Socioeconomic Assessment of the

Region 3 National Grasslands

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Table 2.5: Housing Quality in the Grassland Region, 1980, 1990 and 2000

	1980	1990		2000	
	Avg Age Housing Stock	Avg Age Housing Stock	Lacking complete plumbing facilities	Avg Age Housing Stock	Lacking complete plumbing facilities
Mills Region	24.4	31.1	2.91%	35.2	4.30%
Colfax Co. NM	19.0	27.8	0.80%	33.5	1.40%
Harding Co. NM	24.4	45.0	4.89%	53.3	7.71%
Mora Co. NM	35.7	38.5	9.45%	37.0	12.45%
Kiowa/Rita Blanca Region	34.3	36.3	1.33%	42.4	3.56%
Union Co. NM	38.4	38.0	0.78%	44.9	1.71%
Cimarron Co. NM	29.7	38.0	1.48%	44.2	5.94%
Dallam Co. TX	33.8	34.0	1.71%	43.1	2.11%
McClellan Region	30.4	34.1	1.24%	14.2	2.10%
Donley Co. TX	34.0	35.0	1.35%	39.6	1.01%
Gray Co. TX	29.7	34.0	1.21%	43.0	1.84%
Black Kettle Region	32.2	33.5	1.79%	42.4	1.73%
Roger Mills Co. OK	32.0	31.0	0.88%	41.2	1.43%
Hemphill Co. TX	29.9	33.0	0.41%	41.8	0.97%
Wheeler Co. TX	33.9	36.0	3.16%	45.2	1.64%
TOTAL	32.0	34.7	2.55%	42.0	2.55%
NM-OK-TX	21.4	21.8	1.31%	27.6	1.44%

Source: US Census Bureau, Decennial Census, 1980, 1990 and 2000. Calculations by UNM-BBER.

The regional variation in changes to the housing stock is reflected in the movement of housing values. Figure 2.3 shows changes in housing values, as reported in the 1990 and 2000 Decennial Census. Note that the areas neighboring Mills Canyon and Uplands and the Black Kettle experienced sharp increases in the cost of housing during the 10 year period, while values in the counties in the tri-state region near Kiowa-Rita Blanca relatively stable.

poverty rates in counties where they occur. White (Non-Hispanics) have the highest poverty rates in New Mexico counties whereas Hispanics total 24% of those in poverty.

Table 2.7: Percentage of Race and Ethnic Groups below Poverty Level in 1999

	RACE GROUP					HISPANIC ETHNICITY	
	WHITE	AFRICAN AMERICAN	AMERICAN INDIAN	ASIAN	OTHER[1]	WHITE (NON-HISPANIC)	HISPANIC
Mills Canyon & Uplands Region							
Colfax County, New Mexico	13%	65%	11%	52%	22%	8%	21%
Harding County, New Mexico	17%	0%	50%	0%	11%	17%	16%
Mora County, New Mexico	20%	0%	59%	0%	34%	28%	25%
Kiowa/Rita Blanca Region							
Union County, New Mexico	17%	0%	61%	50%	20%	15%	23%
Cimarron County, Oklahoma	15%	40%	59%	0%	33%	13%	37%
Dallam County, Texas	12%	20%	57%	0%	20%	11%	20%
McClellan Region							
Donley County, Texas	13%	48%	51%	0%	32%	13%	42%
Gray County, Texas	11%	46%	0%	0%	28%	11%	28%
Black Kettle Region							
Roger Mills County, Oklahoma	14%	0%	48%	0%	29%	14%	32%
Hemphill County, Texas	12%	0%	8%	0%	18%	12%	15%
Wheeler County, Texas	11%	31%	0%	0%	29%	11%	27%
TOTAL	13%	43%	30%	18%	26%	12%	24%
NM-OK-TX (TOTAL)	12%	24%	26%	12%	24%	9%	25%

Source: US Census Bureau, Decennial Census, 1990 and 2000. Calculations by UNM-BBER.
[1] Includes those who indicated: Hawaiian or Pacific Islander only, other (1 race alone), and two or more races

2.4 Single and Female Headed Households

As shown in Table 2.8, the number of households in the three-state region increased by 20% between 1990 and 2000, while the corresponding number of households in the four grassland regions grew by only 1.7% during the same 10-year period. Yet, despite the significant differences in the rate of household formation, there was little difference in terms of the relative structure of households. The share of single households increased marginally in the assessment area, while it remained unchanged in the larger three-state region, and the share of female-headed households increased slightly and by relatively equal proportion in both geographies, though the proportion remained somewhat lower in the Grassland region. The implication is that while population growth and household formation in the assessment clearly lags behind that of the larger region, the structure of these households has not changed appreciably.

Table 2.9: Educational Attainment for Population 25 Years and Older in the Grassland Region, 1990 And 2000

	1990					2000				
	Less than 9th Grade	9th-12th grade; no diploma	High school graduate	Some college; no degree	A.B. or more	Less than 9th Grade	9th-12th grade; no diploma	High school graduate	Some college; no degree	A.B. or more
Mills Region	15%	17%	33%	16%	19%	9%	14%	33%	21%	23%
Colfax Co. NM	12%	16%	34%	18%	19%	6%	13%	34%	22%	25%
Harding Co. NM	17%	17%	32%	14%	19%	13%	15%	32%	19%	21%
Mora Co. NM	21%	19%	33%	11%	16%	14%	16%	32%	18%	20%
Kiowa/Rita Blanca Region	14%	19%	35%	18%	13%	11%	16%	36%	21%	16%
Union Co. NM	15%	22%	35%	15%	14%	9%	12%	44%	20%	16%
Cimarron Co. NM	16%	13%	32%	22%	17%	12%	11%	32%	24%	21%
Dallam Co. TX	13%	20%	38%	18%	10%	13%	22%	32%	20%	13%
McClellan Region	12%	18%	34%	20%	17%	8%	17%	33%	25%	18%
Donley Co. TX	13%	19%	28%	21%	19%	6%	16%	26%	28%	23%
Gray Co. TX	11%	18%	35%	19%	16%	8%	17%	34%	25%	17%
Black Kettle Region	13%	17%	34%	20%	15%	9%	14%	33%	24%	19%
Roger Mills Co. OK	11%	17%	40%	19%	13%	6%	14%	39%	21%	20%
Hemphill Co. TX	13%	14%	35%	23%	15%	10%	10%	29%	29%	21%
Wheeler Co. TX	16%	19%	30%	18%	17%	11%	17%	31%	23%	18%
TOTAL	13%	18%	34%	18%	16%	9%	15%	33%	23%	19%
NM-OK-TX	13%	15%	27%	21%	25%	11%	13%	26%	23%	28%

Source: US Census Bureau, Decennial Census,1990 and 2000. Calculations by UNM-BBER.

2.6 Demographic and Socioeconomic Trends Relevant to FS Planning

The region surrounding the National Grasslands is experiencing flat and even negative growth in population, household formation and incomes, and is lagging significantly behind the three-state region in important measures of socioeconomic development. This has direct implications for FS planning. While demographic trends and projections suggest that the scope of the local 'market' for Grassland resources is unlikely to grow during the coming years, the needs of those who remain are likely to continue to increase as households face greater economic challenges.

Figure 3.1: Map of Principle Highways in Region

Figure 3.2 and 3.3 shows the principal roads on a local scale for Black Kettle and Kiowa Rita Blanca respectively; Table 3.3 identifies these roadways, with the exception of Interstate highways, in reference to the various Grasslands units. The Kiowa-Rita Blanca Grassland, which is relatively distant from the Interstate network, is serviced by a large number of US and state routes that converge in Clayton, where the District Office is located. US 56 and US 64 connect Clayton to Interstate 25 at Springer (84 miles) and Raton (76 miles), respectively. US 56 continues northeast from Clayton, joining US 287 in Boise City, Oklahoma, while US 87 passes through Texline en route to Dalhart Texas, nearly 50 miles to the southeast. Mills Canyon and Uplands in Harding County, New Mexico is about 15 miles from US 56, linking the area to Interstate 25 at Springer about 20 miles to the west. The Black Kettle and McClellan Creek units, both located near Interstate 40, depend less on secondary routes for access. US 283 connect Cheyenne, Oklahoma, the location of the District offices, to the Interstate; McClellan Creek is only 3 miles from the Interstate.

According to DOT Strategic Plans for New Mexico, and Texas, Routes 56, 64 and 87 are designated as major shipping routes, allowing for greater traffic volume but also greater demand by larger trucks. Route 87 which passes near the Mills Canyon and Kiowa Rita Blanca Regions has been designated as part of the Port-to-Plains transportation corridor. The designation will carry with it an expansion of route 87 from a two-lane to four-lane

Table 3.4: Daily Vehicle Miles Traveled

	Estimated VMT	VMT per Lane-Mile
Kiowa-Rita Blanca Region		
Union, NM	**264,904**	**61**
Cimarron, OK	**211,767**	**60**
Dallam, TX	**286,443**	**169**
Mills Canyon Region		
Colfax, NM	**673,508**	**285**
Harding, NM	**49,215**	**31**
Mora, NM	**387,063**	**341**
Black Kettle Region		
Hemphill, TX	**121,047**	**110**
Roger Mills, OK	**130,520**	**46**
McClellan Region		
Gray, TX	**587,495**	**224**

Source: US Department of Transportation, HPMS Database

Figure 3.4 shows EPA projections for the growth of VMT between 1996 and 2007 by county for a region that includes the assessment area. The projections are based on the Federal Highway Administrations (FHWA) Highway Performance Management System (HPMS) 1996 dataset and were generated by the Environmental Protection Agency according to the EPA's tier 2 rulemaking in 2000.[9] As this figure indicates, vehicle miles traveled are expected to increase rapidly, nearly doubling in northeastern New Mexico. The increase in traffic is expected to be somewhat lower in the Texas panhandle, and significantly lower in Oklahoma, near both KRBNG and BKLMNG regions. In EPA modeling, the pattern generally follows actual and projected demographic trends.

9 Environmental Protection Agency, Technology Transfer Network, Ozone Implementation: http://www.epa.gov/ttn/naaqs/ozone/areas/vmt/stindex.htm.

Roadless Area. The area will be managed under Interim Directive 36 CFR 294 and will be maintained for its roadless attributes.

3.5 Right-of-Way and Other Access Issues

The checker board structure of land ownership within the National Grasslands poses potential restrictions to access to FS land because of the need to maintain right-of-way across private land. This is problematic in some parts of Mills Canyon and Rita Blanca, where restrictions to public right-of-way threaten to restrict access by recreationists and hunters. There are few such restrictions on the BKMCNG.

3.6 Capital Outlays and Transportation Infrastructure Improvements

The state DOTs are responsible for managing the maintenance and improvement of both the US highways and their state roads for the FHWA. Each state maintains a State Transportation Improvement Plan (STIP) that documents the outlays of funds allocated to road maintenance and improvement over the course of the year and several out years.[12] Table 3.6 shows a summary of projects near the two grasslands Districts for each of the three states by road and project type.

Table 3.6: Road Projects near Grasslands Areas

State	Road	Total Projected Cost	Project Type
NM	I-25	$21,100,000	road/bridge improvements and maintenance
NM	I-25	$4,000,000	intersection/interchange improvements
NM	I-40	$110,575,000	road/bridge improvements and maintenance
NM	NM 120	$2,000,000	road/bridge improvements and maintenance
NM	NM 402	$800,000	road/bridge improvements and maintenance
NM	US 56	$17,842,000	road/bridge improvements and maintenance
NM	US 64	$94,750,000	road/bridge improvements and maintenance
NM	US 64	$3,000,000	preliminary engineering
OK	I-40	$22,802,839	road/bridge improvements and maintenance
OK	OK 33	$350,000	utilities
OK	OK 33	$350,000	right of way
OK	OK 34	$3,781,217	road/bridge improvements and maintenance
OK	US 54	$1,750,000	road/bridge improvements and maintenance
OK	US 54	$1,600,000	utilities
OK	US 54	$2,204,678	right of way
TX	I-40	$3,000,000	road/bridge improvements and maintenance
TX	US 87	$10,000,000	road/bridge improvements and maintenance

New Mexico has the largest capital outlay of the three. The significant contributor to New Mexico's spending is the GRIP (Governor Richardson's Investment Partnership). GRIP has scheduled investments to improve Interstate 40 in eastern New Mexico, and US

12 STIPs for each state's DOT can be found on their respective websites.

Table 5.1: Selected Measures of Grazing Activities on the National Grasslands

3/1/04-3/1/05	Mills	Kiowa (remainder)	Rita Blanca	Black Kettle	TOTAL
Permittees[1]	29	37	56	60	177
Active Allotments (#)	70	92	139	118	419
Total Area (acres)	81,802	58,004	92,774	26,839	259,419
Area, Active Allotments (acres)	81,692	57,165	86,774	24,589	250,220
Permit Fees ($)	$25,162	$31,806	$53,046	$16,463	$126,478
Actual Use Fees ($)[2]	$17,660	$26,282	$43,775	$15,700	$103,417
Actual Use Fee Credits (%)	30%	17%	17%	5%	18%
Actual Use Permit Fees per Acre ($/acre)	$0.22	$0.46	$0.50	$0.64	$0.51
Conservation Improvement credits ($)[3]	$7,666	$27,297	$37,637	$2,685	$75,285
Conservation Improvement credits per acre ($)	$0.09	$0.47	$0.41	$0.10	$0.29
Animal Unit Months (AUMs)	16,784	21,730	35,631	10,915	85,060
Stocking Rate (head/acres)[4]	1:58	1:32	1:29	1:27	1:35

Notes:

[1] The Kiowa has a total of 61 permittees; the sum of the number of permittees for Mills and Kiowa (remainder) is greater because the five permittees withallotments on units.

