

MONITORING STRATEGY

The monitoring strategy contains all the relevant Land & Resource Management Plan monitoring called for by the monitoring drivers. The available monitoring budget will in all likelihood require a significantly smaller monitoring program in any given year than the table below presents. It is the monitoring items not the monitoring questions that are the major cost factor. The monitoring item initiates the data collection and a single monitoring item may answer several monitoring questions. Cooperators can greatly expand the annual monitoring program and stretch a Forest or Grassland's available monitoring budget many fold.

In almost all cases, it will be necessary for the Forest/Grassland Leadership Team in conjunction with the Monitoring ID team to prioritize what will be monitored in any given year based on the monitoring drivers, monitoring priorities, the accomplishments of the previous year's monitoring, and the urgency of a monitoring question.

<i>Monitoring Driver</i>	<i>Monitoring Question</i>	<i>Monitoring Priority</i>	<i>Potential Monitoring Items</i>	<i>Precision & Reliability</i>	<i>Scale</i>	<i>Frequency of Reporting</i>
<i>Effectiveness Monitoring</i>						
Goal 1.a Objective 2, 3	Riparian 1: To what extent are perennial streams in proper functioning condition and riparian areas and wooded draws regenerating?	Likely to affect.	Miles & location of perennial streams not meeting, making measurable progress towards, or meeting proper functioning condition. Percent of riparian areas and wooded draws that are regenerating or making measurable progress towards regeneration.	A	Geographic	Five years
Notes: Livestock grazing, mining, timber harvesting and other management activities can affect riparian area recovery and condition. The monitoring items address the physical characteristics of drainages and watersheds and whether shrubs and trees are regenerating as evidenced by stand replacement.						
Goal 1.a Objective 1	Soil 1: To what extent have soils eroded or disturbed by Forest Service management or permitted activities been restored?	Likely to affect.	Acres & location of soils eroded, disturbed, or restored by Forest Service management or permitted activities.	B	Geographic	Five years

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Notes: Livestock grazing, mining, timber harvesting and other ground disturbing activities can affect soil condition.						
Goal 1.a Objective 1	Watershed 1: To what extent has water quality condition on watersheds containing National Forest System lands been restored, maintained or improved?	Likely to affect.	Sixth level watersheds in Condition Class I, II, & III	A	Geographic	Five years
Notes: Livestock grazing, mining, timber harvesting or ground disturbing activities can affect watershed condition.						
Goal 1.a Objective 1	Watershed 2: To what extent have waterbodies on National Forest System lands that have been degraded by Forest Service permitted or management actions been restored?	Likely to affect.	Number of degraded versus total water bodies on National Forest System Lands.	B	Geographic	Five years
Notes: Livestock grazing, mining, timber harvesting or ground disturbing activities can affect waterbody condition.						
Goal 1.a Objective 4	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?	Great consequences	Name and location of streams & rivers having high resource values and the extent instream flows are maintained or improved. Incidents of damaging low stream flows.	A	Geographic	Five years
Notes: Fisheries and the ecosystem supporting them can be destroyed if water is not available.						

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Goal 1.a Objective 5	Watershed 4: To what extent have surface water, sub-surface flows, and aquifers been protected from contamination from abandoned wells.	Likely to affect.	Number of abandoned wells properly plugged vs. number not properly plugged, Incidents of aquifer cross contamination.	B	Administrative unit wide	Annually
Notes: It is important to prevent aquifer contamination from Forest Service management actions.						
Legal: 36 CFR 219.19(a)(6); 36 CFR 219.20; 36 CFR 219.27(5 and 6); Goal 1.b Objectives 2 & 6	MIS 1: What is the potential habitat capability for each management indicator species?	High condition disparity; Viability, Great consequences; Key issue	Acres and distribution of potential habitat	A	Geographic area wide	Ten years
Notes: Selected management indicator species 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 NFMA. Reference areas may be needed to determine potential habitat capability for some management indicator species. .						
Legal: 36 CFR 219.19(a)(6); 36 CFR 219.20; 36 CFR 219.27(5 and 6); Goal 1.b Objectives 2 & 6	MIS 2: What is the current habitat suitability for each management indicator species?	High condition disparity; MIS for key issue (grassland vegetation conditions)	Current condition and trend of key habitats for each Management Indicator Species; Habitat suitability evaluation ratings	A	Geographic area wide	Five years
Notes: Evaluating the current condition and trend of key habitats for each management indicator species is a regulatory requirement under NFMA. Monitoring of MIS habitat is a high priority						

