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Forest Service



Nebraska National Forest

Fort Pierre National Grassland

Fort Pierre Ranger District

Travel Analysis Report

2008

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INTRODUCTION

Background

In August 1999, the Washington Office of the United States Department of Agriculture (USDA) Forest Service published Miscellaneous Report FS-643 titled "Roads Analysis: Informing Decisions about Managing the National Forest Transportation System" also known as the Roads Analysis Handbook (USDA 1999). The objective of roads analysis is to provide decision makers with critical information to develop road systems that are safe and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions.

In October 1999, the agency published Interim Directive 7710-99-1 authorizing units to use, as appropriate, the road analysis procedure embodied in FS-643 to assist land managers making major road management decisions. The Rocky Mountain Region of the Forest Service then published a roads analysis guidance document as a supplement to Appendix 1 of FS-643. This document provides guidance concerning the appropriate scale for addressing the roads analysis.

The Fort Pierre National Grassland (FPNG) is developing a Travel Management Plan to implement the revised Nebraska National Forest Land and Resource Plan (2002) and the National Travel Management Rule (November 2005). The Travel Management Plan will restrict motorized use to roads, trails, and areas designated open for motorized use -- a "closed unless designated open" policy. This is a change from Nebraska National Forest/ Fort Pierre National Grassland current management which has allowed motorized use except where specifically prohibited -- an "open unless designated closed" policy.

Travel Management Planning under the 2005 Travel Management Rule requires a Travel Analysis Process, to include not only roads but also trails and areas. Hence, this report refers to the process as Travel Analysis Process rather than earlier Roads Analysis Process. Note, however, that FPNG does not have any official inventoried National Forest System Trails (NFST).

This analysis focuses on all National Forest System Roads (NFSR) on the Fort Pierre National Grassland, as identified in the official Forest Service roads database (Infra). (National Forest System Roads are also commonly referred to as "System" roads.) This analysis also includes other Forest Service roads, existing or planned, considered for inclusion as NFSRs and included in the analysis at the District Ranger's direction. It is the intent of the travel analysis to provide critical information to develop a transportation system that is safe and responsive to public needs and desires, is affordable and efficiently managed, has minimal negative ecological effects to the land, and is in balance with available funding for needed management actions, such as maintenance, improvement, and mitigation.

Process

Travel Analysis follows the sixstep process provided by the Road Analysis Process (RAP) Handbook. The steps are designed to be sequential, but with the understanding the process may require feedback and iteration among steps over time as an analysis matures. The amount of time and effort spent on

each step differs by project, based on specific situations and available information. The process provides a set of possible issues and analysis questions for which the answers can inform choices about road system management. Decision makers and analysts determine the relevance of each question, incorporating public participation as deemed necessary. Project road or travel analyses tiers off Forest Plan direction and forest-wide travel analysis. A forest-wide Roads Analysis, also based on this process, was completed in 2003 for NFSRs maintained and intended for passenger car travel. At the time, however, FPNG did not have any passenger car roads. This project encompasses the entire FPNG (approximately 116,000 acres).

Products

The product of the analysis is a report for decision makers and the public that documents the information and analysis used to identify opportunities and set priorities for National Forest Travel Management. Tables and graphs are included in the report to display analyses and facilitate comparison of roads.

This Report

This report documents the roads analysis procedure used for the Fort Pierre National Grassland Travel Management project. While the Travel Management project was the driver for this Roads Analysis, the process was also used to bolster knowledge and information about the road system, road conditions, access needs, and maintenance needs and priorities by involving key district personnel with extensive knowledge of on-the-ground conditions.

Step 1 – Setting up the Analysis

Geographic Scale – Objective of the Analysis

This analysis is limited to roads and lands under Forest Service jurisdiction serving or within the bounds of the Fort Pierre National Grassland. The FPNG encompasses 116,000 acres in central South Dakota.

The primary objective of this analysis is to help inform travel management planning and an eventual travel management decision for the FPNG by compiling or including the following information:

- Include only roads under Forest Service jurisdiction
- Include all roads currently managed as part of the System
- Include “undetermined” and “unauthorized” roads identified by the District Ranger
- Include private roads for which easement or access needs are likely
- Identification of jurisdictional issues
- Identification of data inconsistencies
- Assessment of resource impacts or potential resource impacts
- Assessment of access needs and use
- Assessment of maintenance and resource protection

Interdisciplinary Team Members

The Interdisciplinary Team (ID Team) members and their resource areas:

Tony DeToy	District Ranger
Tonya Weisbeck	Range
Glen Moravek	Wildlife
Ryan Cumbow	Fire
Kim Earney	Engineering
Keri Hicks	Heritage Resources
Randy Gage	Engineering

Information Needs and Analysis Plan

Current road management information will come from the INFRA database and field knowledge. This data will be correlated with the GIS maps and database to provide a geo-spatial context for discussion and assessment. Technical corrections to the tabular and special data were done through the course of the analysis.

Current resource information came from the Interdisciplinary Team (IDT) members. This includes resource expertise in range, wildlife, fire, recreation, land ownership and jurisdiction, and engineering.

The IDT began the process by reviewing the example issue questions from the RAP Handbook and identifying the relevant issues. The issue groups were Ecosystem Function, Aquatics and Water Quality, Wildlife, Human Uses, and Economics. (Heritage Resources was not included as an issue group since all

additions to the National Forest System Road inventory will require site specific surveys and SHPO clearance.)

The IDT assessed each system road or road segment, described the impacts, and rated the road on a relative scale of 1 to 10 for potential impacts or benefits. Non-system roads of particular importance to permittees, the general public, or to Forest Service administration, as identified through the scoping and public involvement process, were also analyzed.

General management strategies for each road were determined from a strategy matrix that plotted resource risks versus access benefits using a low, medium, and high rating system. General management strategies were then evaluated against individual road specific concerns or opportunities to develop more specific possible management actions for decision by the District Ranger.

Step 2 – Describing the Situation

The Fort Pierre National Grassland encompasses approximately 116,000 acres in central South Dakota. The unit is located south of Pierre, South Dakota, north of Interstate 90, and west of the Lower Brule Indian Reservation. The FPNG exterior boundary includes a large amount of intermingled private land. Topography ranges from flat to gently rolling hills to large drainages with relatively steep slopes, to creeks flowing toward the Bad and Missouri Rivers. Average precipitation is about 20 inches annually, and supports a prairie of mixed grasses.

There are 63 miles of NFSR on the Fort Pierre National Grassland. Of these, 0.1 mile (Road #208-A, the Richland Wildlife Area Parking access) is maintained for passenger car use (maintenance level 3). The remainder of the NFSRs are maintained for High Clearance vehicles (maintenance level 2). There are no maintenance level 4 or 5 roads (passenger car vehicles with emphasis on user comfort and increased speeds), nor are there any maintenance level 1 (closed roads).

Only three NFSRs – 208-A (Richland Wildlife Area access), and 234/234-A (Richland Dam access and parking) have received any gravel surfacing. All other NFSRs are native surface.

There are 52 miles of inventoried non-system roads, and many more miles of mapped but uninventoried roads. The mileages are slightly different in the tabular Infra database and the GIS special component until both databases are reconciled and calibrated.

Most, if not all, the maintenance level 2 roads and all non-system roads are two-track roads, meaning they have become established over time by use and were not constructed, and consist simply of wheel tracks on bare ground. Although not common, some of the level 2 roads have had culverts or other structures installed in them.

Through a special order, the FPNG has been limiting motorized travel to NFSRs from September 1 through November 30 each year. This restriction during the popular hunting seasons was to reduce the potential for vehicle-caused fires, to reduce the impacts on soil resources from increased vehicular traffic, to protect wildlife from harassment, and to reduce conflicts between hunters. This seasonal restriction has been in effect since 1977. Motorized travel on the NFSRs is open year-round, and the NFSRs are the only motorized travel routes available during the seasonal restriction.

Outside of the seasonal restriction period, cross-country motorized travel is permitted on the entire grassland except for two areas – the 320 acre Richland Wildlife Area and the 1,030 acre Mallard South Natural Research Area.