[2] Acual Use Fee are permit fees minus Actual Use Credits returned to the Permittee according to NFS discretiion, typically associated with grazing conditions.

[3] Conservation credits are fees credited to the Permittee in exchange for improvements to the allotment; credits are equivalent to 50% of the cost ofimprovements.

[4] Stocking rate is the average number of acres per head; I.e AUMs/12/acre.

Source: NFS INFRA Grazing database.

Hunting & Fishing

Hunting and fishing engages the greatest number of users on the National Grasslands, though their activities are more limited than ranching in terms of seasonality and locations. Game includes deer, pronghorn antelope, bear, cougar, turkey, quail and other small game in the Mills Canyon area; antelope, turkey and quail on the prairies of Kiowa-Rita Blanca; and turkey (including the prized Rio Grande turkey), quail, deer, dove, waterfowl on the Black Kettle. Hunting season for most large game are during the autumn months of September, October and November; in New Mexico, hunting season for antelope is during August. Fishing at the Black Kettle actively uses five lakes, stocked by Oklahoma Game and Fish, and numerous ponds. Fishing species include largemouth bass, catfish and sunfish.

By Federal law, hunting is regulated by the states, which are responsible for the issue of permits and licenses. Table A.3 in the Appendices provides a summary of hunting regulations for the three states as they apply to the assessment area. For most game in New Mexico, Oklahoma and Texas, ‘authorizations’ are also granted to private landowners; authorizations then can be sold to the general public. In New Mexico, permits for deer, elk and antelope are issued by lottery to State residents, non-residents

and hunting guides. In Oklahoma and Texas, a lottery system is in place for antelope, but for all other game, licenses are issued over the counter[21].

Information on hunting activities is scarce and sometimes contradictory. A survey of sporting goods stores, private landowners, and hunting guides suggest that out-of-area hunters are relatively more likely than local residents to purchase authorizations to hunt 'high quality game' (e.g. antelope, elk, Rio Grande turkey) on private land, where activity is limited and the success rate is high, while local hunters are more likely to pursue larger game on public grasslands and, with the consent of landowners, small game on private land. By contrast, FS personnel argue that out-of-area hunters make extensive use of public lands, particularly for deer during the fall and turkey during the spring. By this account, the Black Kettle attracts as many as one deer hunter for each 50 acres of public land, half from out-of-state, with a total harvest in excess of 300 deer. During the spring turkey season, the Black Kettle district attracts as many as 3,000 hunters from across the nation. Although limited in number, antelope hunting attracts the greatest interest among hunters on the National Grasslands. In 2004, 2,754 applications were submitted for six permits for antelope hunting on the Rita Blanca National Grasslands in Dallam County, Texas.

An unregulated but significant subcategory of hunters on the Cibola grasslands is black tail prairie dog shooters. The activity has a large following across the Plains states, and historically many have traveled to the Kiowa/Rita Blanca because of the concentration of 'dog towns'. However, during recent years, sylvatic plague (y*ersinia pestis*) has begun to severely reduce the number of active towns in the region, particularly in Dallam County. At present, there is an estimated 6,300 acres of prairie dog towns on Kiowa-Rita Blanca. The declining population of prairie dogs is seen, among many, to have to lead to a decline in the number of shooting enthusiasts.

Oil & Gas

Table 5.2 provides selected measures of oil & gas activities on the Black Kettle for 2001.

In contrast to widespread ranching and hunting activities, oil & gas extraction is confined to the approximately 32,000 acres of the Black Kettle and the McClellan Creek units. In 2001, 36 wells were active across the Black Kettle, producing 2.91 billion cubic feet of gas and 13,493 barrels of oil; on the smaller McClellan Creek unit, 13 wells produced 5,931 barrels of oil. There is also one active oil-gas lease and well on the Rita Blanca, in Dallam County, Texas. Recent development of oil & gas capacity has been limited. Since 1999, only five wells have been drilled on the Black Kettle. New wells have not been developed on the Lake Marvin unit since 1972, and on the McClellan Creek unit since 1962. The principal operator on the Black Kettle is Houston-based Apache Oil.

21 There is no restriction on the number of 'over the counter' licenses. However, in the case of bear, cougar and turkey in New Mexico, and deer and elk in Oklahoma, a harvest limit restricts the total number of animals that can be taken in a season.

Table 5.2: Oil & Gas Activity on The Black Kettle National Grassland, 2001

	Gas (1,000s cf)	Oil (barrels)	Wells
Production, 2001			
Black Kettle, OK	2,868,760	13,493	34
Lake Marvin TX	43,922	-	2
Lake McClellan TX	-	5,931	13
TOTAL	2,912,682	19,424	49
Prices, 2001	Gas (1,000s cf)	Oil (barrels)	
	$4.09	$25.96	
Total Value of Production, 2001			
Black Kettle & Lake McClellan	$12,417,205		
Distribution of Royalties, 2001			
12.5% Royalty	$1,552,151		
25% to Counties	$388,038		
25% to State of Oklahoma	$388,038		
50% to US Treasury	$776,075		
Distribution within Roger Mills County:			
Royalties used for Schools (67%)	$259,985		
Royalties used for Roads (33%)	$128,052		

Source: NFS Black Kettle District office; Roger Mills County government.

Recreationists, including bird-watchers, wildlife enthusiasts, hikers, campers, off-highway (OHV) vehicle riders and those holding social functions, including picnics, also make extensive use of the National Grasslands. Visitor use survey data (NVUM) is too limited to allow for statistical analysis[22], but combined with observations by Forest Service personnel it is possible to describe these uses in general terms.

On developed sites, especially picnic areas and campgrounds, social functions are perhaps most common, with picnics identified as the principal activity by the greatest number of visitors surveyed at the Black Kettle. These visitors include in almost equal proportion persons who live close to the grasslands (within 30 miles) and persons who live far from the grasslands (more than 60 miles), presumably persons traveling on Interstate 40. Visitors often state an interest in 'viewing nature' on their trips to the National Grasslands, though this is less often identified as a principal purpose for visit.

Of those responding to the Black Kettle NVUM survey, several expressed an interest in camping and significantly, these individuals were by large proportion from areas more than 60 miles from the grasslands. It is not possible to determine from these surveys whether the grasslands were a principal destination for these campers, a site for camping for persons traveling on I-40, or whether camping was combined with another primary activity, such as hunting. Surveys were not conducted at Mills Canyon, but Forest Service personnel and a visit to the Mills Canyon campground suggests that this area is also a preferred site for camping.

Hiking is infrequently identified in the Black Kettle NVUM survey as a primary activity, though many state that they do hike on their visits. It might be assumed that hikers are engaged in related primary activities, such as hunting or wildlife viewing. Reflecting the overall results, hikers include in near equal proportion persons who live within 30 miles or more than 250 miles from the grasslands, but relatively few in an intermediate range.

Again, because of sampling concerns and without a standardized practice of fee collection, it isn't possible to draw significant conclusions regarding the seasonal pattern of visitation. However, by most accounts autumn has a high level of activity. Seasonal hunting activity is largely concentrated during

22 Only 241 NVUM surveys were conducted, and these were limited to a few sites on the Black Kettle, including the Black Kettle Campground and the Croton Wilderness Viewing Area, and only eight days, including Memorial Day and Labor Day.

autumn months, and draws a large number of visitors to all parts of the National Grasslands. Similarly, the Fall Foliage Festival during October at Lake Marvin of the Black Kettle Grasslands is said to draw up to 7,500 persons over a single weekend. During the summer months, Memorial Day, Fourth of July and Labor Day weekends attract a large number of persons to the Grasslands to camp, picnic, hike and view wildlife.

OHV (or all-terrain vehicle) driving is gaining in popularity throughout the United States, and is placing an increasing burden on the management of public lands. According to Forest Service personnel, OHV riding at the Kiowa/Rita Blanca Grasslands is largely concentrated at Mills Canyon, where uneven terrain – unusual in the region – provides excitement for riders. The Black Kettle District has established a network of trails at the McClellan Creek unit, creating a destination for OHV riders. The site has been identified by various website for OHV enthusiasts as a "prime riding area within the Texas Panhandle."[23]

5.2 Special Uses Permittees

The forest service grants authorization for usage of the Grasslands through special use permits. The permits allow for occupancy, usage, rights to, or privileges on the grasslands. Although, the Forest Service grants special use permits in all of its forests, specific uses and trends for permit types are unique to individual forests.

As Table 5.2 shows, there have been relatively few active special use permits in the National Grasslands. Since 1949, only 149 permits have been granted in both ranger districts; the number has been offset by a closure of 48 permits. Black Kettle has seen the majority of the growth in permitted usage growing 162% since 1949, conversely Kiowa/Rita Blanca special use permits have increased by only 30% with a 14-year period (1986-2000) with only 14 permits issued. Table 5.3 shows that over half of the permits issued in Black Kettle are for oil and gas pipelines or sites, where as Kiowa Rita Blanca has high concentrations of permittees for power lines and road easements.

23 http://www.rockymountainrec.com/recreation/ohv.htm . Lake McClellan is also featured on the http://www.trailsource.com .

Table 5.3 Historical Trends in Recreation/Lands/Minerals Special Use Permits, 1949-2005

	Black Kettle			Kiowa/Rita Blanca		
Date Issued	# Issued	# Closed/Expired	# Active Permits	# Issued	#Closed/Expired	# Active Permits
1949-1985	23	2	21	42	1	41
1986-1990	21	12	30	10	11	49
1991-1995	16	6	40	1	0	50
1996-2000	12	5	47	3	5	46
2001-2005	13	5	55	8	1	53

Table 5.4 Percentage of Permits by Land Use Type from 2005 Active Permits

	Black Kettle	Kiowa/Rita Blanca
Land Use Permit Type		
Oil-gas pipelines, sites	52%	9%
Powerlines	16%	26%
Road Easements	12%	34%
Water lines, facilities	9%	6%
Phone/Communications	2%	11%
Research	0%	6%
Other Uses	9%	8%

5.3 Illegal Uses

Tables 5.2 and 5.3 show illegal fines and warnings issued from illegal activities taking place on both National Grassland Ranger Districts. In Black Kettle, the most frequently occurring problem is related to illegal use of vehicles either by illegal usage, reckless activity, or incurring damage to the land. In the Kiowa/Rita Blanca Ranger District, the largest occurrence was violation 36CFR2619a, damaging any natural resource or other US property. In part, Black Kettle, through its creation of trails in the McClellan Creek Unit may alleviate some of the violations from OHV usage.

Table 5.5 Violations on the Black Kettle Ranger District

Violation Code	#Incidents1	Violation
Black Kettle Ranger District		
36CFR26152A	1	Building, maintaining, attending, or using a fire, campfire, or stove fire (fire)
36CFR2615D	1	Leaving a fire to escape from control (fire)
36CFR2619A	1	Damaging any natural feature or other property of the US (property)
36CFR26110M	1	Failing to stop a vehicle when directed to do so by a Forest Officer (occupancy and use)
36CFR26154A	3	Using any type of vehicle prohibited by an order (on NFS roads)
36CFR26158BB	1	Possessing a beverage (during occupancy) which is defined as an alcoholic beverage by State Law (occupancy and use)
36CFR26154A	1	Using any type of vehicle prohibited by an order (on NFS roads)
18USC641	1	Public money, property, or records: Whoever embezzles, steals, purloins, or knowingly converts to his use or the use of another, sells, conveys, or disposes of any record, voucher, money, or thing of value of the US or of any department or agency thereof…shall be fined or imprisoned…
36CFR26113G	4	Carelessly, recklessly, or without regard for the safety of any person… (use of vehicles off roads)
36CFR26113H	4	In a manner which damages or unreasonably disturbs the land, wildlife, or vegetative resources (use of vehicles off roads)
36CFR26113I	1	In violation of a State law established for vehicles used off roads (use of vehicles off roads)
36CFR26114B	1	Building, attending, maintaining, or using a fire outside of a fire ring provided by the FS for such purpose or outside of a stove, grill, or fireplace (at developed recreation sites)
36CFR26114D	2	Discharging or igniting a firecracker, rocket, or other firework or explosive (at developed recreation sites)
36CFR2615D	1	Leaving a fire to escape from control (fire)
36CFR2619A	1	Damaging any natural resource or other property of the US (property)
36CFR2619B	1	Removing any natural feature or other property of the US (property)