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Legal: 36 CFR 219.19(a)(6); 36 CFR 219.20; 36 CFR 219.27(5 and 6); Goal 1.b Objectives 2 & 6	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?	High condition disparity; Viability, Great consequences; Key issue	Long-term population trends; Habitat suitability evaluation ratings	A	Geographic area wide	Five years
Notes: Determining long-term populations trends for each management indicator species is a regulatory requirement under NFMA. The relationships between long-term trend and changes in habitat quality and quantity as a result of management activities also needs to be evaluated. Monitoring of MIS populations and habitat is a high priority						
USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(6); Goal 1.b Objectives 1, 2, 4 & 7	T&E 1: To what extent are NFS lands and their management contributing to the recovery and viability of black-footed ferrets?	Key issue (recovery and viability); Great consequences	Number of ferrets released; Survival, Dispersal and reproduction statistics; Population trend; Habitat suitability/capability evaluation ratings. (See also T&E: under Implementation Monitoring)	A	Geographic areas: Wall Southwest; Fall River Southeast; Broken Hills; Cellars Rosecran	Annually
Notes: The black-footed ferret is endangered. A recovery plan has been prepared and the Forest Service is implementing recovery actions identified in the plan on the National Grasslands. National Grasslands can play a significant role in the recovery of this species. Monitoring of black-footed ferret populations and habitat is a high priority.						

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USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(5); Goal 1.b Objectives 1, 2, 4, 7, & 9	T&E 2: To what extent are NFS lands and their management contributing to the recovery and viability of blowout penstemon?	Key issue (recovery and viability); Great consequences	Populations; Number of plants transplanted; Survival and reproduction statistics; Evidence of seed set and reproduction; Distribution (See also T&E: under Implementation Monitoring)	A	Geographic Areas: Bessey and McKelvie	Annually

Notes: Blowout Penstemon is a threatened plant species mostly restricted to the Nebraska Sand Hills. A recovery plan has been prepared and the Forest Service is implementing recovery actions identified in the plan on the Nebraska National Forest. Additional recovery opportunities occur on the Samuel R. McKelvie National Forest. Stock for introductions in suitable habitat is produced in greenhouses at the University of Nebraska. Monitoring of blowout penstemon populations and habitat is a high priority.

Migratory Bird Treaty Act; Bald and Golden Eagle Protection Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(6); Goal 1.b Objectives 1, 2, 4 & 7	T&E 3: To what extent are NFS lands and their management contributing to the recovery and viability of bald eagle?	Key issue (recovery and viability); Great consequences	Number of nesting attempts; Statistics on nest success; Number of roost sites; Habitat suitability/capability evaluation ratings (See also T&E: under Implementation Monitoring)	A	Administrative unit wide	Annually
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<p>Notes: The bald eagle is a threatened species that uses isolated trees, pine forests and riparian woodlands primarily for roosting. As populations recover, an increasing number of eagle pairs are being observed in the planning area and future successful nesting is anticipated on some of the national grasslands and forests. Wintering and migrating bald eagles are also seen hunting over prairie dog colonies. A recovery plan has been prepared. Conservation measures on the national grasslands and forests primarily consists of managing for regeneration of woodlands, reducing disturbances and developments in bald eagle habitat, and expanding prairie dog populations. Monitoring of bald eagle populations, nesting attempts and habitat is a high priority.</p>						
USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(6); Goal 1.b Objectives 1, 2, 4 & 7	T&E 4: To what extent are NFS lands and their management contributing to the recovery and viability of the American burying beetle?	Key issue (recovery and viability); Great consequences	Documentation of observations. (See also T&E: under Implementation Monitoring)	A	Geographic Areas: Bessey and McKelvie	Annually
<p>Notes: American burying beetle is an endangered invertebrate that occurs on the Nebraska National Forest and is expected to occur on the Samuel R. McKelvie National Forest. A recovery plan has been prepared. Unfortunately, information on the important habitat relationships in this part of the species range and how land uses influence the species is limited. Management at this time on NFS lands is limited mostly to inventory to document the species abundance and distribution. However, based on information in the recovery plan, management to increase and maintain prairie grouse species, a favored carrion source, may be beneficial but this is still highly speculative. Monitoring to determine the distribution, relative abundance and preferred habitats of this species is a high priority.</p>						