Presently there are no official trails (motorized or non-motorized) on the FPNG. Off-highway vehicles (OHVs) and snowmobiles are not allowed to use NFSRs or travel cross country on the grasslands. Under South Dakota law, NFSRs are open to OHVs that are licensed as motorcycles. If NFSRs are managed in a manner consistent with state law, then a Mixed Use situation (as defined by mixing of non-highway legal and highway legal vehicles) does not exist on the FPNG and mixed use analyses are not required.

Access to the FPNG is provided by US-83, South Dakota Highway 1806, and many county and township board roads. Under South Dakota law, section lines are public rights-of-way and are open to public travel (not necessarily motorized) unless the right-of-way has been officially abandoned. Township boards and counties have jurisdiction. Over the years, many of the section line right-of-ways have become

“abandoned” from lack of use, and in some cases, where the right-of-way is through National Grassland land, the Forest Service has become the road manager by default. This analysis included sorting out jurisdictional issues on these section line roads.

Maintenance of NFSRs on the Fort Pierre National Grassland has historically been fairly minor. This is primarily due to the two-track nature of most of the roads -- there are no prisms, ditches, surfacing, etc., to maintain. There are, however, some cattleguards that need periodic repair or cleaning. A good inventory and assessment of the roads was not available in the past and road managers were not aware of all the issues that District personnel faced concerning these NFSRs. Maintenance is needed in signing to bring the signs to standard. All NFSRs need to have a route number identification marker (generally carsonite posts for level 2 roads) and cattleguards need proper signing (object markers primarily). Furthermore, since most of the roads developed over time due to use, there are some creek crossings, wet spots, and draw crossings that were not designed or constructed. Several of these situations were identified in the road ratings. Some draw crossings or wet areas that are prone to rutting may require relocation or hardening with rock. Additionally, the District mows roads to prevent wildfires from vehicles. Overall, though, maintenance needs on the road system is relatively minor.

Step 3 – Identifying Issues

Relation to Forest Plan

The Land and Resource Management Plan (“Forest Plan”) for the Nebraska National Forest provides overall direction for the management of the units of Nebraska National Forest, including the FPNG. The Forest Plan includes broad goals and objectives as well as specific management area direction. This road analysis tiers off of the Forest Plan so that the issues, opportunities, and access needs will reflect and be consistent with the direction of the Forest Plan.

Identifying Specific Issues

As mentioned under Step 1, the IDT began the process by reviewing the example issue questions from the RAP Handbook and identifying the relevant issues for the Ecosystem Function, Aquatics and Water Quality, Wildlife, Human Uses, and Economics. The Region 2 Supplement was also used in development of the questions for the process. . Heritage Resources was not included as an issue group since all additions to the National Forest System Road inventory will require site specific surveys and SHPO clearance.

The following issue questions were deemed to be relevant:

Table 1 - Issues and Key Questions

Issue: Ecosystem Function
Ecosystem Functions and Processes (EF)
EF-2A. To what degree do the presence, type, and location of roads increase the introduction and spread of exotic plant and animal species, insects, diseases, and parasites? <i>Sickleweed, etc</i>
EF-2B. What are the potential effects of such introductions to plant and animal species and ecosystem function in the area?
EF-4. How does the road system affect ecological disturbance regimes in the area?
Issue: Aquatic, Riparian Zone, and Water Quality
Aquatic, Riparian Zone, and Water Quality (AQ)
AQ-2. How and where does the road system generate surface erosion?
AQ-4. How and where do road-stream crossings influence local stream channels and water quality?
AQ-6A. How and where is the road system “hydrologically connected” to the stream system?
AQ-6B. How do the connections affect water quality and quantity (such as the delivery of sediments and chemicals, thermal increases, and elevated peak flows)?
AQ-7A. What downstream beneficial uses of water exist in the area? <i>Missouri River water source; stock dams</i>
AQ-7B. What changes in uses and demand are expected over time? <i>Increased use</i>
AQ-7C. How are they affected or put at risk by road-derived pollutants? <i>No</i>
AQ-12. How and where does the road system contribute to fishing, poaching, or direct habitat loss for at-risk species?
AQ-13. How and where does the road system facilitate the introduction of non-native aquatic species? <i>Non-native fish</i>

Issue: Wildlife
Terrestrial Wildlife (TW)
TW-1. What are the effects of the road system on terrestrial species habitat? <i>Disturbance by vehicles; antelope, mule deer.</i>
TW-2. How does the road system facilitate human activities that affect habitat? <i>Fishing disturbs duck nesting; vehicular disturbance, greater access.</i>
TW-3A. How does the road system affect legal and illegal human activities (including trapping, hunting, poaching, harassment, road kill, or illegal kill levels)? <i>Greater access for hunting, poaching, etc.</i>
TW-3B. What are the effects on wildlife species? <i>Mortality and disturbance, movement patterns.</i>
Issue: Economics
Economics (EC) (W.O. revisions)
EC-1A (revised). What are the monetary costs associated with the current road system? <i>Low</i>
EC-1B (revised). How do these costs compare to the budgets for management and maintenance of the road system? Especially low budgets? <i>Low</i>
EC-3 (revised). What are the direct economic impacts of the current road system and its management upon communities around the forest? <i>Tourism, hunting, cattle hauling.</i>
Issue: Human Uses
HUMAN USES
Civil Rights and Environmental Justice (CR) (W.O. revisions)
CR-1 (revised). Is the road system used or valued differently by minority, low-income, or disabled populations than by the general population?
CR-1A (revised). Would potential changes to the road system or its management have disproportionate negative impacts on minority, low-income, or disabled populations? <i>Disabled access</i>
COMMODITY PRODUCTION
Range Management (RM)
RM-1. How does the road system affect access to range allotments?
Water Production (WP)
WP-1. How does the road system affect access to, and constructing, maintaining, monitoring, and operating, of diversions, impoundments, and distribution canals, or pipes? <i>Stock dams, rec/wildlife reservoirs, dugouts, municipal waterlines, stock tank waterlines.</i>
Special Use Permits (SU)
SU-1. How does the road system affect managing special-use permit sites (concessionaires, communication sites, utility corridors, and so on)? <i>Comm., water, public water, utilities, weather station.</i>
General Public Transportation (GT)
GT-2. How does the road system connect to large blocks of land in other ownership to public roads (ad hoc communities, subdivisions, in-holdings, and so on)? <i>Access to in-holdings. Are there constraints to public access (needed r/w)?</i>
GT-4. How does the road system address the safety of road users? <i>Is mixed use on system roads appropriate? Which ones? Roads must be operated according to standards but no specific safety issues have been raised.</i>
Criteria: adequacy of design, maintenance, r/w; adequacy of access (management, private land, recreation). Indicators – land ownership; road jurisdiction, access map, accident locations.
Administrative Use (AU) – None
Protection (PT)
PT-1. How does the road system affect fuels management? <i>Keeps people on access route, reduces ignition potential.</i>

RECREATION
Unroaded/ Non-motorized Recreation (UR)
UR-5. What are these participants' attachments to the area, how strong are their feelings, and are alternative opportunities and locations available?
Road Related Recreation (RR)
RR-5. What are these participants' attachments to the area, how strong are their feeling, and are alternative opportunities and locations available?
Social Values (SI) (W.O. revisions)
SI-1A. Who are the direct users of the road system and of the surrounding areas? (i.e., hunters, fishers, ice fishers, birdwatchers, ranchers.)
SI-1B. What activities are they directly participating in?
SI-1C. Where are these activities taking place?
SI-2A. Why do people value their specific access to national forest and grasslands -- what opportunities does access provide? <i>Open Space, less costly.</i>
SI-2B. What opportunities does access provide? <i>Hunting, fishing, ice fishing, birdwatching. Need for additional access points to ponds. Poaching increases with access, fishing pressure increases on ponds that have access.</i>
SI-3. What are the broader social and economic benefits and costs of the current forest road system and its management?
SI-4. How does the road system and road management contribute to or affect people's sense of place?
SI-5 What are the current conflicts between users, uses, and values (if any) associated with the road system and road management? <i>Public leaving gates open.</i>
SI-5A. Are these conflicts likely to change in the future with changes in local population, community growth, recreational use, resource developments?
Other Questions to expand the analysis to Travel Analysis
Given that cross-country motorized travel will generally be prohibited, is there a need for more motorized routes? If so, what types? <i>Some of the above issue questions might need to be included for motorized trails (i.e. aquatics, wildlife protection).</i>
Is there a need for more non-motorized, non-accessible trails? If so, what types (foot, horse, bike, ski)? <i>Gentle terrain allows this travel without trails.</i>
Access for disabled persons?