Table 5.6 Violations on the Kiowa/Rita Blanca Ranger District

Violation Code	#Incidents1	Violation
Kiowa/Rita Blanca Ranger District		
36CFR26111E	1	Dumping of any refuse, debris, trash, or litter brought as such from private property or from land occupied under permit, except where a container, dump, or similar facility has been provided and is identified as such, to receive trash generated from private lands or
18USC1361	1	Government property or contracts: Whoever willfully injures or commits any depredation against any property of the US or any department or agency thereof…shall be punished…
36CFR26110A	1	Constructing, placing, or maintaining any kind of road, trail, structure, fence, enclosure, communication equipment, or other improvement on NFS land or facilities without a special-use authorization, contract, or approved operating plan is prohibited (occupancy and use)
36CFR26111B	2	Possessing or leaving refuse, debris, or litter in an exposed or unsanitary condition is prohibited (sanitation)
36CFR26113G	1	Carelessly, recklessly, or without regard for the safety of any person… (use of vehicles off roads)
36CFR26153E	2	When provided in an order, it is prohibited to go into or be upon any area which is closed for the protection of public health or safety (special closures)
36CFR26154D	1	When provided by an order, operating a vehicle in violation of the speed, load, weight, height, length, width, or other limitations specified by the order is prohibited (on NFS roads)
36CFR26158A	1	When provided by and order, camping for a period longer than allowed by the order is prohibited (occupancy and use)
36CFR2615D	2	Leaving a fire to escape from control (fire)
36CFR2616A	1	Cutting or otherwise damaging any timber, tree, or other forest product, except as authorized by a special-use authorization, timber sale contract, or Federal law or regulation is prohibited (timber and other forest products)
36CFR2617A	2	Placing or allowing unauthorized livestock to enter or be in the National Forest System or other lands under FS control is prohibited (livestock)
36CFR2619A	5	Damaging any natural resource or other property of the US (property)
36CFR2619B	1	Removing any natural feature or other property of the US (property)
-?	3	

5.4 Issues for Managers and Planners

In general, there is limited competition and conflict among users for the resources of the National Grasslands. In the Black Kettle hunting, grazing and oil & gas extraction have functioned side by side for years, and together form a core part of the regional culture. Likewise, grazing and hunting have long been a part of ecological and cultural environment of the Kiowa-Rita Blanca, again with little conflict. At present, the greatest

6 - Special Areas and Places

6.1 Methods of Designation

"Special Management Areas" (SMA's or "Special Areas") are defined as FS lands that contain outstanding examples of plant and animal communities, geological features, scenic grandeur, or other special attributes. SMAs can be designated administratively or by legislation. SMAs are managed to emphasize recreational and other specific related values. Other uses are permitted within SMAs to the extent that they are in harmony with the purpose for which the area was designated. By contrast, "special places" are defined by the people who traditionally use them, and are without FS designation.

6.2 Special Management Areas

SMAs on the KRBNG and BKMCNG include the following:

Scenic Byways

Santa Fe Trail Scenic Trail and Byway
The nationally designated Santa Fe Trail extends from Missouri to Santa Fe, crossing through the Kiowa NG 15 miles north of Clayton, New Mexico. Deep wagon ruts can still be seen across two miles of the grasslands area. The trail lies between McNees Crossing and Turkey Creek, both resting and watering areas for the original travelers on the Cimarron route of the Santa Fe Trail[24].

La Frontera del Llano Scenic Byway
La Frontera del Llano (Edge of the Plains) Scenic Byway (NM 39) runs 94 miles south through Harding County and a portion of the Kiowa National Grassland from the town of Abbott along NM 56, through Mills, Roy and Mosquero, before ending in Logan along NM 54. The Byway features remnants of the once thriving mining communities of the region and a number of small mission churches.

Wild and Scenic Rivers

The Canadian River, as it passes through the Kiowa NG at Mills Canyons is undergoing suitability study for Congressionally Authorized Wild and Scenic River status. During the study period, the river corridor is under special management of the KRBNG.

Inventoried Roadless Areas

Canadian River Inventoried Roadless Area, with the Kiowa NG along the Canadian River in Mills Canyon, does not allow road construction or reconstruction. The IRA was designated in 200.

There are a number of types of Special Management Areas on the Kiowa-Rita Blanca and the Blank Kettle National Grasslands, including Scenic Byways, Traditional Plant

24 USDA FS "Like a Ribbon Across the Prairie: The Santa Fe Trail on the Cimarron, Kiowa and Comanche National Grasslands," Pamphlet. The Raton/Colfax County Hispano Chamber of Commerce. "New Mexico's Santa Fe Trail National Scenic Byway" Map and Guide.

Gathering Places, Traditional Cultural Places, and Developed and Dispersed Recreational Sites. The following briefly identifies and discusses several of the SMA's.

6.3 Recreational Sites

6.3.1 Developed Recreational Sites

Recreational sites are classified by the FS according to a Recreational Opportunity Spectrum (ROS), which describes recreational opportunity areas in terms of the type of experience one may expect to have in a given part of the National Forest or Grassland. The ROS includes six classes: Roaded Natural (RN), Rural, Urban, Primitive, Semi-Primitive Non Motorized and Semi-Primitive Motorized.

Recreational use on the NG Districts is relatively stable, with no significant changes in long term recreational use. Recreational use generally does not exceed the design capacity of the developed sites, although campsites are usually full on major holidays and most weekends.

There is no scientifically valid measure for recreational use on the NGs. While developed recreation use has typically been recorded by the FS as Recreation Visitor Days (RVDs), this unit of measure has been shown to be invalid. Site capacity has been measured by the FS as People At One Time (PAOTs), a measure that likewise has not been commonly accepted in the scientific community.

Tables 6.1and 6.2 list the developed recreational sites for the Kiowa-Rita Blanca and Black Kettle National Grasslands, respectively. As the tables indicate, the vast majority of the developed recreational sites on the Grasslands are Roaded Natural areas. These areas have "predominantly natural-appearing environments with moderate evidences of the sights and sounds of humans. Such evidences are usually in harmony with the natural environment. Interaction between users may be low to moderate, but evidence of other users is prevalent. Resource modification and practices are evident but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and facilities design."[25] There are also a few Rural and Semi-Primitive Motorized developed recreational sites.

Among the most popular developed recreation sites are the following:

Mixed Grass Prairie

There are a number of different types of grasses and numerous wildlife watching opportunities in this area. Nesting birds like the Grasshopper Sparrow, Cassin's Sparrow, and the Dickissel can be seen here.

25 *Ibid.*

Black Kettle Recreation Area
BKRA is located mostly on Dead Indian Lake. Visitors enjoy fishing for catfish, largemouth bass and crappie in lake. Deer, turkeys, quail and other small animals can be seen in the area. Trails are also an attraction

Skipout Lake Recreation Area
SLRA is located partly in cottonwood and partly in the open on Skipout lake. Visitors enjoy fishing for catfish, crappie, sunfish and largemouth bass in lake. Deer, turkeys, quail and other small animals also attract visitors to the area. There is a 2 mi. trail around lake. Busy in spring and in fall for hunting

Croton Creek Wildlife Area
This brushy area attracts visitors that want to see wild turkey, deer, coyotes, porcupine and armadillos.

Spring Creek Lake Recreation Area
Hosts a variety of wildlife species and has a large developed recreation area with both primitive and developed camping sites available. Lake offers opportuntiies for largemouth bass, catfish and sunfish anglers.

Lake McClellan Recreation Area
The present site of the Lake McClellan Recreation Area includes an historic battlefield site and military trail. The reservoir was built in the 1940s for flood control, recreation and wildlife purposes. Highest recreational use of this area was the 1950s and 60s when the lake stayed full, boats could be rented for waterskiing, and it had a bathhouse, dance-hall and other facilities. Use gradually declined as the water level in the lake dropped and became undependable. There is no live year-round creek that feeds this reservoir. The surface water run off that previously flowed into the lake is now utilized and diverted for agricultural irrigation purposes on surrounding lands, which caused the water level in the lake to substantially diminish. It ahs also filled in with a huge amount of silt, which would require millions of dollars to remove. Lake McClellan no longer provides dependable opportunities for boating or fishing. This is causing recreational use levels to decline. Over the past 10 years, use levels have typically ranged from 5,000-9000 annually, with a peak of 21,000 in 2001 due to having excess precipitation and a full lake (based on concessionaire records). People following signs from I-40 to “Lake McClellan” are often disappointed when they arrive with their boats and poles at a dry reservoir. It typically functions as a marsh or wetland, with varying water levels depending on rainfall. The area has many trails, including an 8 mile motorcycle and OHV trail that attract visitors, particularly during spring and summer seasons.

Lake Marvin
CG is located mostly in cottonwood on Lake Marvin. Anglers fish for catfish, largemouth bass and crappie in lake. Deer, turkeys, quail and other small animals are common to the area. There are two interpretive trails–one with a wetlands wildlife viewing boardwalk and the other leading to an historic cottonwood tree.

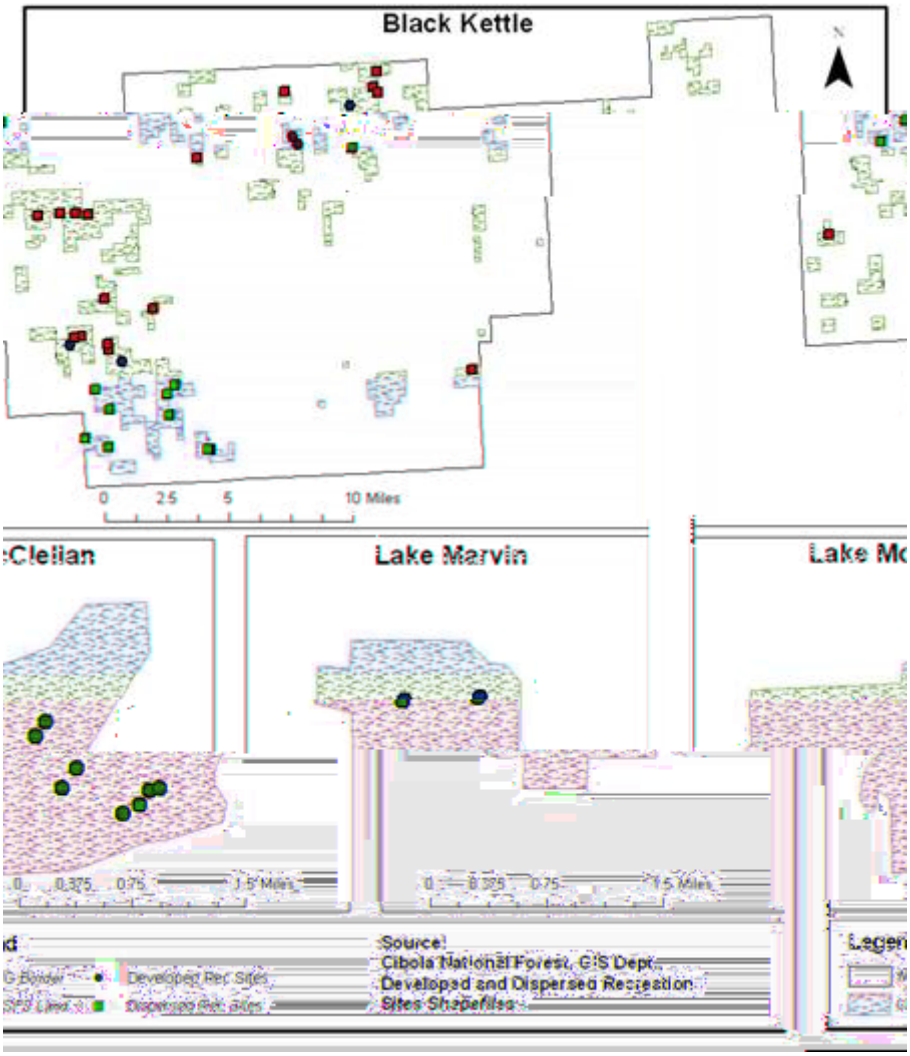

Figure 6.2: Developed and Dispersed Recreation Sites for Black Kettle

6.4 Heritage Resources

In addition to the Santa Fe Historical Trail and La Frontera del Llanos, described in Section 6.2, Kiowa-Rita Blanca and Black Kettle National Grasslands include other significant heritage resources. The following discussion was adapted from a report provided by Cynthia Benedict, Archeologist for the Cibola National Forest.

6.4.1 Mills Orchard and Ranch Site

The Mills Orchard and Ranch site is a historic property that holds significance for the residents who live in and around Roy, New Mexico. This site is located on the Kiowa National Grassland, in the bottom of the Canadian River Canyon. The historic site has been determined to be eligible for inclusion on the National Register of Historic Places and is also listed on the New Mexico State Register of Cultural Properties.

The site extends over several miles in the canyon where Melvin Mills' had extensive orchards established along the floodplain of the river. The site was in use by Mills' from the early1880s until 1904 when the orchards were wiped out by a flood. The focus of Mills' operation, and the part of the site of greatest interest to the public, are the complex of buildings that served as his ranch headquarters as well as a stage stop. These buildings are in close proximity to the Mills Canyon Campground and are frequently visited by the public who is recreating in the canyon. Stories of individuals from Roy indicate that dances and other social gatherings were hosted at the buildings years after Mills abandoned them. There is a trail leading down the canyon walls just upslope of the buildings that locals used to ride their horses or hike down to attend dances in the early part of the 20th Century.

Structures at the Mills Orchard and Ranch Site have experienced weathering and inadvertent damage to the wall by visitors, as well as graffiti problems. During summer 2005, these buildings were stabilized. A barrier will be constructed to prohibit vehicular access to the buildings. In 2006, the site will be interpreted and a trail constructed to allow the public to access the site by foot, to better protect it. This site is located adjacent to Mills Canyon Campground, which is being expanded in FY06-07, and the interpretive signing will be part of the new campground development project.