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Migratory Bird Treaty Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(6); Goal 1.b Objectives 1, 2, 4 and 7	T&E 5: To what extent are NFS lands and their management contributing to the recovery and viability of whooping crane?	Key issue (recovery and viability); Great consequences	Documentation of observations. (See also T&E: under Implementation Monitoring)	A	Administrative unit wide	Annually

Notes: The whooping crane is an endangered species and a recovery plan has been prepared. However, whooping crane use of the national grasslands and forests is rare, incidental and unpredictable. Monitoring is limited to documenting observations.

Migratory Bird Treaty Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(6); Goal 1.b Objectives 1, 2, 4 & 7	T&E 6: To What Extent are NFS Lands and Their Management Contributing to the Recovery and Viability of Mountain Plover?	Key Issue (recovery and viability); Great consequences	Populations; Distribution; Acres of habitat improvement; Reintroductions; Survival, Dispersal and reproduction statistics; Habitat suitability/capability evaluation ratings. (See also T&E: under Implementation Monitoring)	A	Geographic Areas: Oglala; Fall River Southeast; & Fall River West	Annually
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Notes: Mountain plover is proposed as a threatened species for protection under ESA. It occurs on the Thunder Basin National Grassland and potential habitat may occur on the Oglala and Buffalo Gap National Grasslands. A recovery plan has not been prepared for the species but interim conservation measures have been developed through consultation with U.S. Fish and Wildlife Service. Nesting and brooding habitat for this species consists primarily of prairie dog colonies and heavily grazed or recently burned grasslands. Conservation measures primarily involve expanding and maintaining prairie dog populations, livestock grazing management, prescribed burning and managing disturbances and development in nesting and brooding habitat. Monitoring of mountain plover populations and habitat is a high priority.

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USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(5); Goal 1.b Objectives 1, 2, 4, 6, 7, & 9	T&E 7: Does Ute ladies' tresses or potential habitat for the species and viability); Great occur on the NFS lands within the consequences planning area?	Key Issue (recovery or potential habitat for the species and viability); Great consequences	Documentation of inventory results. Acres inventoried using target survey protocols; Acres of potential habitat; Acres of occupied habitat (See also T&E: under Implementation Monitoring)	A	Geographic Areas: Fall River Southeast, West and Northeast	Annually
Notes: This species is a threatened species, and a draft recovery plan has been prepared. The occurrence of this species on the Buffalo Gap National Grassland has not been documented. If this species or potential habitat is found on these areas, FS will consult with U.S. Fish and Wildlife Service for additional guidance. Inventories to determine if the species or potential and suitable habitat exists on the national grasslands are a high priority.						
Migratory Bird Treaty Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(5 & 6); Goal 1.b Objective 2, 3, 4, 7, 8 & 9	Viability 1: To what extent are National Forest System Lands and their management contributing to the viability of sensitive plant and animal species that are generally found in grassland and sagebrush habitats?	Key issue (Viability); Great consequences	Populations; Distribution; Reintroductions; Transplants; Survival, Dispersal and reproduction statistics; Acres of habitat improvement; Grassland plant composition and vegetation structure accomplishments; habitat suitability evaluation ratings for MIS	A	Administrative unit wide	Five years
Notes: 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 of populations and habitats of those sensitive species that are endemic or at higher risk (outcomes 3 through 6) is a high priority.						

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Migratory Bird Treaty Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(5 & 6); Goal 1.b Objective 2, 3, 4, 7, 8 & 9	Viability 2: To what extent are National Forest System Lands and their management contributing to the viability of sensitive plant and animal species that are generally found in riparian and wetland habitats?	Key issue (Viability); Great consequences	Populations; Distribution; Reintroductions; Transplants; Survival, Dispersal and reproduction statistics; Acres of habitat improvement; Reintroductions; Transplants, Survival and reproduction statistics; Groundwater levels; Riparian and woody regeneration accomplishments; Wetlands vegetation/habitat management accomplishments; Water management accomplishments	A	Administrative unit wide	Five years
Notes: 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 of populations and habitats of those sensitive species that are endemic or at higher risk (outcomes 3 through 6) is a high priority.						
USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(5 & 6); Goal 1.b Objectives 2, 3, 4, 7, 8 & 9	Viability 3: To what extent are National Forest System Lands and their management contributing to the viability of sensitive plant and animal species that are found in aquatic habitats?	Key issue (viability); Great consequences	Populations: Relative abundance; Distribution; In-stream flow	A	Administrative unit wide	Five years
Notes: Some of the species that could be influenced by management activities or land uses include: flathead chub and northern leopard frog. Monitoring of populations and habitats of those sensitive species that are endemic or at higher risk (outcomes 3 through 6) is a high priority.						