Step 4 – Assessing Benefits, Problems, and Risks

Each road was assessed by the IDT. Three different IDT travel analysis road rating meetings were held in 2007, in April, May, and August. If a road had markedly different characteristics along its length, the road was broken into segments and each segment was assessed, then a cumulative ranking assigned. The assessment focused on each issue and respective key questions. Resource problems and risks were assessed under the resource impact areas of Ecosystem Function, Wildlife, and Aquatics/ Water Quality. The benefits of the roads were compiled under the issue Human Use, which describes access needs for resource management, and permittee and recreational use. The Economic issues assessed cost of maintenance as well as trying to provide a perspective of cost in the context of weighing the benefits, problems, and risks. Each road or road segment was assigned a relative rating from 1 to 10 for each issue group. (Individual questions were not rated, but rather one rating was assigned to the group as a composite of the individual questions.) For Ecosystem Function, the rating was heavily influenced by the potential impacts of invasive weeds.

Composite ratings for impacts were derived by taking the average of the individual resource ratings. Since economics became a measure of maintenance cost and not necessarily a benefit, the Human Uses rating was used for the benefit rating. The two composite ratings were “plotted” in the Management Strategies matrix described in Step 5 to come up with general strategies for each road. Then the particular road was evaluated against the management strategies to tailor the possible alternatives and management practices for the road.

The ratings are displayed in *Appendix A – Travel Analysis Summary* for system roads and some non-system roads. *Appendix B – Travel Analysis Worksheets* displays summary information on all roads that were rated including a narrative summary of the resource comments. Both Appendices include Strategy Codes derived from the Rating Matrix (Step 5). *Appendix C – Management Need Summary* notes possible management needs identified for each road during the analysis. *Appendix D – Graphs* displays the ratings from Appendix A in graphic form.

Step 5 – Describing Opportunities and Setting Priorities

This analysis does not provide a single recommendation for each road. Rather, it provides the framework and parameters of reasonable management actions to be considered in developing alternative implementable Travel Management Plans for a decision. The management actions identified are based on the resource impact and human use ratings. The eventual setting of priorities for implementation is facilitated by providing a summary of the analysis in a spreadsheet that can be sorted and/ or filtered such that the relative ratings become relative ranking by desired criteria assessed by the key questions.

Describing Opportunities

The Rating Matrix provides guidance for a range of management activities depending on a road's potential Impact and its benefit or need as assessed in the road analysis process using the average Resource Impact Rating and the Human Need rating. Management activities are:

- Decommission for Low, Medium, or High Impact with Low or Medium Benefits/ Need
- Retain for Low impact and Low, Medium, or High Benefits/ Need
- Retain with very minor mitigations/ management change for roads with Medium Impacts and Low Benefits/ Need
- Retain with minor mitigations/ management change for roads with Medium Impacts and Medium or High Benefits/ Need
- Retain with major management change for roads with High Impacts
- Retain with major mitigation for roads with High Impacts and Medium or High Benefits/ Need

Table 2 - Rating Matrix

		Impacts ¹		
		Low (8-9-10)	Medium (4-5-6-7)	High (0-1-2-3)
Benefits/ Need²	Low (0-1-2-3)	(1) Could get rid of but not hurting much if kept. D, R	(2) Decommission or retain with very minor mitigation; management changes. D, RM/M1	(3) Decommission or retain with major management changes. D, RC3
	Medium (4-5-6-7)	(4) Probably retain but could decommission. D, R	(5) Retain with minor mitigation or management changes, or decommission. D, RM/M2	(6) Decommission or Retain with major mitigation (relocation, reconstruction), or management changes. D, RM3, RC3
	High (8-9-10)	(7) Retain. R	(8) Retain with minor mitigation or management change. RM/M2	(9) Retain with major mitigation (such as relocation, reconstruction) or management changes. RM3, RC3
¹ From average resource impacts rating, the “break-off” values used for the average ratings were 3.5 and 7.5.				
² From human use rating, the “break-off” values used for the average ratings were 3.5 and 7.5.				
³ Activity Code Acronyms:				
D – Decommission		RM3 – Retain with major mitigation		
R – Retain		RC3 – Retain with major management change		
RM/M1 – Retain with very minor mitigation/management change		RM/M2 – Retain with minor mitigation/management change		

The rationale for assigning the management activity (opportunities) identified for each cell in the Rating Matrix are explained below:

- (1) The low cost/ low need “quandary” situation. No harm to retain; no harm to decommission.
- (2) If retained, some mitigation may be necessary. Since need is low, mitigation may not be cost-effective; therefore, decommissioning will probably be common. Management changes could be used to mitigate and retain.
- (3) The “no-brainer” argument for decommissioning, although no-cost or low- cost major management changes might be used to retain.
- (4) Retain and maintain, but not cost-effective to do major reconstruction.
- (5) Could retain and maintain, but will usually need some generally minor mitigation. Mitigation includes possible management changes. Mitigation needs may not be cost-effective, leading to decommissioning.
- (6) Necessary mitigation will generally not be cost-effective, leading to decommissioning. Management changes, however, could allow retention.
- (7) The “no-brainer” argument for retention. The full range of maintenance and reconstruction activities can be used. Mitigation needs are none or minor. Management changes not justified by resource issues.
- (8) Retain; full range of maintenance and reconstruction activities can be used. Mitigation needs are generally minor. Mitigation includes possible management changes.
- (9) Retain; full range of maintenance and reconstruction activities can be used. Mitigation is necessary and could include relocation, reconstruction, and management changes.

Management changes include such things as seasonal closures or requiring washing of vehicles. Development of Road Management Objectives (RMOs) will guide maintenance levels, activities, and maintenance frequencies for all routes once and if retention (or addition) as NFSR or Trails is decided.

Setting Priorities

Priorities can be set by sorting and filtering the spreadsheets in *Appendix A – Travel Analysis Summary* and *Appendix B – Travel Analysis Worksheets* by the desired criteria. All the ratings, including mean impact and highest impact; and the management options listed by their respective activity codes as displayed in Table 2 - Rating Matrix. Graphs showing rating values for each issue are also provided to facilitate road comparison in Appendix D – Travel Analysis Road Rating Graphs. Appendix C Management Needs Summary shows possible actions for each road.

Priorities can also be set by using resource ratings individually to set priorities. Ratings could be used to identify the most severe resource impact, for example. In this way, it can be seen that in most cases, weeds was the biggest impact or potential impact. Yet, there were some cases where wildlife or aquatics had the worst impact or potential impact. This could be used to prioritize watershed restoration funding for those areas that had the highest impact on aquatic resources. Discussion of resource rankings and priority setting for selected roads are included in the following paragraphs.

Six roads ranked high in resource impacts and fell in the strategy matrix categories of “D, RM3, RC3;” and “RM3, RC3:” 202 Antelope Creek, 217 Cedar Creek, 233 Sheriff Dam, 234A Richland Dam Parking, 252 Lower Grass Creek (Worksheet Parts 1 and 3), and 252A. The comments show the resource impacts were significant for invasives (e.g., sickleweed, Canada thistle), drainage crossings, affects to wildlife habitat, and sediment transport to ponds. .

Three roads are ranked low in resource impacts. They fell into strategy matrix categories “D,R” and “R.” The two roads in category “D,R” were P2 and 203-A-FP. Each of these roads is used primarily by a permittee. In the case of 203-A-FP, there is a possibility that an alternate route is available that will satisfy the needs and this road can be decommissioned. Road P2 is used exclusively by a permittee and resource damage can be controlled if the need for the road continues. The road in category “R” is 248 which has high human use ranking for access to prairie dog shooting areas. The “R” category recommends retention of these roads with high benefit/need and low resource impacts.