6.4.2 Historic Heritage Resources at McClellan Creek Recreation Area

The recreational facilities at Lake McClellan were constructed by W.P.A. labor between 1938 and 1940. What remains of the original facilities have been documented as a historic property on the McClellan Creek National Grasslands. The area and the facilities have undergone numerous episodes of maintenance and improvement, and some of the buildings associated with the early recreation development are now gone. The one remaining feature of the site is the building originally known as the Bath House, but which is now called the Concession Building. It appears to have been the focal point of uctfir.001.0nw 18.5 -1.08I Td(e Bath House22.99TJ-0.0027 Tw 1tinue 19.4funcw 14.-1.08way19.day, 0 Td(

Apachean groups are a factor that contributes to the lack of site visibility on the landscape. The lodgings were typically hide teepees. Brush structures were also common. The wood superstructures associated with the Sun Dance ceremony were also not of a permanent nature. None of these structures was used on a long-term basis and all tend to leave little long-term evidence of their existence. Evidence of temporary camp and resource procurement sites have been found, but these reflect the ephemeral and nomadic use of the area. These archaeological and historic resources do not fit well into the definition of a *special place*, and do not meet the criteria of a traditional cultural property as defined in USDI National Register Bulletin 38.

The Black Kettle National Grasslands fall within the traditional use area of the five Oklahoma based tribes. However, given the fact that these tribes were removed from these lands over 125 years ago, the considerable distance separating these tribes from the National Grasslands, and the more mobile and ephemeral nature of their historic subsistence, it is not surprising that more is not known about the locations of their sacred sites, historic ceremony areas, and traditional plant collection areas. Through years of separation from much of their traditional homelands, these groups have adapted and modified their cultural practices to accommodate resources closer and more easily accessible to them.

Information about special places is generally passed down through oral traditions. In some cases, the oral traditions have been lost, or the elders are unable or unwilling to share the information. In the case of the Kiowa, the elders feel reluctant to share information about significant places that have been “untouched” for so long.

At present, there are no significant heritage resource management issues associated with the historic sites on the National Grasslands.

Contemporary Native American Use of National Grasslands

Both the Jicarilla Apache and the Mescalero Apache acknowledge historic use of the Grasslands, particularly the Kiowa National Grasslands. The Jicarilla acknowledge their use of the Canadian River Canyon bottom, as it has been passed on through their oral traditions. The Jicarilla have knowledge of their ties to historic locations in central and northern New Mexico and still do traditional plant gathering. Camp sites have been located in and near the canyon that can be attributed to nomadic groups, but not definitively connected to a present-day tribe. The Mescalero Apache also acknowledge their historic use of the area near the Canadian River. They view a variety of site types as traditional cultural properties, these can include mountains or mountain ranges, all ceremonial grounds (past and present), markers of many types, travel routes, burials, and a variety of natural features or other locations where activities have occurred. To date, neither tribe has identified traditional cultural properties on the Kiowa National Grasslands, but the Mescalero are working to gather information from tribal elders about significant locations. The Mescalero Apache have indicated that they do most of their plant collection nearer to the mountain Districts of the Cibola National Forest, and not on the National Grasslands. The Jicarilla Apache have identified several plant species in the Canadian River canyon that are used traditionally, but these sources may not have been used since historic times.

7 - Economic Impacts

7.1 Methodology and Organization

This section examines the economic impacts of the National Grasslands on the local economies. This analysis involves, first, a measurement of the economic value of activities that are directly associated with the grasslands. As detailed in an earlier chapter on **Uses and Users**, the principal activities include ranching, oil & gas extraction, recreation, land management and, to a much less degree, caliche extraction.[27] The second step is an estimate of the indirect and induced impacts associated with these activities. These estimates are generated with the use of IMPLAN data and software, which uses county-level input-output (I-O) data to determine the extent to which these activities support the growth of the local economy. The third step considers an alternative scenario where it is assumed that land and resources currently managed by the FS is otherwise managed in a manner similar to neighboring privately owned land. Comparing this scenario with the initial scenario determines the *net* impact of FS activities – the result of FS activities rather than the surrounding region.

This analysis draws on a wide range of data and information sources. Data on the structure of the local economics and characteristics of the workforce was gathered mainly from the 2000 Decennial Census summary file 3 and US Department of Labor Local Area Unemployment Statistics. The FS was a principal source of information on the specific activities that occurred on the Grasslands. Specific sources included INFRA (grazing); NVUM (recreation); Cibola Supervisor's office (procurement, wages & salaries); the Kiowa-Rita Blanca Ranger's office provided data on caliche excavation; Black Kettle Rangers' office and the Roger Mills County government offices provided data on revenues from oil & gas extraction on the Black Kettle. The US Department of Agriculture National Agricultural Statistics Service (NASS) was the source of data on agricultural land values and cattle stocking rates. The most valuable sources of information, however, were FS field personnel and local business persons, who provided detailed accounts of otherwise difficult to document activities, including expenditures of hunters, prairie dog shooters, ATV riders and other recreationists, grazing management practices of local ranchers and shopping patterns of FS personnel and contractors.

The chapter begins by describing the structure of local economies, then details the economic activities on the National Grasslands in order to quantify the direct impact of the Grasslands on the local economies. The third section is an analysis of direct, indirect and induced impacts, and the fourth section examines the results of the alternative scenario. The chapter concludes with a brief discussion of other considerations.

27 Caliche is a crust or layer of hard subsoil encrusted with calcium-carbonate occurring in arid or semiarid regions. It is extracted through surface excavation, commonly for use in road construction although higher quality caliche can be used as clay in ceramic production. Material excavated from northeastern New Mexico is of moderate quality, and is available in commercial markets for an average price of $5 to $7.50 per cubic meter.

7.2 Incomes and Industrial Structure of Counties near the Cibola Grasslands

The grasslands regions historically have been dependent on primary economic activities, including agriculture and oil & gas. In 1999, 17.2% of jobs in grasslands counties were in agriculture and mining, compared to just 2.9% in the three-state region as a whole. Dependence on these primary industries declined during recent years – 21.6% of all jobs were in this sector in 1989 – this restructuring has been much more gradual than that of national and state economies. Further, while state economies followed the national pattern of declining employment in the public sector, particularly in public administration, employment in public administration expanded significantly in grasslands regions. In 1990, only 4.1% of all jobs in the grasslands were in public administration, compared to 5.0% in statewide economies. By 2000, 6.3% of jobs near the grasslands were in public administration versus 4.9% in the states. Only the health services sector, which experienced strong growth throughout the U.S., added more jobs in the grasslands areas during the last decade.

Figure 7.1 Percent of Employment in Primary Sectors by County in 2000

With few exceptions, these trends apply to each of the four grasslands regions. First, the area neighboring McClellan Creek is slightly wealthier than the other three regions, mainly due to income generated by the oil & gas industry and related manufacturing activities in the area of Pampa, located 35 miles from Lake McClellan. Second, employment in the counties of Union, Cimmaron and Dallam near Kiowa/Rita Blanca increased slowly during the 1989-1999 period, while Roger Mills, Hemphill and Wheeler counties saw a decline in the number of jobs. In all parts of the assessment region, employment in agriculture and mining has declined, while the number of health-related and public administrative jobs has, to a less extent, grown.

With the exception of the New Mexican counties of Mora and San Miguel, unemployment has remained relatively low in the assessment region. This owes primarily to the decline in the population of the region, and to a lesser degree the growth of publicly funded services, including health, public administration and education. Unemployment rates for the 13 counties during the 10-year period ending 2004 are shown in Table 7.1.

Table 7.1: Average Annual Unemployment Rate for Selected Counties, 1995-2004 (%)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Colfax County, New Mexico	8.2	11.8	7.8	6.5	5.4	5.0	5.2	5.1	6.4	5.9
Harding County, New Mexico	5.6	4.5	6.5	5.7	3.3	4.1	3.6	3.9	5.3	4.4
Mora County, New Mexico	21.9	20.8	20.8	19.6	16.7	10.5	12.6	12.7	13.4	14.0
San Miguel County, New Mexico	8.9	12.6	10.7	8.4	6.9	5.8	6.6	6.3	6.7	7.1
Union County, New Mexico	4.4	4.7	4.8	4.1	2.6	3.7	2.6	2.7	2.9	2.7
Beckham County, Oklahoma	5.1	4.0	3.5	4.2	4.9	3.2	2.6	3.5	2.7	2.2
Cimarron County, Oklahoma	2.5	2.2	2.1	3.0	2.4	2.1	2.4	3.2	3.0	1.6
Roger Mills County, Oklahoma	3.0	2.8	3.1	4.4	3.5	2.4	1.8	2.8	1.9	1.6
Dallum County, Texas	3.4	3.1	3.7	3.3	2.7	3.3	2.3	2.6	2.9	2.3
Donley County, Texas	3.1	3.2	3.3	5.1	3.6	3.9	2.7	2.8	3.5	3.9
Gray County, Texas	4.8	4.6	4.2	4.9	7.1	4.9	3.6	5.6	5.2	4.3
Hemphill County, Texas	3.4	3.0	3.6	2.9	3.0	2.8	1.7	1.9	1.3	2.1
Wheeler County, Texas	3.9	4.3	2.8	3.3	4.4	3.7	3.1	3.5	2.5	2.3
NM-OK-TX	6.0	5.7	5.3	4.9	4.6	4.2	4.8	6.1	6.5	5.9

Source: Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS)

7.3 Direct Impact of the National Grasslands on the Local Economies

The principal economic activities on the National Grasslands are ranching, oil & gas extraction (mainly on the Black Kettle), recreation (especially hunting), the management activities of the FS and caliche extraction (on the Kiowa-Rita Blanca).

Table 7.2 is summary of the employment, labor incomes and the value of output directly associated with these activities.[28] These direct impacts are, in effect, 'what you see' – a measure of activities and their economic value as they actually occur on the Grasslands. There are a few important patterns that are evident in this data. First, that Black Kettle, though only one-tenth the size of the Kiowa-Rita Blanca, generates 50% more employment and output, and nearly three times as much labor income. Oil & gas activities account for three-quarters of the labor income and output, and about 41% of the employment, on the Black Kettle. Second, despite the wealth generated by oil & gas, both recreation and ranching create more jobs[29]. However, the average labor income of these jobs is barely one-quarter of the oil & gas industry. Third, Black Kettle houses nearly twice the jobs, income, and employment in recreation as Kiowa-Rita Blanca. Despite its smaller size, the relative ease of access near Interstate 40 fosters more activity. Fourth, the direct activities of FS account for 24 jobs and $793,548 in labor income--about one-sixth of the total levels. They are evenly distributed between the Kiowa-Rita Blanca and the Black Kettle. Fifth, other resource extraction activities, including

28 Labor incomes are the sum of employee compensation and proprietors income.

29 Employment figures represent full-time equivalents; no distinction is made between one full-time job and two half-time jobs. In reality, a large share of ranching employment and a good deal of recreational employment is supplementary, "after-hours" employment that is critical to working families of the region.

model results to look for inconsistencies in the model results; results shown below in Table 7.3. The BEA data confirm that average employee compensation was lowest in the Black Kettle region, and Kiowa/Rita Blanca had the highest farm employee compensation.

Table 7.3: Comparison o Bureau o Economic Analysis Average Farm Employee Compensation ad Implan Cattle Ranching Sector Average Employee Compensation

	Farm Sector[1]			IMPLAN Cattle Ranch Section [2,3]
	2001	**2002**	**2003**	**2002**
Black Kettle Region	2,518	2,462	1,878	2,714
Kiowa/Rita Blanca Region	10,806	10,802	10,092	13,981
Mills Canyon Region	4,289	4,264	4,661	4,251
McClellan Region[4]	3,815	3,721	3,213	…

[1]Source Bureau of Economic Analysis (BEA): CA25N & CA06N county tables
[2]Source: Implan Average Employee Compensation for Cattle Ranching, Based on BBER Grassland Model Areas for public lands grazing
[3]Implan estimates based on BEA Input-Output tables
[4]No public grazing activity takes place in the McClellan Region Public Lands

7.4 Indirect and Induced Impacts, and the Economic Multipliers

The direct activities associated with the National Grasslands create indirect and induced impacts as businesses and workers make expenditures and purchases, and these funds cycle through the local economy. The sum of the direct, indirect, and induced expenditures constitutes the total impact that the Grasslands have on the economies of the neighboring communities. These impacts, in terms of employment, income and total output, are summarized in Table 7.4. Economic multipliers are shown in Table 7.5. Economic multipliers, equal to the total impact divided by the direct impact, indicate the effectiveness of the industry to generate growth in the local economy. These tables also include data for the alternative private sector scenario, which is discussed in the next section.

In total, the Cibola Grasslands contributes directly or indirectly an estimated 292 jobs and $7.696 million in income to the economies of the nine counties included in this study. This is equivalent to about 1.25% percent of the 23,593 jobs in these areas in 1999. Ranching on the national grasslands has the greatest total impact, creating approximately 104 jobs, while oil & gas and recreation provide 80 and 75 respectively. Operational expenditures of the Forest Service, including the local indirect and induced impacts of spending by employees and other contractors, accounts for another 32 jobs. The impact of forestry and other mining are negligible.