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Migratory Bird Treaty Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(5 & 6); Goal 1.b Objective 2, 3, 4, 7, 8 & 9	Viability 4: To what extent are National Forest System Lands and their management contributing to the viability of sensitive plant and animal species that are generally found in forested habitats?	Key issue (Viability); Great consequences	Populations; Distribution; Acres of habitat improvement; Snag statistics; Forest vegetation/habitat management accomplishments; habitat suitability evaluation ratings for MIS	A	Administrative unit wide	Five years
Notes: 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 of populations and habitats of those sensitive species that are endemic or at higher risk (outcomes 3 through 6) is a high priority.						
Migratory Bird Treaty Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(6); Goal 1.b Objective 2, 3, 4, 7, 8 & 9	Viability 5: To what extent are National Forest System Lands and their management contributing to the viability of sensitive animal species that are heavily dependent on prairie dog colony habitat?	Key issue (viability); Great consequences	Populations; Distribution; Reintroductions; Survival, Dispersal and reproduction statistics; Prairie dog colony statistics; habitat suitability evaluation ratings for MIS	A	Administrative unit wide	Five years
Notes: 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 of populations and habitats of those sensitive species that are endemic or at higher risk (outcomes 3 through 6) is a high priority.						

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Migratory Bird Treaty Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.27(5 & 6); Goal 1.b Objective 2, 3, 4, 7, 8 & 9	Viability 6: To what extent are National Forest System 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?	Key issue (viability); Great consequences	Populations; Distribution; Reintroductions; Transplants; Survival, Dispersal and reproduction statistics; vegetation/habitat management accomplishments	A	Administrative unit wide	Five years
Notes: 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 of populations and habitats of those sensitive species that are endemic or at higher risk (outcomes 3 through 6) is a high priority.						
36 CFR 219.19 and 219.27(6); Goal 1.b	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.	Key issue (viability and biological diversity); Legal issue; Great consequences	Number of conflict situations resolved; Additional acres of potential or current prairie dog habitat under federal ownership or cooperative agreements	A	Geographic areas: Oglala; Fort Pierre;	Five years
Notes: 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.						
36 CFR 219.20; Management Areas 3.58 & 3.51	Wildlife 1: Is habitat effectiveness on designated big game range being maintained or enhanced?	Recreational and economic issue and cooperative program with state wildlife agencies	Habitat effectiveness evaluations	A	MA 3..51	Five years

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<p>Notes: 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.</p>						
Legal 36 CFR 219.7(f); Goal 1.c Objective 5, Goal 4.b Public & Organizational Relations Objectives 2	Community Relations 1: To what extent are noxious weeds, invasive species, and animal damage spreading from National Forest System lands to other ownerships or from lands managed by other government agencies to National Forest System lands?	Key issue;	Acres of noxious weeds spreading to or from other ownerships; Acres of prairie dogs spreading to or from other ownerships; Instances of insect infestations spreading to or from other ownerships.	B	Geographic	Five years
<p>Notes: When unwanted plants and animals spread from NFS lands to other lands this places an economic hardship on the landowner to control the spread which can be a key issue with affected land owners.</p>						
Legal 36 CFR 219.12(k)5(iv); Goal 1c Objective 5	Damage Control 1: To what extent are destructive insect and disease outbreaks prevented following management activities? (See also Community 1)	Key issue; Great consequences	Acres & number of outbreaks. Distance to and age of nearest management activity.	A	Geographic	Five years
<p>Notes: Destructive insect and disease outbreaks can cause a great deal of property & resource damage. Prevention promotes healthy ecosystems.</p>						
Goal 1.c Objective 5, Goal 4.b Public & Organizational Relations Objectives 2	Damage Control 2: To what extent are noxious weeds, invasive species, and animal damage expanding or being reduced?	Likely to affect; Great consequences; Key issue.	Species, Location, and acres of noxious weeds, Invasive species, and animal damage.	A	Geographic	Five years