The remaining roads that were analyzed reflected medium resource impacts. These roads can be maintained with mitigation or management changes, including repair of culverts, hardening draw crossings, drainage control, realignment, aggregate spot surfacing, or decommissioning part of the road. Examples of management changes are seasonal use, permitted use only, and public education to reduce use during periods when the road surface is wet.

Human uses for fishing, hunting, and other recreational opportunities as well as permittee operations make most of the roads on the District necessary for delivering public benefits.

Step 6 – Reporting

This document, including attached appendices, constitutes reporting for the FPNG Travel Management Travel Analysis. Subsequent iterations of this report, if there are any, need not revise the body of text, but may be attached as additional appendices. It is likely that analyses of the INFRA database “undetermined” roads or other subset of non-NFSR existing roads may be desired as the District progresses in its Travel Management Planning. There is no requirement to reiterate the content of this initial analysis. As determined by the IDT and District Ranger, subsequent questions and rating may focus directly on suitability of grade and alignment for vehicle class; potential for mixed use; resource impacts and the actual costs of mitigation and/or maintenance (as opposed to relative rating); and the recreational value of destination. Subsequent analysis may even summarize single recommendations and rationale for “max” or other “less- than-max” travel management alternatives. It is assumed that for all desired destinations on the District there is already a road (at least a two-track) accessing it, so it is unlikely that new alignments will be considered except possibly as realignments to mitigate adverse resource effects or meet other needs.

The objectives of the analysis have been met in the relative assessment of the impacts, access needs and use, and costs for the roads analyzed. The appendices include the numerical rankings, summary of management options, and activity codes that can be used for definition of priorities and assembling travel management projects.

Supporting Information

Appendix A – Travel Analysis Summary. This summary for NFSR and selected non-NFSR roads includes the original road identification number, new road identification number, road name, segment length, maintenance level, Resource Impact Ratings, the average and highest Resource Impact Rating, Resource Benefit Ratings, and Strategy Code from the Ranking Matrix.

Appendix B – Travel Analysis Worksheets. The worksheets include the summary of information for each road analyzed in the Travel Analysis Process. Comments for each road summarize the resource, human use, and economic issues.

Appendix C – Management Needs Summary. This table displays the possible actions for each road.

Appendix D – Travel Analysis Road Rating Graphs. This displays the ratings for ecosystem, aquatic, wildlife, heritage and cultural, economic and human uses in a graphic for roads in Appendix A.

Data Inconsistencies

Forest personnel are continuing to work on and correct data and mapping inconsistencies/errors as they are found. To approach consistency within this analysis, all IDT work was done by projecting each road to the front of the room. Use of our Geographical Information System (GIS) in this way, for spatial context, provided that every team member was looking at the same alignment of the same road as it was discussed. These roads were attributed from the INFRA database. Segment length and beginning and ending termini were checked for consistency with records. Resolution of the data will be ongoing throughout the Travel Management Planning effort.

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District Map

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<http://www.fs.fed.us/recreation/programs/ohv/final>>

National Travel Management Rule

Fort Pierre National Grassland - Appendix A Travel Analysis Summary

Line #	INFRA					Impacts					Benefits		Strategy Codes		
	FS Rd # Segment	New FS Route Identification	Road Name	Segment Length (miles)	mi	Ecosystem	Aquatic	Wildlife	mean	highest impact	Human Use	Economic Benefits	ave impact low	ave impact medium	ave impact high
1	249	249	RIDGE	3.96	2	4	8	7	6.3	4	8	8		RM/M2	
2	227	227	MUELLER	6.75	2	1	5	5	3.7	1	8	7		RM/M2	
3	229	229	MUELLER NORTH	1.17	2	1	7	5	4.3	1	3	3		D,RM/M1	
4	210	210	STOCKTON	4.80	2	2	8	6	5.3	2	8	8		RM/M2	
5	210-A	210-A	KENNEDY RESERVOIR	0.40	2	2	6	5	4.3	2	8	8		RM/M2	
6	227-A	227-A	LOWER BOOTH RESERVOIR	0.40	2	2	7	7	5.3	2	8	8		RM/M2	
7	260	260	SLETTO KENNEDY	4.19	2	3	9	7	6.3	3	8	8		RM/M2	
8	222 FP	222	WEST STONEY BUTTE	2.79	2	4	5	6	5.0	4	6	6		D,RM/M2	
9	219	219	ENGEN/REED RANCH	3.60	2	3	4	5	4.0	3	8	7		RM/M2	
10	219-A	219-A	COTTONWOOD DAM	0.51	2	3	6	7	5.3	3	8	6		RM/M2	
11	217	217	CEDAR CREEK	4.30	2	1	3	2	2.0	1	8	7			RM3,RC3
12	275 FP	275	BASS DAM 0.0 TO 0.60	0.60	2	2	8	4	4.7	2	8	7		RM/M2	
13	238	238	PRAIRIE DOG	2.95	2	4	5	5	4.7	4	8	8		RM/M2	
14	239	239	WILLIAMS DAM	0.30	2	4	8	6	6.0	4	4	4		D,RM/M2	
15	237	237	WILBER (0.0 - 0.1)	0.10	2	4	8	5	5.7	4	8	5		RM/M2	
16	237	237	WILBER (0.1 - 1.3)	1.20	2	4	8	5	5.7	4	6	5		D,RM/M2	
17	251	251	TIMBER CREEK	2.80	2	4	8	4	5.3	4	8	8		RM/M2	
18	206	206	SAND CREEK	3.80	2	4	7	4	5.0	4	8	7		RM/M2	
19	253	253	ALKALI #1	1.10	2	2	7	6	5.0	2	4	5		D,RM/M2	
20	202 FP	202	ANTELOPE CREEK	4.35	2	1	2	7	3.3	1	6	6			D,RM3,RC3
21	242	242	BOMBER (SMITH) DAM	0.51	2	4	6	7	5.7	4	8	9		RM/M2	
22	270	270	50-50 SOUTHWEST	1.47	2	4	8	5	5.7	4	6	6		D,RM/M2	
23	235	235	GRASS CREEK	3.00	2	1	6	7	4.7	1	8	7		RM/M2	
24	295	295	COUNTY LINE DAM	0.59	2	2	8	6	5.3	2	8	8		RM/M2	
25	231 FP	231	COOKSTOVE	1.30	2	4	8	5	5.7	4	7	6		D,RM/M2	
26	265 FP	265	SOUTHWEST NUMBER 2	1.40	2	4	8	7	6.3	4	7	5		D,RM/M2	
27	224 FP	224	WAR CREEK SOUTH	1.45	2	4	8	4	5.3	4	8	7		RM/M2	
28	230 FP	230	50-50	0.30	2	4	6	4	4.7	4	8	5		RM/M2	
29	203 FP	203	BAD RIVER BREAKS	1.50	2	4	8	4	5.3	4	6	5		D,RM/M2	
30	234	234	RICHLAND DAM	0.24	2	2	7	4	4.3	2	10	9		RM/M2	
31	234-A	234-A	RICHLAND DAM PARKING LOOP	0.20	3	2	3	4	3.0	2	10	9			RM3,RC3
32	208-A	208-A	N/A	0.10	2	2	9	8	6.3	2	8	9		RM/M2	
33	233	233	SHERIFF DAM	0.40	2	1	5	4	3.3	1	10	8			RM3,RC3
34	232	232	TROUT DAM	0.42	2	4	6	5	5.0	4	5	6		D,RM/M2	
35	231-A	231-A	COOKSTOVE DAM	0.20	2	4	4	4	4.0	4	8	5		RM/M2	
36	252	252	LOWER GRASS CREEK	0.50	U	1	4	8	4.3	1	8	5		RM/M2	
37	202_0.5R	202-A	ANTELOPE CREEK SPUR	0.53	U	4	5	5	4.7	4	5	5		D,RM/M2	
38	240_13.6R	255	N/A	0.84	U	4	6	5	5.0	4	5	5		D,RM/M2	
39	220	220	SCOTT	1.50	2	7	7	7	7.0	7	8	6		RM/M2	
40	203-FP-A	203-A		0.65	U	4	9	9	7.3	4	2	9		D,RM/M1	
41	275-FP	275	BASS DAM 0.60 TO 1.2	0.60	U	4	8	3	5.0	3	3	8		D,RM/M1	
42	216-0.0R	247	0.0 TO 0.50	0.50	U	4	2	6	4.0	2	2	6		D,RM/M1	
43	216-0.0R	247	0.50 TO 1.03	0.53	U	4	5	6	5.0	4	3	8		D,RM/M1	
44	292 AVE	250	BAD RIVER EAST	0.50	U	6	8	4	6.0	4	7	8		D,RM/M2	
45	251-0.05R	251-A		1.59	U	4	8	6	6.0	4	2	7		D,RM/M1	
46	206-FP-A	206-A		0.40	U	4	8	6	6.0	4	7	8		D,RM/M2	
47	205-A	254		0.50	U	4	8	6	6.0	4	7	8		D,RM/M2	
48	200A-A	243		0.35	U	4	7	6	5.7	4	7	7		D,RM/M2	
49	200A-B	244		0.30	U	4	8	6	6.0	4	7	8		D,RM/M2	
50	215-FB-B	215-B		0.30	U	4	8	6	6.0	4	7	8		D,RM/M2	
51	215-FP-C	215-C		0.25	U	4	8	6	6.0	4	7	8		D,RM/M2	
52	217-FP-B	217-A		0.50	U	4	7	6	5.7	4	7	7		D,RM/M2	
53	228ST-1-A	241		3.00	U	4	8	6	6.0	4	7	8		D,RM/M2	
54	19002	221		0.46	U	4	8	6	6.0	4	7	8		D,RM/M2	
55	US83-5-B	236		0.90	U	4	7	5	5.3	4	7	7		D,RM/M2	
56	226-FP-A	226-A		0.60	U	4	7	6	5.7	4	7	7		D,RM/M2	
57	224-FP-A	224-A		0.60	U	4	8	6	6.0	4	7	8		D,RM/M2	
58	207-A	207-A		1.30	U	4	8	5	5.7	4	7	8		D,RM/M2	
59	207-B	207-B		1.25	U	4	8	6	6.0	4	7	8		D,RM/M2	
			<i>total miles/ ave ratings:</i>	81.60		3.4	6.8	5.5			6.8	6.9			
			<i>median:</i>	0.6		4	7	6			7	7			