Of the four regional clusters, Black Kettle has the greatest economic impact, again due to the strength of oil & gas activities and, to a lesser extent, hunting, fishing, and other

recreational activities. It is notable that on the Black Kettle, ranching has a very small income impact, mainly because many of the proprietorships show losses in income. While statistically correct, this may misrepresent an underlying importance of ranching in this region – individuals raise cattle not for their income benefits but for long-term accumulation of capital. In the much larger Kiowa/Rita Blanca National Grasslands, including Mills Upland, grazing allotments make a significant contribution to the local economy, while visitor recreation--in particular, hunting--made a lesser, though still significant contribution.

The economic multipliers shown in Table 7.5 offer additional insights into the economic dynamics of the grasslands. A first observation is that the multipliers are generally quite low, indicating that direct activities either require few inputs or, more likely, that the small local economies are unable to provide many of the inputs, forcing expenditures to leave the region. A second and related note: activities at Mills Canyon and Uplands tend to have somewhat higher multipliers. The extreme isolation of the region severely limits opportunities to use resources from outside the area. Income earned here, particularly in ranching, is more likely to remain in the region.

Table 7.4: Direct, Indirect and Induced Impacts Of Grasslands, with USFS Private Ownership Scenarios, 2002

TOTAL EMPLOYMENT IMPACTS

	USFS Ownership Employment (#)					Private Ownership Employment (#)				
	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total
Oil and Gas Extraction	0	0	78	1	80	0	0	76	1	77
Ranching	70	21	15	0	105	132	45	37	0	213
Caliche Extraction	1	0	0	0	1	1	0	0	0	1
Visitors & Recreation	21	6	46	2	75	20	17	25	2	65
Forest Service Operations	15	0	17	0	32	0	0	0	0	0
Total	106	26	156	3	292	153	62	138	4	356

TOTAL LABOR INCOME IMPACTS

	USFS Ownership Employment (#)					Private Ownership Employment (#)				
	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total
Oil and Gas Extraction	0	0	3,442	66	3,508	0	0	3,408	67	3,474
Ranching	1,312	172	125	0	1,610	2,472	371	296	0	3,139
Caliche Extraction	19	0	0	0	19	19	0	0	0	19
Visitors & Recreation	381	102	676	74	1,233	383	166	399	35	983
Forest Service Operations	592	0	583	1	3,993	0	0	0	0	0
Total	2,350	274	4,927	141	7,693	2,874	536	4,103	102	7,615

TOTAL OUTPUT IMPACTS

	USFS Ownership Output ($000s)					Private Ownership Output ($000s)				
	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total
Oil and Gas Extraction	0	0	10,873	252	11,125	0	0	11,058	257	11,315
Ranching	93	1,176	932	0	10,075	15,217	2,563	2,223	0	20,003
Caliche Extraction	53	0	0	0	53	53	0	0	0	43
Visitors & Recreation	999	256	1,913	118	3,286	1,646	926	1,849	130	4,550
Forest Service Operations	592	0	600	0	3,993	0	0	0	0	0
Total	9,611	1,432	14,318	370	28,531	16,915	3,490	15,130	386	35,921

Table 7.5: Economic Multipliers for the Grasslands, with USFS and Private Ownership Scenarios, 2002

EMPLOYMENT MULTIPLIERS

	USFS Ownership Employment					Private Ownership Employment				
	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total
Oil and Gas Extraction			1.83	2.00	1.83			1.92	2.00	1.93
Ranching	1.60	1.64	1.89		1.65	1.51	1.64	1.88		1.66
Caliche Extraction	1.17				1.17	1.17				1.17
Visitors & Recreation	1.15	1.14	1.17	1.00	1.15	1.34	1.51	1.19	1.31	1.31
Forest Service Operations	1.23		1.39		1.31					
Total	1.43	1.49	1.53	1.28	1.48	1.57	1.60	1.72	1.52	1.63

LABOR INCOME MULTIPLIERS

	USFS Ownership Output					Private Ownership Output				
	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total
Oil and Gas Extraction			1.37	1.58	1.37			1.38	1.61	1.39
Ranching	2.48	5.65	105.90		2.87	2.53	6.13	627.94		3.03
Caliche Extraction	1.24				1.24	1.24				1.24
Visitors & Recreation	1.24	1.18	1.29	1.20	1.26	1.61	2.69	1.30	1.96	1.58
Forest Service Operations	1.53		1.82	1.60	1.67	2.34	4.34	1.48	1.71	1.82
Total	1.85	2.34	1.44	1.36	1.57			1.38	1.61	1.39

OUTPUT MULTIPLIERS[1]

	USFS Ownership Output					Private Ownership Output				
	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total	Kiowa-Rita Blanca	Mills	Black Kettle	Mc Clellan	Total
Oil and Gas Extraction			1.35	1.50	1.35			1.35	1.51	1.35
Ranching	1.45	1.85	1.96		1.52	1.45	1.85	1.96		1.54
Caliche Extraction	1.32				1.32	1.32				1.32
Visitors & Recreation	1.34	1.28	1.41	1.46	1.38	1.40	1.74	1.15	1.61	1.34
Forest Service Operations	1.41	1.71	1.38	1.47	1.56	1.44	1.82	1.38	1.54	1.45
Total			1.35	1.50	1.35			1.35	1.51	1.35

[1] Output multipliers are not included for Forest Service Operations for reasons discussed in notes in the preceeding table.

IMPLAN utilizes county scale data, and does not allow for an analysis of impacts on a town-by-town basis. Review of grazing permits data, oil leasing data, and discussions with FS personnel and members of the community suggest, however, that the economic impact of the grasslands is highly localized[30]. In the counties neighboring Kiowa-Rita Blanca (excluding Mills Canyon & Uplands), the impact is concentrated in the towns of Clayton, New Mexico; Felt and Boise City, Oklahoma; and Texline and Dalhart, Texas. The impact of operational expenditures (mainly associated with spending by FS employees and contractors) typically concentrates in Clayton, where the district headquarters are located. Permittees of grazing allotments are largely concentrated in the

30 The localization of impacts is discussed in greater detail in the following chapter on Community relations.

nearby communities of Clayton, Felt, Boise City and Dalhart. Recreational expenditures are also more likely focused in Clayton and Boise City, where accommodations, food services, and sporting goods retail outlets are located.

The localization of impacts is even more pronounced around Mills Canyon and Uplands. Isolation from larger communities and few opportunities for stop-through business keeps most of their money local. Receivers of grazing permit allotments, with few exceptions, reside in the nearby communities of Roy and Mills, New Mexico. A few retail and food service outlets can be found in Roy. Apart from those, a recreationist is likely to drive 60 miles to Clayton for services.

Impacts of the Black Kettle National Grasslands are less likely to be as localized as those of the Kiowa/Rita Blanca. This is largely due to the relative ease of access associated with the proximity of I-40 (which passes within 25 miles of the grasslands boundary) and the superior road system that connects the grasslands with larger communities. The district headquarters is located in Cheyenne, which provides various services to FS employees and contractors. Expenditures are also directed to outlets in a network of larger communities, including Elk City, which is 45-minute drive from Cheyenne; Pampa, Texas, less than 2 hours from Cheyenne; and Amarillo, about 2 hours and 15 minutes from Cheyenne. Finally, Lake Marvin, a popular recreation site in the Black Kettle district, is located 45 minutes from Cheyenne, just outside the amenity-rich community of Canadian, Texas.

Apart from expenditures associated with FS personnel and recreation, Black Kettle also has significant activities in oil & gas and ranching. Oil & gas activity is dominated by the Houston-based Apache Corporation, suggesting that significant revenues are drained from the local community. However, regulations under the Bankhead-Jones Act ensure that a portion of those revenues remain in the state; in Oklahoma, one-half of the state's share of revenues remain in the county. Consequently, Roger Mills County, which contains virtually all of the Black Kettle's oil & gas activities, received an average of $465,717 in royalties per year during the period 1996-2004[31]. Ranching also benefits the communities of Roger Mills County, but again a somewhat larger share of the benefits leak from the community than at Kiowa/Rita Blanca. The reason is that far larger shares of the permittees at Black Kettle are out of county ranchers. One permittee, in particular, holds 8% of all Black Kettle allotments, and because of changes in limits at the District level, is expanding to 24%.

The economic impact of activities at McClellan Creek is marginal, and because of the near absence of nearby services and a distance to I-40 of only three miles, only a very small share of the impact is likely to remain in the local economy. Many of the recreational visitors travel from Amarillo, less than one hour away; others are traveling on I-40 and make only brief stops to use available facilities.

31 Personal communication with John Smith, County Treasurer Roger Mills County.

7.5 Alternative Scenario and the Net Impact of FS Land Management Practices

With the exception of direct expenditures by the Forest Service and their indirect and induced impacts on the economies of the region, the economic benefit associated with the national grasslands owe entirely to the land – specifically, oil & gas, grazing, hunting and other outdoor recreation. In this context, it is reasonable to consider the *net* impact of Forest Service activities to the regional economies. A complete analysis would consider the specific impact of differences in land management practices rather than the absolute value of underlying resources.

An analysis of the net impact is significant for several reasons. First, it offers a more useful measurement of the impact of the Forest Service on the local economy –with or without the presence of the Forest Service; the land would remain a key asset of the local economy. Secondly, scenario comparison allows for direct analysis of the impact of specific Forest Service land management policies, at least in comparison to hypothetical conditions of a market-based land management. Third, the alternative scenario is relevant because it addresses the issue raised by the 1995 proposal for the sale of public lands by the U.S. Congressman who represents the district in which Black Kettle National Grasslands is located.

The alternative scenario assumes that the public lands of the National Grasslands would be turned over to private ownership and managed in a manner similar to the regime currently in place on neighboring private land. The details of this scenario are based on the following assumptions:

- Oil & gas operations would continue as is, particularly insofar as mineral rights are in all cases held by private individuals and federal law requires that public land managers act to enable the activities of these individuals. The primary differences are that the payment of royalties will increase from the present 12.5% to the market rate of 18.5%; that royalty payments will be paid to private individuals without obligation to invest these revenues locally; and that surface damage payments of $15,000 per well would replace current expenses associated with NEPA review and documentation.
- Fees for livestock grazing will rise to market rates and grazing activities will be intensified accordingly, beyond those presently allowed under public management guidelines. Public management guidelines have been adopted to maintain and demonstrate the sustainability of agricultural practices on the grasslands of the southern plains.
- Recreational activities will be restructured to encourage those for which there is the greatest potential for market profits. It is specifically assumed that hunting permits will be restricted to maintain high values for big game hunting and to maximize the potential for profits from ancillary activities such as outfitting.
- Direct activities of the FS will be suspended, eliminating expenditures by FS personnel and contractors, and returning land management functions to private landowners.

The results of the alternative scenario can be seen in Table 7.5**.** These suggest a short-term increase of 22% in employment and a marginal 1% decline in incomes relative to current practices. By far, the greatest gains are in ranching, where employment and incomes would approximately double. Employment and incomes in recreation would decline as a result of the restructuring of the sector, with the growth of income by landowners and those involved in the big game hunting industry partially offset by declining employment and income among area business that presently serve smaller scale recreationists.

The impacts of oil and gas remains unchanged or down slightly as a result of a trade-off between the higher royalty rates paid on private lands and declining local expenditures associated with the present regime that directs revenues to local governments that invest in education, roads and other local improvements.

As Kiowa/Rita Blanca has the largest land area available for ranching and the greatest potential for the growth of hunting activities, and the least to lose in terms of oil and gas revenues, this region by far would have the most to gain from the transfer of land from public to private ownership. Conversely, the Black Kettle region, which benefits significantly from the expenditure of oil & gas revenues by county governments, would have the most to lose as the result of the transfer of land ownership.

In the context of this study, these results are perhaps more usefully interpreted from the opposite perspective – in terms of the benefits that derive from current land management practices. From this perspective, the results suggest that Black Kettle receives the greatest benefit from public land management, mainly because the reinvestment of oil & gas revenues in the local economy. Kiowa/Rita Blanca, on the other hand, benefits the least (or is compromised the most) by public land management because of the limits imposed on the intensive use of its land for ranching.

In the broader ecological perspective, these short-term estimates must be balanced against the longer-term implications, particularly as they regard the ecological sustainability of alternative management scenarios. A key assumption in this analysis is that the stocking rate of grazing would increase from 1 AUM per 35 acres of land (the 2004 average computed for the National Grasslands from INFRA grazing data) to an estimated rate of 1 AUM per 21.8 acres under private management. An assessment of the sustainability of this level of grazing activity is beyond the scope of this study. However, insofar as FS land management practices are mandated to ensure sustainable use, and insofar as it is commonly assumed that private land managers sustain their current level of activity by shifting some of the burden onto public land, one may conclude that any gains associated with more intensive land use by the private sector would indeed be of a short term nature. The experience of the Dust Bowl demonstrates the ecological limits of overly intensive land use.

intermediate distance – between 30 and 250 miles from the Grasslands – appear to make very little use of the recreational opportunities afforded by the Grasslands.

Finally, the scenic beauty of the Grasslands and their effect in reducing pressure on the use of private land benefit almost entirely communities that are closest to the Grasslands. This finding is supported by the patterns evident in grazing permits, and available traffic data which suggests that use of roads adjacent to the Grasslands is limited to local traffic.