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Notes: Management activities can spread or control noxious weeds, early detection is the most economical and sure way of controlling outbreaks, noxious weed control is a key issue.						
Goal 1.c Objective 1; Goal 2.c Wildlife, Fish, & Plant Use Objective 2	Vegetation 1: To what extent are rangeland vegetation structure objectives being met?	Likely to affect; Great consequences.	Location & percent of rangeland area meeting, Making measurable progress towards, or Not meeting desired vegetation structure	A	Geographic	Five years
Notes: 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, timing and duration of grazing by livestock, wildlife and other factors such as fire, annual weather patterns, and plant species composition. (Benkobi et al, 2000 & Benkobi, 1999)						
Goal 1.c Objective 1; Goal 2.c Wildlife, Fish, & Plant Use Objective 2	Vegetation 2: To what extent are rangeland vegetation composition objectives being met?	Likely to affect; Great consequences.	Location & percent of rangelands meeting, Making measurable progress towards, or Not meeting desired vegetation composition.	A	Geographic	Five years
Notes: 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..						
Goal 1.c Objective 1; Goal 2.c Wildlife, Fish, & Plant Use Objective 2	Vegetation 3: To what extent are desired vegetation conditions in forested areas being met?	Likely to affect; Great consequences.	Location & percent of forested lands meeting, Making measurable progress towards, or Not meeting desired structural stages	A	Geographic area: Pine Ridge, Oglala	Five years

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Notes: The mosaic of structural stages in forests helps determine the diversity of native plants and animals occurring in an area. Fire and timber management largely determine the mix of structural stages.						
Goal 1.c Objective 1; Goal 2.c Wildlife, Fish, & Plant Use Objective 2	Vegetation 4: To what extent are desired vegetation conditions in wetlands being met?	Likely to affect; Great consequences.	Location & percent of wetlands meeting, Making measurable progress towards, or Not meeting desired structural stages	A	Administrative unit wide	Five years
Notes: The amount of development of shoreline and emergent vegetation around wetlands helps determine the suitability of these areas as habitat for a variety of wildlife species. The frequency, intensity, timing and duration of livestock grazing are key factors in determining the amount of shoreline and emergent vegetation in many constructed or natural wetlands.						
Goal 2.a Objective 1, 7	Recreation 1: To what extent are trails managed to meet regional standards and to minimize conflicts among users..	Great consequences	Location and miles of trails meeting and not meeting regional standards. Reports of conflicts among users.	B	District	Annually
Notes: An understanding of trail conditions is needed in order to obtain funding and schedule the work needed to bring trails up to standard. A trail in poor condition causes erosion and is a safety hazard.						
Goal 2.a Objective 4 & 6	Recreation 2: Where does the demand for recreation opportunities warrant development of additional opportunities such as trails or campgrounds?	Great consequences	Customer survey and individual public contacts. Name of facility, location, and time existing use exceeds capacity.	B	District	Five years
Notes: An understanding of the demand for recreation opportunities is needed to efficiently use available funding to develop new recreation facilities or programs and satisfy public demand for recreation opportunities.						

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Legal - National Historic Preservation Act; Goal 2.a Objectives 2, 3, & 4, Goal 2b Heritage Objectives 2 & 5, Goal 2c Geologic and Paleontologic Resources Objective 3 & Wildlife, Fish & Plant Use Objective 1, Goal 4a Objective 2	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?	Key issue	Customer survey and individual contacts with grassland and forest visitors and adjacent landowners.	B	District	Five years
Notes: People like to have directional signs to guide them to their destination. Private landowners appreciate it when visitors do not trespass on their land. Interpretive information further enhances the National Grassland or Forest experience.						
36 CFR 219.21 (g) 36 CFR 295.2 & 5 Goal 2.a & 4.a	Travel and Access 1: What are the effects of vehicle use off roads?	Key issue	Number and location of off-road vehicle caused incidents of erosion and new unauthorized roads. Acres of ineffective wildlife habitat due to off-road vehicle use.	B	District	Two years
Notes: NFMA requirement to assess the potential effects of vehicle use off roads prior to classifying areas and trails for off-road vehicle use. Monitoring will provide information for the travel management plan to be prepared within five years after record of decision is signed.						