Fort Pierre National Grassland - Appendix B Travel Analysis Worksheets Part 1

SYSTEM & IMPORTANT NON-SYSTEM ROADS -- Analyzed 4/10/2007

Line #	Road #	Road Name	New Road #	Length	Operational Maintenance Level	Comments	Overall Resource Rating (Ave.)	Human Uses rating	Strategy Codes
1	249	Ridge	249	3.96	2	Potential for sickleweed, heavy use; disturbance to deer & antelope; some rutting; cattleguards.	6.3	8	RM/M2
2	227	Mueller	227	6.75	2	Has sickleweed; goes through prairie dog towns (shooting access); major road; needs realigning 1 mile in on uphill grade, rutting, northern pike in ponds, question on jurisdiction on west 1 mile up to Draper Road. 4 cattleguards.	3.7	8	RM/M2
3	229	Mueller North	229	1.17	2	Has sickleweed; better wildlife habitat; rolling hills; climbs ridgeline; permittee uses it, goes to private land/ stock tank, accesses a small area.	4.3	3	D, RM/M1
4	210	Stockton	210	4.8	2	Close to sickleweed areas; good habitat; 1st mile is rutting, passes pond/ depression, mostly on ridge; rolling dip(s) needed; accesses waterline tap, weather station (less need past weather station), state grouse route, ends at private land. Cattleguard; may need to realign at fence corner.	5.3	8	RM/M2
5	210-A	Kennedy Reservoir	210-A	0.4	2	Close to sickleweed areas; ducks at pond; fishing pond, birdwatching; downhill to pond, rutting, goes over dam, possible sediment to pond. Possible rolling dips needed, realign.	4.3	8	RM/M2
6	227-A	Lower Booth Reservoir	227-A	0.4	2	Close to sickleweed areas; disturbance to waterfowl; winter and summer fishing pond; northern pike in pond; bird watching; flat road; may stop at dam at mp 0.3. Prairie dog shooting.	5.3	8	RM/M2
7	260	Sletto Kennedy	260	4.19	2	Potential for sickleweed; deer, antelope, grouse, bird watching, fishing, scenery. Connects hwy/ county road. County road off of hwy. Ridge road, little rutting.	6.3	8	RM/M2
8	222_FP	West Stoney Butte	222	2.79	2	Potential for sickleweed, Canada thistle; ducks, antelope; nesting birds; prairie dogs (shooting access). Goes through tail waters, wet at times at rutting at tail waters; pond in tail water; accesses private corral. Cattleguards; accesses Hwy 83 to County road.	5.0	6	D, RM/M2
9	219	Engen/ Reed Ranch	219	3.6	2	Potential for sickleweed, Canada thistle; antelope, deer, grouse; fishing; access to unroaded fishing ponds; selenium research site just to north; washout in road, crosses 4 intermittent streams, rutting at downhill -- needs realignment and crossing work; cattleguard; connects county roads.	4.0	8	RM/M2
10	219-A	Cottonwood Dam	219-A	0.514	2	Potential for sickleweed, Canada thistle; ducks, deer, antelope, fisheries, bird watching; camping; some rutting/ erosion into side drainage.	5.3	8	RM/M2
11	217	Cedar Creek	217	4.2	2	Has sickleweed, Canada thistle; good mule deer area, ducks, fishing, bird watching; old washed out culvert removed at Cedar Creek (intermittent), several dams, several other intermittent drainages; cattleguard; connects county roads.	2.0	8	RM3, RC3

Fort Pierre National Grassland - Appendix B Travel Analysis Worksheets Part 1

SYSTEM & IMPORTANT NON-SYSTEM ROADS -- Analyzed 4/10/2007

Line #	Road #	Road Name	New Road #	Length	Operational Maintenance Level	Comments	Overall Resource Rating (Ave.)	Human Uses rating	Strategy Codes
12	275_FP (0-0.6)	Bass Dam	275	0.6	2	Close to sickleweed areas; good mule deer area, ducks, bird watching, fishing; rutting, sediment running away from dam, 1 road crosses dam to prairie dog town; use road to southwest. Access to state land (best); consider 0.6 miles north to state land to be put on nsystem-- may move or add to access prairie dogs in NE1/4.	4.7	8	RM/M2
13	238	Prairie Dog	238	2.95	2	Potential for noxious weeds; snakes, potential for seasonal area opening for shooting prairie dogs, ducks, bird watching, antelope, fishing; crosses intermittent drainages to Williams Dam, rutting, mud holes; look at relocating road. Consider 0.5 miles to north to private land to be put on system. Access private land via county road.	4.7	8	RM/M2
14	239	Williams Dam	239	0.3	2	Canada thistle in bottom of pond; ducks, antelope, birds, prairie dog shooting; rutted but flat; access of county road to empty dam.	6.0	4	D, RM/M2
15	237 -- Segment 1; 0-0.1 (= county?)	Wilbur	237	0.1	2	Musk, thistle, leafy spurge, potential for sickleweed; big game, grouse, prairie dogs (access for shooting), ducks; ruts but not much impact; illegal commercial hauling; gate problem; access Lower Brule for fire assistance, county road to reservation. 1st segment may go to SUP or RUP for private.	5.7	8	RM/M2
15A	237 -- Segment 2 0.1-1.3	Wilbur	237	1.2	2	Musk, thistle, leafy spurge, potential for sickleweed; big game, grouse, prairie dogs (access for shooting), ducks; ruts but not much impact; illegal commercial hauling; gate problem; access Lower Brule for fire assistance, county road to reservation.	5.7	6	D, RM/M2
16	251	Timber Creek	251	2.8	2	Potential noxious weeds (musk); mule deer, grouse, fish, prairie dogs (access for shooting), ducks, bird watching; crosses drainage, mostly on bench; check with state for access on north.	5.3	8	RM/M2
17	206	Sand Creek	206	3.8	2	Potential noxious weeds (leafy spurge, Canada thistle); deer, prairie dogs (access for shooting), grouse, fishing ponds, bird watching; muddy areas, culvert washing out, ridgetop for about 3.3 miles. 1st 3/4 miles is easement, off county road ; accesses private lands; cattleguard, culverts.	5.0	8	RM/M2
18	253	Alkali #1	253	1.1	2	Close to sickleweed areas; deer, antelope, ducks, fishing pond, party spot; deep drainage -- erosion/ sediment at pond.	5.0	4	D, RM/M2
19	202_FP	Antelope Creek	202	4.35	2	Close to sickleweed areas; ducks, birds, bird watching, prairie dog shooting; closed depression 2 drainages, bad crossing at Antelope Creek. Cattleguard, mud holes; access of county road to house.	3.3	6	D, RM3, RC3
20	242	Bomber (Smith) Dam	242	0.51	2	Canada thistle; deer, antelope, ducks, pheasants, bird watching, fishing (better fishing pond), wildlife area below dam; rutting, several tracks, get road off dam.	5.7	8	RM/M2