8.1.2 Social Distribution of Benefits

While benefits of the Grasslands are highly concentrated geographically, this assessment suggests that *within* local communities the benefits are widely and relatively equally distributed. Analysis of grazing permits suggests that, until very recently, there has been no significant concentration in the distribution of grazing permits among individuals and ranching operations. No single entity has controlled more than 10% of either allotments or permitted AUMs in either of the Grasslands Districts. Again, the benefit of the Grasslands in reducing the pressure of overgrazing on private land benefits the local communities at large, contributing to the ecological and economic sustainability and scenic integrity of the land.

Furthermore, royalties earned from oil & gas activities on federal land in Roger Mills County benefit a broad cross-section of the County's residents. The County dedicates its full share of royalties ($388,000 in 2001) to schools (66.7%) and roads (33.3%), benefiting nearly all members of the community. Finally, the economic analysis conducted in this assessment suggests that funds spent by the FS, including salaries and wages and other direct expenditures, tend to remain in the local communities – perhaps more so in the isolated Kiowa-Rita Blanca area than in the Black Kettle. This ensures that the benefits of federal spending circulates broadly within neighboring communities, supporting property values and creating jobs and incomes for people working in several economic sectors and at many occupational levels.

8.2 Community Profiles and Involvement with the National Grasslands

A central concern of this socioeconomic assessment is to understand the differences that exist both between the Kiowa/Rita Blanca and Black Kettle/McClellan Creek Districts and among the various communities that neighbor each of the Districts. The differences are pronounced, and management practices must be sensitive to these differences. This section offers a brief profile of the communities, and highlights their unique relationships with the National Grasslands.

8.2.1 Communities neighboring the Kiowa-Rita Blanca National Grasslands

The Kiowa/Rita Blanca region is characterized by very low population density, limited accessibility and a high level of dependence on agricultural activities. According to the 2000 Census, the combined population of the four counties within which the Kiowa/Rita Blanca is situated (Harding and Union, New Mexico, Cimarron, Oklahoma and Dallam, Texas) is only 14,354, up 3.5% since the 1990 Census. Dalhart, Texas, located 53 miles from the nearest boundary of the Rita Blanca, is the closest town with a population greater than 5,000 persons; Amarillo, Texas, 115 miles from nearest boundary, is the closest city with 20,000 or more persons. Nearly 28% of all employment in the four-county region was in agriculture, more than five times the average share for the three-state region.

Clayton, New Mexico

The headquarters for the Kiowa/Rita Blanca National Grasslands is located in Clayton, New Mexico, a small town with a 2000 population of 2,539 persons. By far the largest community in Union County, with 59% of its population, Clayton is the county seat. The town is also the principal commercial center for a thinly populated region of at least 4,250 square miles, including Union County, northern Harding County, eastern Colfax County, and the western portions of Cimarron County, Oklahoma and Dallam County, Texas. The town's economy generally reflects that of the region as a whole – a large share of employment in agriculture and limited employment in manufacturing, and a somewhat larger concentration of employment in services such as retail, health, and public administration. Despite its status as the County Seat, household and per capita incomes in Clayton are low, below the averages of Union and Harding Counties and those of smaller communities that Clayton serves.

Table 8.1: Clayton, NM Summary

CLAYTON, NEW MEXICO (Union County, Seat)				
	1990	**2000**	**Change**	**2004**
Population	2,424	2,539	4.7%	
Income, Per Capita ($)	$10,587	$13,967	31.9%	
Poverty (%)	25%	18%	-29.0%	
Employment, Agric & Mining (%)	13%	17%	33.6%	
Employment, Public Admin (%)	10%	7%	-26.6%	
Grazing Permits/Population (000s)				23.63
AUM/Population (000s)				6018.51

Clayton's relationship with the Kiowa/Rita Blanca National Grasslands is, in most regards, stronger than that of any other community in the region. The town is situated within the boundaries of the Kiowa Grassland, and has significant economic ties to the Grasslands. Much of the income paid to FS personnel at the headquarters is spent in Clayton; permits for the use of 60 of the 327 active allotments in the Grasslands are held by ranching operations based in Clayton; and local businesses benefit from spending by contractors to the FS and visitors to the Grasslands. In addition, feedlot operations in Clayton benefit from cow-calf operations on the Grasslands. Further, taxes on these

receipts from all these activities contribute to the town's finances. Socially and culturally, too, the community is tied to the Grasslands, in its appreciation of its scenic resources, historical legacies and recreational opportunities.

Texline, Texas

Located on the boundary of the Rita Blanca National Grasslands just 10 miles southeast of Clayton, Texline is a rural community of 502 persons. Like other small towns in the region, Texline depends on ranching and rural services for much of its employment; in addition, because of its location along Highway 87, which links Clayton with the larger center of Dalhart, Texas, the town has a relatively larger wholesale and transportation economy than is found in neighboring communities. Access to FS land benefits the ranch-based economy of Texline – 15 allotments are permitted to ranchers in Texline, a number comparable to Clayton in relation to population differences. However, because of its proximity to Clayton, where FS-related employment and services are concentrated, Texline receives few other direct economic benefits from the National Grasslands. To illustrate this point, according to the 2000 Census Texline had only 9 jobs in area of public administration, compared to 81 in Clayton.

Table 8.2 Texline, TX Summary

TEXLINE, TEXAS (Dallum County)				
	1990	**2000**	**Change**	**2004**
Population	412	502	21.8%	
Income, Per Capita ($)	$9,122	$15,086	65.4%	
Poverty (%)	16%	11%	-30.8%	
Employment, Agric & Mining (%)	18%	16%	-8.5%	
Employment, Public Admin (%)	-	3%		
Grazing Permits/Population (000s)				33.86
AUM/Population (000s)				9290.84

Boise City, Oklahoma

Boise City, with a 2000 population 1,499, is the third largest community in close proximity to the Kiowa/Rita Blanca National Grassland. Located approximately 20 miles north of the Rita Blanca National Grasslands along Highway 56, the principal link that ties Boise City to the National Grasslands is the Historic Santa Fe Trail. The Trail has designated status within the Grasslands and is popular destination for persons visiting the region. The economy of Boise City, like that of others in the region, is highly dependent on ranching. However, because of the distance that separates the town from the FS land on the Grasslands, Boise City ranchers utilize Grasslands allotments at a rate somewhat lower than those of Clayton and Texline.

on cow-calf operations, those of Dalhart emphasize yearling operations that employ feed lots and irrigated crop fields that are common to southern Dallam County. Thus, a reciprocal relationship exists between ranching on the Grasslands and commercial operations of Dalhart's cattle industry. The significance of this relationship is evident in the strength of the wholesale and transportation sectors of Dalhart's economy.

Table 8.5 Dalhart TX Summary

DALHART, TEXAS (Dallum County, Seat)				
	1990	**2000**	**Change**	**2004**
Population	6,270	7,241	16%	
Income, Per Capita ($)	$11,503	$16,530	43.7%	
Poverty (%)	15%	12%	-23.1%	
Employment, Agric & Mining (%)	14%	18%	24.1%	
Employment, Public Admin (%)	4%	8%	81.1%	
Grazing Permits/Population (000s)				7.60
AUM/Population (000s)				1863.14

Social and cultural differences mirror the differences that exist in the economic structure of Dalhart's agricultural operations. The landscape is notably different: flatter, with large irrigated fields, commercial agricultural structures, stockyards, multiple lane highways and larger settlements.

8.2.2 Communities neighboring the Black Kettle/McClellan Creek National Grasslands

Although the communities that neighbor the Black Kettle and Lake McClellen share the rural character of those near the Kiowa/Rita Blanca, there are significant differences. The communities of Black Kettle and McClellan Creek are far more accessible, within miles of Interstate 40. They benefit from the significant wealth generated by the development of the oil & gas industries; and, despite a higher standard of living, are experiencing a very rapid decline in population. Also, perhaps because of the scarcity of public land in Texas and Oklahoma, the Grasslands play a somewhat different role in the social and cultural affairs of the region.

Cheyenne, Oklahoma

Cheyenne, located in the center of Black Kettle National Grasslands, is the Seat of Roger Mills County and home to the Headquarters of the Black Kettle/McClellan Creek National Grasslands. Located 26 miles from I-40 along Highway 287, Cheyenne has a population of 777, approximately 23% of that of the County. Employment in the community is relatively balanced, although the public sector supports a large and growing share of employment. By industry, agriculture, mining, construction, retail, health and social services, education and public administration each provide 6% or more of total employment in the town. Incomes are modest by state and national standards, but well above those of many of the smaller communities in the area.

Table 8.6: Cheyenne, OK Summary

CHEYENNE, OKLAHOMA (Roger Mills County, Seat)				
	1990	**2000**	**Change**	**2004**
Population	965	777	-19.5%	
Income, Per Capita ($)	$9,265	$16,428	77.3%	
Poverty (%)	16%	18%	12.4%	
Employment, Agric & Mining (%)	14%	14%	-3.4%	
Employment, Public Admin (%)	4%	7%	50.4%	
Grazing Permits/Population (000s)				33.46
AUM/Population (000s)				3768.34

The relationship between the Town of Cheyenne and the Black Kettle National Grasslands is strong. Although the community is less dependent on agriculture and ranching than many others in the region, ranchers operating out of Cheyenne control 26 of the 122 active allotments on the grasslands. Further, because of the location of the District offices in the town, FS contributes directly to employment and incomes. Perhaps more important in economic terms, royalties from oil & gas operations on the FS land fund schools and roads throughout Roger Mills County, with the largest concentration in Cheyenne. The role of the National Grasslands in social, cultural and environmental life of the community is no less significant. Cheyenne was at the center of the Dust Bowl experience of the 1930s, and the land management practices of the Forest Service today help to foster within the community a sense of history and viability.

Reydon, Oklahoma

Reydon is a rural residential community of 152 persons situated within the boundaries of the Black Kettle Grasslands. Because of the small size of the community and its location within the Grasslands boundaries, Reydon's relationship with the National Grasslands is remarkably strong. Of the 73 employed persons living in Reydon, 18 work in education, most of them in schools that are funded by oil & gas royalties generated on federal land. Further, 24 grazing allotments are held by 14 permittees who live in Reydon, a number that, in relation to its population, far exceeds that of any similar community.

Table 8.7 Reydon, OK Summary

REYDON, OKLAHOMA (Roger Mills County)				
	1990	**2000**	**Change**	**2004**
Population	220	152	-30.9%	
Income, Per Capita ($)	$6,242	$16,721	167.9%	
Poverty (%)	35%	11%	-68.0%	
Employment, Agric & Mining (%)	15%	11%	-26.0%	
Employment, Public Admin (%)	-	8%	-	
Grazing Permits/Population (000s)				164.47
AUM/Population (000s)				13401.32

Canadian, Texas

Canadian is located a few miles from Lake Marvin, a unit of the Black Kettle National Grassland, and approximately 75 minutes from Cheyenne. Canadian has a population of 2,236 and is the Seat of Hemphill County in the eastern panhandle of Texas. The area surrounding Canadian is prosperous by regional standards, due to the wealth generated by Hemphill's oil & gas industries and the success of the community is establishing a regional center for tourism. Canadian's relationship to the National Grasslands differs sharply from those of other communities in the Black Kettle region. No grazing permits on the Black Kettle are held by persons in Canadian, and oil & gas operations on the Lake Marvin unit are marginal and offer little support to community finances. However, Canadian has actively incorporated Lake Marvin and the regional lore of the southern plains to establish a recreational industry, developing partnerships to support and maintain these assets.

Table 8.8: Canadian, TX Summary

CANADIAN, TEXAS (Hemphill County, Seat)				
	1990	**2000**	**Change**	**2004**
Population	2,420	2,236	-7.6%	
Income, Per Capita ($)	$13,320	$16,384	23.0%	
Poverty (%)	8%	14%	69.4%	
Employment, Agric & Mining (%)	25%	21%	-16.5%	
Employment, Public Admin (%)	4%	6%	58.8%	
Grazing Permits/Population (000s)				0.89
AUM/Population (000s)				5.37

Elk City, Oklahoma

Located east along I-40, approximately 30 minutes from Cheyenne, Elk City is a regional service and retail center for communities that neighbor the Black Kettle National Grasslands. With a population of 10,595, Elk City is home to the regional medical center, several nursing homes, a Wal-Mart, two supermarkets and a food distribution center. Relations with Black Kettle are indirect and of secondary importance to the town. Salary and contract payments by the FS and expenditures of visitors to the Black Kettle circulate through the Elk City economy, but as a regional and I-40 service center these revenues likely represent a small share of community's revenues. Elk City is located in Beckham County, Oklahoma, and receives no royalties from oil & gas operations on the National Grasslands. Only two grazing allotments on the Black Kettle are held by residents of Elk City.

Table 8.9: Elk City, OK Summary

ELK CITY, OKLAHOMA (Beckham County)				
	1990	**2000**	**Change**	**2004**
Population	10,428	10,595	1.6%	
Income, Per Capita ($)	$10,511	$15,654	48.9%	
Poverty (%)	18%	19%	4.4%	
Employment, Agric & Mining (%)	16%	12%	-24.5%	
Employment, Public Admin (%)	2%	6%	162.3%	
Grazing Permits/Population (000s)				0.19
AUM/Population (000s)				1.13

Groom and McLean, Texas

The towns of Groom and McLean are located along I-40, approximately 15 miles east and west of McClellan Creek, respectively. The towns have populations of 559 and 819, and because ease of access to McClellan Creek and its proximity to Amarillo the economic benefits of the FS property to these communities is minimal. It is likely that some residents of these communities enjoy recreational opportunities that McClellan Recreation Area offers.