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Legal - National Historic Preservation Act; Goal 2.b Heritage Objectives 2 & 5	Heritage 1: To what extent are National Register sites and districts being protected and preserved?	Great consequences	Condition of each site, incidents of vandalism.	B	Site or District	Five years
Notes: An understanding of site or district conditions is needed in order to obtain funding and schedule the work needed to bring these sites up to standard. Restoration is less expensive if acted upon as early as possible.						
Goal 2.b Heritage Objective 3	Heritage 2: To what extent are traditional cultural properties being protected?	Likely to affect	Condition of each site, incidents of vandalism or disruption of the use of traditional cultural properties.	B	Geographic	Five years
Notes: Management activities may affect the usefulness of traditional cultural properties						
Goal 2.b	Special Interest Areas: To what extent have the special features found Special Interest Areas been conserved or enhanced?	Great consequences	Condition of features / communities	B	Area specific	Five years
Notes: An understanding of the condition and trend of the features or communities that lead to protecting 2.1a thru 2.1m in Chapter 3, pages 3-13 thru 3-16 is needed so management action can be taken to preserve or enhance Special Interest Areas.						
Goal 2.b	Research Natural Areas: To what extent have the unique research features of Research Natural Areas been conserved or enhanced?	Great consequences	Condition of features / communities	B	Area specific	Five years

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Notes: An understanding of the condition and trend of the features or communities that lead to protecting the Tree Farm and Signal Hill Research Natural Areas needed so management action can be taken to preserve or enhance Research Natural Areas.						
Goal 2.b	Wilderness: To what extent are the Soldier Creek Wilderness special features and communities of special concern conserved or enhanced?	Great consequences	Condition of features / communities	B	Area specific	Five years
Notes: An understanding of the condition and trend of Soldier Creek Wilderness features is needed so management action can be taken to preserve the wilderness features.						
Goal 2.b	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?	Great consequences	Condition of features / communities	B	Area specific	Five years
Notes: An understanding of the condition and trend of the features or communities that lead to recommending the Red Shirt and Indian Creek areas as wilderness is needed so management action can be taken to preserve the wilderness features.						
Legal 36 CFR 219.7(f); Goal 2.c	Community Relations 2: What are the effects of National Forest System Management on adjacent communities?	Key issue; Easily/cost effectively answered	NFS related jobs and income; Community tourism receipts; Federal receipts, Federal revenue sharing with state and local governments.	B	County and community depending on data availability.	Annually
Notes: How NFS management affects local economies is an important public issue. With cooperation from State & Local governments the information can be obtained at a relatively low cost.						

<i>Monitoring Driver</i>	<i>Monitoring Question</i>	<i>Monitoring Priority</i>	<i>Potential Monitoring Items</i>	<i>Precision & Reliability</i>	<i>Scale</i>	<i>Frequency of Reporting</i>
Goal 2.c Miscellaneous Products Objective 1	Miscellaneous Products 1: To what extent is the demand for miscellaneous products being met?	Key issue	Number & kind of miscellaneous permit applications or requests denied	B	District	Five years
Notes: Miscellaneous products are a key issue for the people who use them.						
Goal 2.c Scenery Objective 1	Scenery 1: To what extent have scenery management objectives been met?	Likely to affect	Acres and location of desired versus actual scenery integrity condition.	B	Geographic	Five years
Notes: Management activities can alter the scenic integrity of an area either positively or negatively. For many visitors the condition of the grassland or forest scenery is key to enjoying their experience.						
<i>Implementation Monitoring</i>						
Endangered Species Act; Goal 4b Public and Organizational Relations Objective 2	T&E: Are actions identified in national recovery plans for threatened and endangered species being implemented where opportunities exist on national grasslands and forests?	Key issue (recovery and viability); Great consequences	Type of actions identified in recovery plans that FS is implementing and type of recovery plan actions that could be implemented on national grasslands and forests.	A	T&E recovery areas identified in recovery plans.	Annually
Notes: Recovery plans have been prepared for each of the threatened and endangered species occurring on the national grasslands and forests. The national recovery plans for the black-footed ferret, western prairie fringed orchid, and blowout penstemon have 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.						