Fort Pierre National Grassland - Appendix B Travel Analysis Worksheets Part 1

SYSTEM & IMPORTANT NON-SYSTEM ROADS -- Analyzed 4/10/2007

Line #	Road #	Road Name	New Road #	Length	Operational Maintenance Level	Comments	Overall Resource Rating (Ave.)	Human Uses rating	Strategy Codes
21	270	50-50 Southwest (0-0.6)	270	0.6	2	Potential for weeds; very good mule deer habitat, grouse, antelope; ridge road. Proposed to extend to Sec. 5.	5.7	6	D, RM/M2
22	235	Grass Creek	235	3.0	2	Has sickleweed; prairie dogs (access for shooting), grouse, deer, antelope, hawks; bird watching; party spot; crosses drainage -- getting deep, some rutting uphill. May re-route. 2 cattleguards (remove 1).	4.7	8	RM/M2
23	295	County Line Dam	295	0.59	2	Close to weeds; ducks, grouse, fish, deer, antelope, prairie dog shooting; some rutting.	5.3	8	RM/M2
24	231_FP	Cookstove	231	1.3	2	Potential for weeds; grouse, deer, antelope; crosses 2 shallow drainages/ mud holes; used to access private land -- may trade easements.	5.7	7	D, RM/M2
25	265_FP	Southwest Number 2	265	1.4	2	Potential for weeds; grouse, antelope, deer; school, private land access, scenery. Work at County road = culvert?	6.3	7.5	RM/M2
26	224_FP	War Creek South	224	1.45	2	Potential for weeds; prairie dogs (access for shooting), grouse, fishing (including non-roaded pond), deer, antelope, bird watching, rattlesnakes; Cattleguard; gate to west = big draw - close?	5.3	8	RM/M2
27	230_FP	50-50	230	0.3	2	Potential for weeds; antelope, grouse, pheasants, bird watching, waterfowl, jack rabbits; cross drainage- Muddy, rutting, there's a 2nd drainage before the dam-- check.	4.7	8	RM/M2
28	203_FP	Bad River Breaks	203	1.5	2	Potential for weeds; prairie dogs (access for shooting); antelope, grouse, pheasants, bird watching, waterfowl; muddy at property gate; private access road, goes thru ranch buildings, connects private to private. Legal ROW County Rd 803? Impacting private lands.	5.3	6	D, RM/M2
29	234	Richland Dam	234	0.24	2	Potential for weeds, horses & traffic use; deer, pheasants, grouse, cottontails, shorebirds, snakes, mink, waterfowl; Highest recreation density; small drainage at end of ; needs more gravel, harden drainage.	4.3	10	RM/M2
30	234-A	Richland Dam parking loop	234-A	0.2	2	Potential for weeds, horses & traffic use; deer, pheasants, grouse, cottontails, shorebirds, snakes, mink, waterfowl; Highest recreation density; side hill road drains to pond, people dragging boats to water-- impacts/ sediment. Add aggregate.	3.0	10	RM3, RC3
31	208-A	Richland Wildlife Parking	208-A	0.1	3	Potential for weeds; recreation use, bird watching; good spot to access the area; county culvert; add gravel.	6.3	8	RM/M2
32	233	Sheriff Dam	233	0.4	2	Canada thistle, musk thistle; grouse, waterfowl, deer, antelope, cottontails, shorebirds, doves, waterfowl, doves, grouse; fishing; some sediment going into pond; improve road.	3.3	10	RM3, RC3

Fort Pierre National Grassland - Appendix B Travel Analysis Worksheets Part 1

SYSTEM & IMPORTANT NON-SYSTEM ROADS -- Analyzed 4/10/2007

Line #	Road #	Road Name	New Road #	Length	Operational Maintenance Level	Comments	Overall Resource Rating (Ave.)	Human Uses rating	Strategy Codes
33	232	Trout Dam	232	0.42	2	Potential for weeds; waterfowl, antelope, grouse, fishing; old road off of hwy crossed side drainage, new road comes off County road 226th Street and goes down ridge to pond.; look at realigning.	5.0	5.5	D, RM/M2
34	231-A	Cookstove Dam	231-A	0.2	2	Potential for weeds; waterfowl, doves, grouse; some rutting, downhill to drain. Look at reroute. R/w is 50' above high water.	4.0	8	RM/M2
35	252	Lower Grass Creek	252	0.5	n/a	County? Proposed ML 2. Has sickleweed; deer, grouse, antelope, pheasants; Crosses Antelope Creek = Muddy, and crosses 2 other drainages; to private land, permittee use; maintenance problem.	4.3	8	RM3, RC3
36	202_0.5R	Antelope Creek Spur	202-A	0.53	n/a	Proposed ML 2. Potential for weeds; antelope, mule deer, waterfowl, prairie dogs (access for shooting), bird watching, fishing, bird watching; some rutting, downhill to dam -- reroute to dam.	4.7	5	D, RM/M2
37	240_13.6R		255	0.55	n/a	Proposed ML 2. Potential for weeds; prairie dogs (maybe seasonal opening for access for shooting), bird watching, deer, antelope; flat road; accesses stock tank.	5.0	5	D, RM/M2
38	220	Scott	220	1.5	2	Low weed potential; draw crossing on east, gets muddy; lots of traffic; add rock to crossing; big game and grouse, not much wildlife disturbance since fenced both sides of road.	7.0	8	RM/M2
				65.264	miles				

Fort Pierre National Grassland - Appendix B Travel Analysis Worksheets Part 2

Non-System Roads -- Analyzed 5/29/2007

Line #	Road #	Requestor Type	Road Name	New Road #	Length	Operational Maintenance Level	Comments	Overall Resource Rating (Ave.)	Human Uses rating	Strategy Codes
1	CTY-200B-A	PER		P2	0.2	n/a	Confirm if CTY-200B is owned & maintained by County. Mctce is permittee responsibility; used by permittee only.	7.3	2	D, R
2	CTY-200B-B	PER		P1	0.6	n/a	Possible disturbance to waterfowl. Maintenance is permittee responsibility; used by permittee only.	6	2	D, RM/M1
3	203_FP-A	PUB		203-A_FP	0.65	n/a	Permittee use only, may not be needed. Permittee may be able to use another road instead of this one.	7.3	1	D, R
4	39020-A	PUB	DROPPED 1ST 1/2 MILE; ACCESS FROM 207-E	207-D	0.2	n/a	Good deer area, low weed potential, near a pond, steep topog., possible maintenance sharing with permittee; general public access.	4.3	3	D, RM/M1
5	209-A	PUB		P5	1.1	n/a	Bare soil disturbance; popular game and bird hunting; good habitat; possible maintenance sharing with permittee; general public access; manage for walk-in hunting, consider seasonal opening or yearlong closure to public.	5	3	D, RM/M1
6	275_FP (extension 0.6 - 1.2)	PUB		-	0.6	n/a	Low weed potential; prairie chicken display ground; deer and antelope habitat; some rutting close to dam; permittee and public use.	5	3	D, RM/M1
7	211-A	PER		P7	1.2	n/a	Low weed potential; Deer & antelope habitat with road going through narrow corridor; used and maintained by permittee only;	5.3	2	D, RM/M1
8	211-B	PER		Both P8 & P9	1	n/a	Low weed potential; Deer & antelope habitat with road going through narrow corridor; used and maintained by permittee only;	5.3	2	D, RM/M1
9	211-C	PER		P10	0.3	n/a	Deer & antelope habitat with road going through narrow corridor; used and maintained by permittee only; crosses two shallow drainages;	4	2	D, RM/M1
10	213-A	PER		P11	0.6	n/a	More weed potential due to private land; mule deer and grouse habitat; parallels a stream; used and maintained by permittee only.	4	2	D, RM/M1
11	215_FP-A	PER		P12	0.4	n/a	Low weed potential, used infrequently to haul hay; alternate county road access available; used and maintained by permittee only.	6.7	2	D, RM/M1
12	216_0.0R; 0-0.5	PUB		247	0.5	n/a	Low weed potential; wet crossing -- may be a culvert; permittee and general public use.	4	2	D, RM/M1
13	292 AVE	PUB		250	0.5	n/a	Very low weed potential; antelope habitat; minor shallow drainage on south; permittee and general public use.	6	7	D, RM/M2
14	237_0.01 L	PER		P14	0.52	n/a	Low weed potential; one draw crossing; only permittee uses and permittee maintenance responsibility.	4.7	3	D, RM/M1
15	251-0.05 R	F&G		251-A	0.3	n/a	Need to verify possible alternate route to avoid drainage crossing -- low aquatic impacts if can be avoided; low weed potential; may need to rehab existing route; winter and summer fishing. RATED ASSUMING ROAD WILL BE RELOCATED.	6	2	D, RM/M1