8.3 Partnerships

The Kiowa-Rita Blanca and Black Kettle National Grasslands partners with a large number of public and private agencies on projects that focus principally on grasslands ecological management and ecotourism and economic development. Partnerships vary according to the type of contributions made by the parties, which can be broadly categorized as funded and non-funded (volunteer or in-kind). The following describes some of the largest projects. They are summarized in Table 8.10.

During recent years, the number of partnerships undertaken by the National Grasslands has significantly. From 1990-2000, there was only one active partnership; the number of active partnerships increased to four in 2001; to nine in 2002; 16 in 2003; and 19 in 2004.

8.3.1 Kiowa/Rita Blanca National Grasslands Partnerships

A major project in the Kiowa/Rita Blanca region is the **Canadian River Riparian Restoration Project**. This is an expansive project covering much of the river areas ranging from Colorado to Texas. The cooperative includes soil and water conservation districts, counties, state and federal agencies as well as private landowners working together to locate and remove Salt Cedar trees from the ecosystem. Salt Cedar is an invasive plant that threatens some of the native plant species in the area.

Table 8.10: Partnerships by Year and Kind

Cooperator name/Project	Year	Expiration Date	NFS ($)	NFS In-Kind ($)	Partner ($)	Partner In-Kind ($)	Total
Kiowa Rita Blanca			282,149	0	353,927	1,667	637,743
Cimarron Heritage Center	2004	9/30/2004	3,700	0	2,561	0	6,261
City of Clayton	2001	8/31/2002	5,000	0	1,500	0	6,500
City of Felt, OK --Development of Felt Picnic Area							…
Dinosaur tracks brochure and tourism development	2003	9/30/2004	5,600	0	2,625	0	8,225
El Llano Estacado RC&D	2003	9/30/2004	19,000	0	7,625	0	26,625
Collaboration During Forest Planning							…
Kansas State University	2004	9/30/2005	5,000	0	0	1,667	6,667
National Wild Turkey Federation	2001	12/31/2004	5,800	0	5,000	0	10,800
New Mexico Game and Fish -- Sikes Act	2004	9/30/2005	223,689	0	307,596	0	531,285
New Mexico Museum of Natural History							…
Playa Lakes Joint Venture	2003	9/30/2004	2,160	0	1,000	0	3,160
Rita Blanca Quail Unlimited		12/31/2007					…
Rocky Mountain Bird Observatory							…
Texas Tech -- Ferruginous Hawk Monitoring	2003		7,600	0	24,870	0	32,470
USDA Natural Resources Conservation Service	2002		0	0	0	0	0
Village of Moquero, NM							…
Village of Roy	2003	6/30/2005	4,600	0	1,150	0	5,750
Texas Tech--Swift Fox research	2001						…
University of Kansas -- Echinacea plant conservation	2002						…
New Mexico State Environment Department	2002	12/30/2007					…
University of Central Oklahoma	2002						…
National Park Service	1990						…
Natural Resources							…
Texas, Oklahoma, New Mexico Counties Cooperative							
Law Enforcement and Patrol Agreements							…
Black Kettle/ McClellan			786,238	36,056	121,424	13,500	957,218
Canadian Chamber of Commerce/Hemphill County	2005	9/30/2010	3,300	0	0	0	3,300
Gray County, Texas	2002	9/30/2004	3,200	4,300	0	8,000	15,500
Gray County, Texas Sheiff's Dept.	2005	9/30/2010	2,800	0	0	0	2,800
National Park Service, Washita National Battlefield	2003	9/30/2008	745,000	0	32,274	0	777,274
National Wild Turkey Federation	2001	12/31/2004	5,800	0	5,000	0	10,800
Oklahoma Department of Wildlife Conservation	2002	12/31/2008	9,500	20,568	27,500	5,500	63,068
Oklahoma Orthilogical Society							…
Oklahoma State University							…
Playa Lakes Joint Venture	2000	9/30/2002	8,500	5,000	8,500	0	22,000
Playa Lakes Joint Venture/Ducks Unlimited							…
Quail Unlimited, Oklahoma Chapter	2003	9/30/2005	3,000	0	19,400	0	22,400
Roger Mills County	2003	9/30/2003	4,000	0	4,000	0	8,000
Texas Parks and Wildlife	2002	9/30/2004	0	6,188	24,750	0	30,938
Coordination of Interagency Invasive Weeds Mgt.	2000		1,138	0	0	0	1,138
GRAND TOTAL			1,068,387	36,056	475,351	15,167	1,594,961

The Mesa Soil and Water Conservation District is another large partnership cooperative. Partners include the USDA Forest Service, Natural Resources Conservation Service, State Wildlife Agencies, Quail Unlimited, the Clayton Livestock Research Center, local counties, local ranchers, and the NMSU Cooperative Extension Service.[32] Together, these partners work on managing the National Grasslands for greater productivity and healthier forage.

32 http://www.redlodgeclearinghouse.org/stories/kiowagrasslands.html

Other partners for Kiowa/Rita Blanca include Texas Tech University; Kansas State University; the New Mexico Museum of Natural History; The Natural Resource Conservation District; the Rocky Mountain Bird Observatory; the Rita Blanca Chapter of Quail Unlimited; the Cimarron Heritage Center; the Playa Lakes Joint Venture; the National Wild Turkey Federation; Wallace Burner; the village of Felt in Cimarron County, Oklahoma; the villages of Roy and Mosquero and town of Clayton in New Mexico; Harding County, New Mexico; and the Eastern Plains Council of Governments.

8.3.2 Black Kettle-McClellan Creek National Grasslands Partnerships

The Black Kettle and McClellan Creek National Grasslands are involved in numerous partnerships for the purpose of improving the grasslands areas. The goal of most of the partnerships is to enhance the grasslands ecology and attract visitors to the area for eco-tourism. The Black Kettle Grasslands Forest Service [office/site] works closely with the Texas Prairie Rivers Association, National Park Service, Oklahoma Birding Trail and Gateways Community Development. These groups are working towards a coordinated effort under the umbrella of the Oklahoma Heritage Alliance. The common goal is to promote positive economic relationships among these communities and the tourist infrastructure in the region.

Aside from these types of partnerships, the Black Kettle-McClellan Creek District staff also sit on a number of advisory boards in surrounding communities. Examples include the Lessor Prairie Chicken Interstate Working Group, the Oklahoma Blacktailed Prairie Dog Working Group, the Texas Prairie Rivers Board, and the Oklahoma Heritage Alliance. They are also working toward expanding prescribed burning for habitat restoration on non-Forest Service lands by partnering with the NRCS and US Fish and Wildlife.

9 - Principal Findings and Recommendations

The principal finding of this study is that the National Grasslands make a small but significant contribution to the social, economic and ecological sustainability of communities of northeastern New Mexico, Northwestern Oklahoma and the Texas panhandle. The impact of the National Grasslands is not broad, but where it is evident it is important. This summary conclusion emerges from the following more specific findings.

9.1 Principal Findings

1. The regions covered in this assessment face difficult social and economic challenges.

While the population of southwestern United States has been growing at a rate substantially higher than that of the nation as a whole for several decades, the population of northeastern New Mexico, northwestern Oklahoma and the north Texan panhandle fell by 11% between 1980 and 2000. At the same time, the population is aging. These demographic trends are explained in part by slow economic growth. The labor force of the region is disproportionately engaged in labor intensive agricultural activities that generate low profits. Technically advanced activities are largely absent, and the geographical isolation of the area and the limited size of the labor force offers little advantage in the establishment of more economically productive activities. Consequently, per capita incomes in the region are 17.5% below the regional average.

2. While the region is not prospering, it is socially and economically stable.

The social and economic difficulties that the region faces are not new, and unlike the dynamics evident in other parts of the nation (e.g. the loss of manufacturing employment in the Northeast and Midwest) there is no reason to believe that conditions will worsen significantly in the near future. Job loss has been gradual over the past two decades, and has been concentrated in the labor intensive agricultural sector; the loss of these jobs has been partially offset by an increase in employment in health care, education, and public administration. The number of migrants to the region, though below that of the Southwest as a whole, has remained steady over the past two decades. The social and cultural connections of the communities to the land are strong, and are likely to mitigate the impact of economic trends on the quality of life of local communities.

3. The National Grasslands provide a unique set of resources and contribute substantially to the viability of many communities in the region.

In this thinly populated and slow growing region, the resources provided by the National Grasslands have a significant impact. The total direct, indirect and induced impacts of the two National Grasslands Districts is about $28.5 million. Grazing allotments on the National Grasslands, which generate more than $10 million in total impacts, provide the margin necessary to make otherwise nonviable ranching operations viable. Further, oil & gas operations on the Black Kettle generate royalties that contribute nearly $400,000 to schools and roads in Roger Mills County in Oklahoma. In addition, the National Grasslands support recreational activities, especially hunting, that generate more than $3 million in revenues for local businesses. Finally, the direct payments by the FS to staff, contractors and suppliers help to support local business, with indirect and induced

impacts of nearly $4 million generated in the local economy. By themselves, these contributions are not large in proportion to the overall economy, but in a region where the population is declining and incomes are low these contributions help to sustain community life.

4. Land use on the National Grasslands, and on FS land within the boundaries of the Grasslands, is more diverse and more sustainable than that of corresponding privately-owned land.

Compared to neighboring land, the National Grasslands has a third greater share of covered by herbaceous grasses and less used for developed agricultural purposes such as row crops and small grains. Moreover, within the boundaries of the grasslands, FS parcels are committed to a much more diverse pattern of land use, including larger proportions given to open water, wetlands, shrublands and evergreen forest. The vast majority of land under federal management on the National Grasslands (96.5%) is used for grazing, but the intensity of grazing on this land is substantially lower than that of privately-managed land within the boundaries of the National Grasslands – the stocking rate of FS land is 1 animal to 35 acres, nearly one-half that of private land.

5. The checkerboard pattern of federal landownership on the National Grasslands has both advantages and disadvantages that should be considered in management policies.

The principal advantage of the checkerboard pattern is that it leverages relatively small landholdings of public sector – only 23.5% of the total area within the boundaries of the National Grasslands is FS – to create a much wider impact zone. In addition, this facilitates the mission of the National Grasslands to promote landscape recovery and sustainable use by creating opportunities for the transfer of technology to private users on a parcel by parcel basis. It also makes feasible a more regular on/off grazing strategy. The disadvantages of the checkerboard pattern are that it inhibits the capacity of FS to implement effective wildlife management strategies; it impedes the development of large scale recreation and visitor programs; and creates potential barriers to access to public lands across private parcels.

6. The benefits associated with the National Grasslands are geographically very localized.

The National Grasslands provide substantial benefits to neighboring communities, but these benefits diminish sharply with distance. The vast majority of grazing permits for both Kiowa-Rita Blanca and the Black Kettle are held by persons and ranching operations that are based in communities within or immediately adjacent to the boundaries of the Grasslands. These communities also receive the benefits of the reduced pressure on privately owned land. In addition, the local distribution of nearly $400,000 in oil & gas royalties generated on the Black Kettle is allocated exclusively within the boundaries of Roger Mills County – those outside but adjacent to the County receive only small state and federal benefits associated with oil & gas activities. Likewise, NVUM data suggests that the recreational benefits of the Grasslands are divided between a small number of persons making frequent visits from neighboring communities (within 30 miles) and a larger number of one-time visitors passing through the area; persons living an intermediate distance from the Grasslands (between 30 and 60 miles) make very little

use of the recreational opportunities that the National Grasslands offer. Furthermore, evidence suggests that local hunters traditionally make the greatest use of the Grasslands for larger game, while private land is increasingly used to attract hunters from outside the region. Finally, the scenic value of the Grasslands is appreciated most regularly by those who reside within or adjacent to its boundaries.

7. Within local communities, benefits of the National Grasslands are widely and relatively equally distributed.

Until very recently, there has been no significant concentration of grazing permits among individuals or ranching operations – permits have been held by a relatively wide cross section of the local communities, with no single permittee holding more than 12% of AUMs in either of the two Grasslands Districts. Also, the legislated allocation of all oil & gas royalties within Roger Mills County to county schools and roads ensures a wide and relatively distribution of benefit across the community. Finally, the relative isolation of the communities, particularly in area of Kiowa-Rita Blanca, results in an expenditure pattern that creates business opportunities and employment for a broad segment of the community.

8. Competition and conflict among uses and users of the National Grasslands is minimal; the issues most likely to affect future competition are demographic and economic change.

As stated in the **Attitudes, Beliefs and Values** focus group report for the National Grasslands, most community members prioritize economic opportunity in considering the management of the National Grasslands. This fundamental consensus is based on the common bonds of a rural economy and lifestyle. Many households in communities that neighbor the Grasslands depend either directly or indirectly on the land for their livelihood – a large number of households are engaged in cattle ranching, whether as a primary or secondary economic activity; oil & gas production provides some of the highest paying jobs in the regional economy, particularly in western Oklahoma and the Texas panhandle; and hunting is a long established source of food and recreation for people across the region. However, demographic change in other parts of the Southwest has begun to bring to the surface conflict between traditional communities with economic ties to the land and newer communities whose economic and cultural ties to region are recreational and aesthetic. At this point, there is little evidence of this sort of demographic change in the areas near the Grasslands, but should such change occur one might reasonably expect similar conflicts to emerge.

