIS Coordinator
Vacant	Forest Silviculturist

RESPONSIBLE OFFICIALS

For more information about the Nebraska National Forests and Grasslands contact the appropriate responsible official.

NAME & TITLE	ADDRESS	TELEPHONE
Jane Darnell Nebraska National Forests and Grasslands Supervisor	125 N Main Street Chadron, NE 69337	(308) 432-0300
Steve Lenzo Nebraska National Forests and Grasslands Deputy Supervisor	125 N Main Street Chadron, NE 69337	(308) 432-0300
John Griesinger Pine Ridge Ranger District District Ranger	125 N Main Street Chadron, NE 69337	(308) 432-0300
Timothy Buskirk Bessey Ranger District District Ranger	40637 River Loop/PO Box 39 Halsey, NE 69142	(308) 533-2257
Richard Gilbert Bessey Nursery Nursery Manager	40637 River Loop/PO Box 39 Halsey, NE 69142	(308) 533-2257
Mike McNeill Fall River Ranger District District Ranger	1801 Hwy 19 Truck Bypass Box 732 Hot Springs, SD 57747	(605) 745-4107
Alan Anderson Wall Ranger District District Ranger	708 Main Street/PO Box 425 Wall, SD 57790	(605) 279-2125
Ruben Leal Ft. Pierre Ranger District District Ranger	1020 North Deadwood Street Ft. Pierre, SD 57532	(605) 224-5517

APPROVAL

I have reviewed this *Monitoring and Evaluation Report* for fiscal year 2011. This report meets the intent of the Land and Resource Management Plan 2001 Revision Nebraska National Forest and Associated Units, Chapter 4, and 36 CFR 219.

This report is approved.

/s/ Jane D. Darnell

1/22/2013

JANE D. DARNELL

Date