<i>Monitoring Driver</i>	<i>Monitoring Question</i>	<i>Monitoring Priority</i>	<i>Potential Monitoring Items</i>	<i>Precision & Reliability</i>	<i>Scale</i>	<i>Frequency of Reporting</i>
Agency Expectations; Public Expectations & Issues. Goal 3 Objectives 1, 2, & 3	Administration: Are the action plans identified in the objectives being completed on schedule?	Likely to affect.	Percent compliance; narrative	B	Administrative unit wide	Annually
Notes: These are the administrative activities such as conduct studies, obtain baseline inventories, complete action plans, or coordinate with outside groups. The administrative activities are necessary to set the stage for successful Land & Resource Management Plan implementation, and failure to conduct administrative activities would likely affect the ability to meet the goals, objectives, and desired future conditions established in the plan.						
Legal: 36 CFR 219.12 (k)	Implementation Monitoring: Have site-specific decisions implement the Land & Resource Management Plan direction?	Likely to affect.	Percent compliance; narrative; As a minimum review all timber sales; 2 AMPs per District; and 1% of other NEPA projects completed for compliance with Land & Resource Management Plan direction.	B	Administrative unit wide	Annually
Notes: The standards and guidelines provide mitigation to help meet the goals and objectives of the Land & Resource Management Plan. Failure to implement the standard and guidelines would likely affect the ability to meet the goals and objectives established in the Plan.						
Legal: 36 CFR 219.12 (k)1 & 3	Outputs: Are the projected annual outputs and services being met annually and at anticipated costs?	Key issue; Easily/cost effectively answered	See annual MAR report	B	Administrative unit wide	Annually

<i>Monitoring Driver</i>	<i>Monitoring Question</i>	<i>Monitoring Priority</i>	<i>Potential Monitoring Items</i>	<i>Precision & Reliability</i>	<i>Scale</i>	<i>Frequency of Reporting</i>
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Notes: Many National Grassland & Forest Users are very interested in projected outputs and services and this is a key issue for them. MAR reporting is required of all National Forest & Grasslands.

Validation Monitoring

Endangered Species Act; USDA Departmental Regulation 9500-4; 36 CFR 219.19 and 219.20Key Issue; Legal: 36 CFR 219.19(a)(6); 36 CFR 219.20; 36 CFR 219.27(5 and 6); Goal 1.b Objectives 2, 4, & 6	Suggested Stocking Rates: Are the suggested stocking rate guidelines (Appendix I) providing the desired levels of vegetation structure and habitat for management indicator species and species at risk?	Great consequences	Height and density of grassland and sagebrush understory vegetation after livestock grazing	A	Administrative unit-wide	Five years
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Notes: As described in Appendix I, stocking rate guidelines for livestock grazing are used to help achieve desired vegetation objectives. These guidelines need to be validated in terms of their ability to provide the desired levels of vegetation structure and quality habitat for management indicator species and species at risk.

36 CFR 219.19 and 219.20	Wildlife: How do residual cover levels measured in the fall relate to nesting cover levels the following spring?	Great consequences	Height and density of grassland and sagebrush understory vegetation in the fall and following spring	A	Administrative unit-wide	Five years
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<i>Monitoring Driver</i>	<i>Monitoring Question</i>	<i>Monitoring Priority</i>	<i>Potential Monitoring Items</i>	<i>Precision & Reliability</i>	<i>Scale</i>	<i>Frequency of Reporting</i>
Notes: 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.						
Endangered Species Act; Migratory Bird Treaty Act; 36 CFR 219.19; Goal 1.b. Objectives 2 & 4	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?	Key issue (viability and biological diversity); Legal issue; Great consequences	Documentation of locations where the stipulations were or appeared to be inadequate	B	Administrative unit-wide	Five years
Notes: Development, management activities and recreational activities can have significant impacts on fish and wildlife. Negative impacts are avoided or lessened through the use of stipulations.						
Legal 36 CFR 219.11 (d); Goal 1.b	MIS: Are the selected management indicator species and their response to management activities in habitats on local National Forest System 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?	Key issue (viability); Legal issue; Great consequences	MIS population and reproduction statistics; Habitat use and availability statistics for MIS and associated species.	A	Administrative unit-wide	Five years