9. Many of the issues facing the Kiowa-Rita Blanca and the Black Kettle are similar, but there are significant differences.

There are a number of commonalities that link the two Grasslands districts – the rural character of the regions, stagnant demographic and economic trends, the checkerboard structure of landownership, and the predominance of ranching activities are among the most salient.

However, regional and forest-level managers must also recognize the important differences between the two Districts. First, the resource endowment of the Black Kettle is far greater than that of the Kiowa-Rita Blanca. Rich natural gas reserves generated

$12.4 million in revenues in 2004, creating jobs that paid $3.44 million in direct, indirect and induced wages and salaries, while royalties from oil & gas operations pay about $1.5 million annually to Federal, state and county governments. By the same token, the land on the Black is more fertile, with a carrying capacity per unit land that is 150% that of the Kiowa-Rita Blanca. The second significant difference is that the Black Kettle is more accessible than the Kiowa-Rita Blanca. This has two, contrary implications. On the one hand, the greater accessibility of the Black Kettle opens the area to a greater number of visitors, creating economic opportunities for the local communities. On the other hand, accessibility enables the loss or leakage of benefits associated with the Grasslands from the local communities. Visitors are more likely to spend their visit in outside the immediate area, in Elk City or even Amarillo, while those earning incomes on the Black Kettle, including FS employees and contractors, are more likely to spend their earning outside the area. This limits the capacity of agencies such as the FS to target programs to promote social and economic development.

9.2 Recommendations

A principal finding of this study is that impact of the National Grasslands is limited geographically, but in communities where its presence is felt it is significant. It is unlikely that the FS can significantly broaden its impact – the nature of the resources and the isolated character of the region impose severe limitations. However, opportunities exist for the FS to strengthen and consolidate its role within the communities that it presently affects. This would strengthen relationships with local communities and promote more sustainable use of the Grasslands.

1. FS should consider deepening its commitment to the equitable distribution of grazing permits.

Currently, grazing permits are equitably distributed among communities that neighbor the Grasslands, providing a margin for small ranchers and a much needed asset base to many households. Until recently, no single permittee has controlled more than 10% of the AUMs permitted by the National Grasslands. However, trends already evident in other sectors of the agricultural industry are beginning to manifest in assessment region, with pressures to concentrate permits among a few, larger ranching operations. Moreover, if this trend holds it is likely that a greater share of grazing allotments will be held by operations based outside the region. This would draw financial resources away from already economically struggling communities. Policies that encourage retention of grazing permits within local communities will help to support the vitality of these communities and in the long term further the overall mission of the National Grasslands to support sustainable land use and socioeconomic development.

2. FS should consider land management strategies that protect the ecological sustainability and traditional uses of the Mills Canyon in the Kiowa National Grassland.

Mills Canyon is a unique place in northeastern New Mexico, with a scenic river and canyon landscape, abundant wildlife, and historical and cultural value. Yet, there are substantial pressures that threaten to alter the traditional value of this area. Changes in

New Mexico's Fish and Game regulations now limit deer hunting to permit draws, limiting access among local hunters who have traditionally made use of the opportunities that the Canyon offers. Further, the growing popularity of all-terrain vehicles (OHVs), and the specific interest of riders in the rough landscapes of the Canyon threaten severe degradation of ecological value of the area. By acting affirmatively to protect the natural, cultural and recreational resources of Mills Canyon, and by better integrating these resources within the wider Kiowa-Rita Blanca Grasslands the FS could help to ensure sustainability the traditional social and ecological niche of Mills Canyon.

3. FS should consider land exchanges and other strategies to maintain access to publicly-owned land on the National Grasslands.

The checkerboard pattern of landownership ultimately leaves access to public lands under the control of a diverse group of private landowners. To date, this has not been a problem, as landowners have acknowledged the importance of collaboration with the public sector. However, increased recreational uses by OHVs and possible changes in demographics, economics and land uses associated with exurban development, already evident in other areas of the Southwest, may threaten this collaboration in the future as private landowners act to limit intrusions on their land. FS can help to ensure access for recreational users, hunters, grazing permittees and others by strategically assembling land that links government units to roadways and other points of public access.

4. FS should examine trends in regional and even national recreational use to identify possible niches for the National Grasslands in the growing eco-tourism industry.

Available evidence suggests that, like other sectors of the tourism industry, eco-tourism is increasingly specialized. Travelers are guided by very specific ecological and recreational interests. To some degree, the National Grasslands have benefited from these trends, especially among Rio Grande turkey and bobwhite quail hunters and bird watchers. By working with local communities, the FS may successfully foster other niche markets for eco-tourists and recreationists, creating new opportunities for local businesses. This would strengthen the Grasslands' relationship with their local communities and help to strengthen an economic base that is essential for the sustainable settlement of the region.

5. FS should continue to establish and promote partnerships and community relations on a regional scale.

During recent years, planners and economic development specialists have brought a renewed focus on the region as a critical scale for analysis, planning and project implementation. Communities that struggle to make it on their own have begun to realize significant benefits by sharing resources on a regional basis and putting forth a common and coherent image to outside areas. This is particularly true in rural areas, where individual communities often lack the scale and resources to act alone or attract outside investment and markets. This strategy may be highly relevant to the NG regions, which are severely constrained by its geographical isolation. Other communities in northeastern New Mexico and southern Colorado have begun to examine such opportunities, hoping to piece together a diverse program that would be attractive to travelers and businesses. Tourism development, which can be marketed on a regional basis with individual

communities offering complementary attractions, is one such area of opportunity. These initiatives aim, in part, to benefit from the successful strategies utilized by communities in Colfax County, New Mexico and Las Animas County, Colorado in attracting visitors and investment.

Appendix A

Table A1: Urban and Rural Population

TOTAL POPULATION (#)	1980 Urban	1980 Rural	1990 Urban	1990 Rural	2000 Urban	2000 Rural
Mills Canyon & Uplands Region	4,953	14,009	5,553	12,623	6,789	13,415
Colfax County, New Mexico	4,953	8,714	5,553	7,372	6,789	7,400
Harding County, New Mexico	0	1,090	0	987	0	810
Mora County, New Mexico	0	4,205	0	4,264	0	5,205
Kiowa/Rita Blanca Region	7,375	7,529	4,001	8,885	4,605	8,939
Union County, New Mexico	2,804	1,921	0	4,124	0	4,174
Cimarron County, Oklahoma	0	3,648	0	3,301	0	3,148
Dallam County, Texas	4,571	1,960	4,001	1,460	4,605	1,617
McClellan Region	21,396	9,065	19,959	7,704	17,986	8,586
Donley County, Texas	0	4,075	0	3,696	0	3,828
Gray County, Texas	21,396	4,990	19,959	4,008	17,986	4,758
Black Kettle Region	6,193	11,047	0	13,746	0	8,635
Roger Mills County, Oklahoma	0	4,799	0	4,147	0	3,436
Hemphill County, Texas	3,359	1,945	0	3,720	0	3,351
Wheeler County, Texas	2,834	4,303	0	5,879	0	5,284
TOTAL	39,917	41,650	29,513	42,958	29,380	39,575
NM-OK-TX	14,306,818	4,250,557	16,870,307	4,776,857	20,822,345	5,299,175

Source: US Census Bureau, Decennial Census, 1980, 1990 and 2000. Calculations by UNM-BBER.

Table A2: Firewood Cutting in the National Grasslands

May 1, 2000 - May 25, 2005	
Volume (cords)	529.00
Permit Fees ($)	$2,645.00
Est. Market Value ($/cord)	$100.00
Total Value	$52,900.00
Average per Fiscal Year	$10,580.00

Source: TIMS, from NG Tims.xls

Table A3.A: Hunting Regulations for Grassland Region (Nm)[1]

New Mexico						
Species	**License/Permit Type**	**Hunt Dates/Season**	**Special Weapons**	**Units/Counties/Zones**	**Permits or authorizations available, all units**	**Harvest Limit**
Elk	DL	10/1-10/5		unit 56	5	1
Elk	DL	10/8-10/12		unit 56	10	1
Elk	LOS	10/1-12/31, 1/1-1/31 (antlerless), 9/1-9/22 (archery)		units 56, 58	328 (171 sold)	1
Antelope	DL	8/27-8/29		units 41, 56, 58	300	1
Antelope	DL	8/13-8/17		units 56, 58	100	1
Antelope	LOS	8/27-8/29 or 9/17-9/19		units 41, 56, 58	660 (552 sold)	1
Deer	DL	10/29-11/2, 11/5-11/9, 9/1-922 (archery), 9/24-9/30 (muzzle)		units 41, 56, 58	320	1
Bear	OTC	8/16-8/31, 9/23-11/15, 9/1-9/22 (archery)		zone 2	n/a	1
Cougar	OTC	10/1-3/31		zones D, P	n/a	1
Turkey	OTC	4/5-5/10		units 41, 56, 58	n/a	2
Turkey	OTC	9/12-9/20		units 41, 56, 58	n/a	1
Dove and Pigeon	OTC	9/1-10/30		north zone	n/a	15 for dove, 5 for pigeon
Quail	OTC	11/15-2/15		statewide	n/a	15
Pheasant	OTC	12/9-12/12		statewide	n/a	3
Waterfowl	OTC	varies		statewide	n/a	varies

Table A3.B: Hunting Regulations for Grassland Region (TX)

Texas						
Species	License/Permit Type	Hunt Dates/Season	Special Weapons	Units/Counties/Zones	Permits or authorizations available, all units	Harvest Limit
Antelope	GH+LOP	10/2-10/10		Gray, Dallam, Wheeler	n/a	1
White-tailed deer	GH+tags, ANT	10/2-10/31	archery	Wheeler, Dallam, Gray, Hemphill, Donley	n/a	3
White-tailed deer	GH+tags, ANT	11/20-12-5		Wheeler, Dallam, Gray, Hemphill, Donley	n/a	3
Mule deer	GH+tags	10/2-10/31	archery	Dallam, Gray, Hemphill, Donley	n/a	2
Mule deer	GH+tags	11/20-12-5		Dallam, Gray, Hemphill, Donley	n/a	2
Pheasant	GH	12/4-1/2		Wheeler, Dallam, Gray, Hemphill, Donley	n/a	2
Turkey	GH+tags	10/2-10/31	archery	Donley, Gray, Hemphill, Wheeler	n/a	4 (all seasons)
Turkey	GH+tags	11/6-1/2		Donley, Gray, Hemphill, Wheeler	n/a	4 (all seasons)
Turkey	GH+tags	4/2-5/8		Donley, Gray, Hemphill, Wheeler	n/a	4 (all seasons)
Squirrel	GH	no closed		Donley, Gray, Hemphill, Wheeler	n/a	no limit
Lesser Prarie Chicken	GH+FP	10/16-10/17		Hemphill, Wheeler	n/a	2

Table A3.C: Hunting Regulations For Cibola Grassland Region (OK)[1]

Oklahoma						
Species	License/Permit Type	Hunt Dates/Season	Special Weapons	Units/Counties/Zones	Permits or authorizations available, all units	Harvest Limit
Deer	GH+DAL	10/1-1/15	archery	statewide	n/a	2 antlered, 2 antlerless
Deer	GH+DGL	11/20-12/5	gun	statewide	n/a	1 antlered, 1 antlerless
Deer	GH+DPFL	10/23-10/31	muzzle loader	statewide	n/a	1 antlered, 1 antlerless
Feral Hog	any deer or elk license	year-round		statewide	n/a	
Rabbit	GH	10/1-3/15		statewide	n/a	3 for swamp and jack
Squirrel	GH	5/15-1/31		statewide	n/a	10
Quail	GH	11/13-2/15		statewide	n/a	10
Pheasant	GH	12/1-1/31		Cimarron, Texas	n/a	2
Turkey	GH+TL	10/1-1/15	archery	statewide	n/a	1
Turkey	GH+TL	10/30-11/19	gun	Cimarron, Texas, Roger Mills	n/a	1
Turkey	GH+TL	4/6-5/6	archery	statewide	n/a	1-2
Turkey	GH+TL	4/6-5/6	gun	statewide	n/a	1-2

License abbreviations:
GH -General Hunting
DAL - Deer Archery License
DPFL - Deer Primitive Firearms License
DGL - Deer Gun License
TL -Turkey License
LOP - Land-owner permit
tags - requires a tag for each animal harvested
ANT - antlerless permit
FP - Free permit
DL - Draw License
OTC - Over-the-counter license, unlimited sales
LOS - Land-Owner Signup issued permit

Notes:
New Mexico LOS authorizations numbers are from 2004-2005; all other big game information for New Mexico is for the 2005-2006 season; small-game information is for the 2004-2005 season.

Sources:
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Texas Parks and Wildlife Department, Outdoor Annual Hunting and Fishing Regulations , 2004-2005.

[1]Tables A4.1-A4.3 describe regulations applicable to the National Grasslands regions of New Mexico, Oklahoma and Texas. Not all species discussed in the tables are actively hunted on the National Grasslands.