Fort Pierre National Grassland - Appendix B Travel Analysis Worksheets Part 2

Non-System Roads -- Analyzed 5/29/2007

Line #	Road #	Requestor Type	Road Name	New Road #	Length	Operational Maintenance Level	Comments	Overall Resource Rating (Ave.)	Human Uses rating	Strategy Codes	
16	206_FP-A	F&G		206-A	0.4	n/a	Low weed potential; winter and summer fishing.	6	7	D, RM/M2	
17	205-A	F&G		254	0.5	n/a	Low weed potential; winter and summer fishing; needs GPS.	6	7	D, RM/M2	
18	200A-A	F&G		243	0.35	n/a	Low weed potential; winter and summer fishing; deep drainage right off Road 200-A.	5.7	7	D, RM/M2	
19	200A-B	F&G		244	0.3	n/a	Low weed potential; winter and summer fishing; needs GPS.	6	7	D, RM/M2	
20	215_FP-B	F&G		215-B_FP	0.3	n/a	Low weed potential; winter and summer fishing; needs GPS.	6	7	D, RM/M2	
21	215_FP-C	F&G		215-C_FP	0.25	n/a	Low weed potential; winter and summer fishing; needs GPS.	6	7	D, RM/M2	
22	217_FP-B	F&G	(This is the south one)	217-B	0.5	n/a	217-A or 217-B? Low weed potential; wet area/ draw crossing at beginning; winter and summer fishing.	5.7	7	D, RM/M2	
23	228 ST-1-A	F&G		241	0.75	n/a	Low weed potential; winter and summer fishing.	6	7	D, RM/M2	
24	19002	F&G		221	0.46	n/a	Low weed potential; winter and summer fishing.	6	7	D, RM/M2	
25	US83_5-B	F&G		236	0.9	n/a	Low weed potential; good antelope area; one shallow crossing -- may be able to avoid, need to verify; winter and summer fishing.	5.3	7	D, RM/M2	
26	226_FP-A	F&G		226-A	0.6	n/a	Low weed potential; closed depression on south end; winter and summer fishing.	5.7	7	D, RM/M2	
27	224_FP-A	F&G		224-A_FP	0.6	n/a	Low weed potential; winter and summer fishing.	6	7	D, RM/M2	
28	207-A	PUB		-	1.3	n/a	Low weed potential, maybe seasonal opening; long segment for wildlife impacts; accesses prairie dog	5.7	7	D, RM/M2	
29	CTY-200B-C	F&G		200B-A	0.6	n/a	Low weed potential; winter and summer fishing.	6	7	D, RM/M2	
30	231_FP (2.2-2.41)	-		-	0.2	n/a	Low weed potential; winter and summer fishing. Crosses private; get easement.	6	7	D, RM/M2	
					16.68	miles					

PER = Requested by permittee for access across NG to reach private land.

PUB = Requested by permittee for access across NG to reach private land, but also has merits to keep open to public.

F&G = Requested by South Dakota Fish & Game for access to fishing pond.

Fort Pierre National Grassland - Appendix B Travel Analysis Worksheets Part 3

Non-system Roads -- Analyzed 8/30/2007

Line #	Road #	Requestor Type	Road Name	New Road #	Length	Operational Maintenance Level	Comments	Overall Resource Rating (Ave.)	Human Uses Rating	Strategy Codes
1	270 (Extension)	-	50-50 Southwest	Part of 270	0.869	n/a	Potential for weeds; very good mile deer habitat, grouse, antelope, more potential for disturbance farther in but low value for hunting and not used much.	5	4	D, RM/M2
2	207-C	PUB		-	0.3	n/a	Accesses private land; hunting use; more weed potential from traffic off private land; grouse and deer habitat; low use.	4.7	5	D, RM/M2
3	207-D	PER		P3	0.15	n/a	Fairly severe weed potential; low impact on wildlife due to many roads; accesses private land.	6.3	2	D, RM/M1
4	207-E	PUB		207-B	1.6	n/a	Sickleweed area; good deer area; permittee use and general public access; grades and steepness; possible maintenance share with permittee.	4.3	3	D, RM/M1
5	252 (Exension)	-	Lower Grass Creek	252	0.6	n/a	Sickleweed area; crosses shallow draws, but not highly erosive; deer, grouse, antelope, pheasants; hunting and fishing use,	3.3	6	D, RM3, RC3
6	252-A	-		252-A	0.6	n/a	Sickleweed area; maybe seasonal closure; draw and shallow drainages crossed; real good habitat in draw; waterfowl; fishing pond.	2	5	D, RM3, RC3
7	222-A	PDOG		-	0.6	n/a	Potential for sickleweed & Canada thistle; prairie dog town access for shooting; deer and antelope; maybe seasonal 6/15-8/31.	6	8	RM/M2
8	39049	PER		P4	0.6	n/a	High risk for weeds off private land; antelope and grouse habitat; access to private land of 1 permittee.	5.3	2	D, RM/M1
9	19004-A	PER		P6	0.6	n/a	High potential for weeds; grouse and big game; access to private land of 1 permittee, permittee maintains.	4.3	2	D, RM/M1
10	39042	PER		P13	0.5	n/a	High risk for weeds off private land; deer and antelope area; access to private land of 1 permittee; permittee maintains.	5.7	2	D, RM/M1
11	204-C	PDOG		248	0.2	n/a	Prairie dog town access for shooting; some antelope; maybe seasonal 6/15-8/31.	7.7	8	R
12	223 ST-A	PDOG		245	0.6	n/a	Potential for sickleweed and others; could disturb antelope; prairie dog town access for shooting; some antelope; maybe seasonal 6/15-8/31.	6	8	RM/M2
13	217-FP-A	PDOG	(This is the north one)	217-A	0.2	n/a	Sickleweed area; 1 shallow drain crossing; could disturb antelope; prairie dog town access for shooting; maybe seasonal 6/15-8/31.	4.3	8	RM/M2

Fort Pierre National Grassland - Appendix B Travel Analysis Worksheets Part 3

Non-system Roads -- Analyzed 8/30/2007

Line #	Road #	Requestor Type	Road Name	New Road #	Length	Operational Maintenance Level	Comments	Overall Resource Rating (Ave.)	Human Uses Rating	Strategy Codes	
14	US-83_5-B1	F&G		236-A	0.4	n/a	Low weed potential; big game and grouse area; not sure of aquatics; limited use but rated as high use (?) - just off hwy; must be fishing pond.	5	8 (?)	RM/M2	
15	211-D	PER		-	0.3	n/a	Deer and antelope; area of draws; only used by 1 permittee, permittee maintains.	4	2	D, RM/M1	
					8.119	miles					

PER = Requested by permittee for access across NG to reach private land.

PUB = Requested by permittee for access across NG to reach private land, but also has merits to keep open to public.

F&G = Requested by South Dakota Fish & Game for access to fishing pond.

PDOG = Requested by public/ Fish and Game? for access to prairie dog towns for shooting.

MANAGEMENT NEEDS SUMMARY			
Road #	Road Name	Operational Maintenance Level	Possible Management Needs
206	Sand Creek	2	Repair washing out CMP; Control drainage.
210	Stockton	2	Control drainage & rutting; Investigate realignment at fence corner.
217	Cedar Creek	2	Improve Cedar Creek stream crossing and other crossings or Realign road away from stream channel (and then decommission old road).
219	Engen/ Reed Ranch	2	Investigate realignment to avoid areas prone to rutting; Reduce impacts at draw crossings. Control drainage & rutting.
220	Scott	2	Control drainage and sedimentation at draw; Ad
221	-	n/a	Seasonal opening for fishing access.
227	Mueller	2	Investigate realigning on hill; Control drainage & rutting.
229	Mueller North	2	Retain with low cost, cost-effective mitigation or management changes.
232	Trout Dam	2	Reduce impact at drainage crossing.
233	Sheriff Dam	2	Control drainage & rutting, & sediment delivery to pond. Add aggregate. End of road is part of rec. area parking area.
234	Richland Dam	2	Add aggregate; Control drainage.

MANAGEMENT NEEDS SUMMARY			
Road #	Road Name	Operational Maintenance Level	Possible Management Needs
235	Grass Creek	2	Improve drainage crossing for access and reduced impacts; Control drainage & rutting.
236	-	n/a	Relocate to avoid draw Or improve draw crossing to control erosion and sedimentation. Seasonal opening for fishing access.
238	Prairie Dog	2	Control drainage & rutting; Reduce impact at drainage crossings.
239	Williams Dam	2	Retain with low to moderate cost, minor mitigation or mgmt change
241	-	n/a	Seasonal opening for fishing access.
242	Bomber (Smith) Dam	2	Control drainage & rutting; Stop road at dam;
243		n/a	Improve draw crossing to control erosion and sedimentation; Seasonal opening for fishing access.
244		n/a	Seasonal opening for fishing access.
245		n/a	Seasonal opening to allow prairie dog shooting access.
247		n/a	Verify wet area crossing - improve or maintain as needed.
248		n/a	Seasonal opening to allow prairie dog shooting access.

MANAGEMENT NEEDS SUMMARY			
Road #	Road Name	Operational Maintenance Level	Possible Management Needs
249	Ridge	2	Control drainage & rutting.
250		n/a	Control drainage and sedimentation at draw.
251	Timber Creek	2	Reduce impact at drainage crossing.
252	Lower Grass Creek	n/a	Control drainage and sediment delivery to Antelope Creek; Reduce impacts of Antelope Creek crossing and other drainage crossings.
252 (extension)	Lower Grass Creek	n/a	Control drainage and sedimentation at draws.
253	Alkali #1	2	Control drainage & rutting and sediment delivery to pond.
254		n/a	Seasonal opening for fishing access.
255		UND	Seasonal opening for prairie dog shooting.
260	Sletto Kennedy	2	Retain with minor mitigation or management change.
270	50-50 Southwest	2	Retain with low to moderate cost, minor mitigation or mgmt change
295	County Line Dam	2	Control drainage & rutting.

MANAGEMENT NEEDS SUMMARY			
Road #	Road Name	Operational Maintenance Level	Possible Management Needs
200B-A		n/a	Seasonal opening for fishing access.
202_FP	Antelope Creek	2	Control drainage & rutting; Reduce impacts at drainage crossings and Antelope Creek.
202-A_FP	Antelope Creek Spur	UND	Control drainage & rutting & sediment delivery to dam; Seasonal opening for fishing access.
203_FP	Bad River Breaks	2	Control drainage (muddy at property gate).
203-A_FP		n/a	Private land access and prairie dog town access.
206-A		n/a	Seasonal opening for fishing access.
207-A		n/a	Seasonal opening for prairie dog shooting.
207-B		n/a	Retain with minor mitigation.
207-C		n/a	Retain with minor mitigation.
207-D		n/a	Relocate to avoid steep slopes/ pond or mitigate erosion potential of steep slope (control drainage, add aggregate, etc.).
208-A	Richland Wildlife Parking	3	Add aggregate;
210-A	Kennedy Reservoir	2	Control drainage & rutting; Investigate realignment.

MANAGEMENT NEEDS SUMMARY			
Road #	Road Name	Operational Maintenance Level	Possible Management Needs
215-B_FP		n/a	Seasonal opening for fishing access.
215-C_FP		n/a	Seasonal opening for fishing access.
217-A	(This is the north one)	n/a	Seasonal opening to allow prairie dog shooting access; control drainage and sedimentation at draw.
217-B	(This is the south one)	n/a	Improve draw crossing to control erosion and sedimentation Or use alternate route to avoid drainage crossing. Seasonal opening for fishing access.
219-A	Cottonwood Dam	2	Control drainage & rutting.
222_FP	West Stoney Butte	2	Control drainage & rutting.
222-A		n/a	Seasonal opening to allow prairie dog shooting access.
224_FP	War Creek South	2	End road at big draw. Retain with other minor mitigation as necessary.
224-A_FP		n/a	Seasonal opening for fishing access.
226-A		n/a	Control sedimentation into depression OR relocate road away from depression. Seasonal opening for fishing access.
227-A	Lower Booth Reservoir	2	Stop road at dam.

MANAGEMENT NEEDS SUMMARY			
Road #	Road Name	Operational Maintenance Level	Possible Management Needs
230_FP	50-50	2	Control drainage & rutting; Reduce impacts at drainage crossing.
231_FP	Cookstove	2	Control drainage & rutting; reduce impacts at drainage crossings.
231_FP (1.4-2.0)	Cookstove (extension)	n/a	Get Easement (no mitigation needs noted). Seasonal opening for fishing access.
231-A	Cookstove Dam	2	Control drainage & rutting & sediment delivery to drainage.
234-A	Richland Dam parking loop	2	Add aggregate; Control drainage & sediment delivery to pond. Part of Rec. area parking area.
236-A		n/a	Seasonal opening for fishing access.
237	Wilbur	2	Seasonal closure(s) to protect wildlife.
251-A		n/a	Improve draw crossing to control erosion and sedimentation Or use alternate route to avoid drainage crossing
252-A		n/a	Control drainage and sedimentation at draws; Seasonal Opening for fishing access.
265_FP	Southwest Number 2	2	Retain with minor mitigation as necessary.
270 (Extension)	50-50 Southwest	n/a	Retain with minor mitigation.
275_FP	Bass Dam	2	Control drainage & rutting.

MANAGEMENT NEEDS SUMMARY			
Road #	Road Name	Operational Maintenance Level	Possible Management Needs
275_FP (extension 0.6 - 1.2)		n/a	Control drainage and rutting near dam; Access to South Dakota School and Public lands.
P1		n/a	Permittee use only & permittee maintenance responsibility.
P2		n/a	Permittee use only & permittee maintenance responsibility.
P3		n/a	Permit road or Decommission if alternate access to private land is available.
P4		n/a	Permittee use only & permittee maintenance responsibility.
P5		n/a	Permittee use only & permittee maintenance responsibility.
P6		n/a	Permittee use only & permittee maintenance responsibility.
P7		n/a	Permittee use only & permittee maintenance responsibility.
P8		n/a	Permittee use only & permittee maintenance responsibility.
P9		n/a	Permittee use only & permittee maintenance responsibility.
P10		n/a	Permittee use only & permittee maintenance responsibility.

MANAGEMENT NEEDS SUMMARY			
Road #	Road Name	Operational Maintenance Level	Possible Management Needs
P11		n/a	Permittee use only & permittee maintenance responsibility. Control drainage and sedimentation or relocate away from stream.
P12		n/a	Permittee use only & permittee maintenance responsibility. Control drainage and sedimentation.
P13		n/a	Permittee use only & permittee maintenance responsibility.
P14		n/a	Permittee use only & permittee maintenance responsibility. Control drainage and sedimentation at draw; Gravel base may be required.

Fort Pierre National Grassland Appendix D Travel Analysis Road Rating Graphs

