

7 Economic impacts

7.1 Lincoln National Forest and the Regional Economy

The Lincoln National Forest (NF) assessment area is largely rural, with only three communities with populations greater than 15,000 persons (Roswell, Alamogordo, and Carlsbad). The area's economy depends heavily on primary industries, military and civilian governmental spending and, increasingly, land development and amenity services. There are significant differences across the four county assessment area: the northern Otero and Lincoln Counties benefit from high levels of government spending, while the southern Chaves and Eddy Counties feature a well diversified oil and gas economy.

As rural counties, incomes in the Lincoln NF assessment area are generally lower than those of New Mexico's more urban counties, including Bernalillo, Santa Fe, and Los Alamos Counties. Yet, by standards of rural New Mexico, incomes are comparatively high and unemployment and poverty rates are relatively low in the four counties. All four counties rank among the top half of all counties in New Mexico in terms of per capita income and, with the exception of Chaves County, all four are among the 15 (of 33) counties with the lowest poverty rates, Chaves ranks 21st.

Table 7.1 shows employment and per capita income for the Lincoln NF region. The overall patterns reflect the rural character of the region. As compared with the state as a whole, the Lincoln NF region has fairly low levels of employment and a relatively poor population. However, as noted above, compared to other rural regions in the state, the Lincoln NF region is fairly well off.

Table 7.1: Total Employment and Income by County, 2003

	Employment (#)	Percent of Region	Per Capita Income (\$)	Relative to US
Chaves	28,025	30%	21,852	0.69
Eddy	26,196	28%	25,085	0.80
Lincoln	11,379	12%	20,472	0.65
Otero	27,756	30%	19,196	0.61
Lincoln Region	93,356	100%	21,651	0.69
New Mexico	1,015,365	--	24,892	0.79
United States	167,488,500	--	31,484	1.00

Source: Bureau of Economic Analysis, 2003

The industrial composition of employment in each county from 1980 to 2000 is shown in **Table 7.2**. In keeping with the other regions in New Mexico and the economic trends of the state and the United States as a whole, the Lincoln NF region is characterized by the increasing proportion of employment made up by retail and services, and decreases in government and primary industries. However, some counties still retain unusually high proportions of military and civilian government as well as manufacturing and other primary industries.

7 Economic Impacts

Table 7.2: Total Employment in Primary Sectors by County in 1980, 1990, and 2000

Chaves	1980	1990	2000	1980%	1990%	2000%	Change in % 1980-1990	Change in % 1990-2000
TOTAL	23,088	27,098	28,017	100%	100%	100%	0%	0%
Farm Employment	1,673	1,445	1,561	7%	5%	6%	-2%	0%
Non-farm Employment	21,415	25,653	26,456	93%	95%	94%	2%	0%
Private Employment	17,240	20,346	21,534	75%	75%	77%	0%	2%
Agricultural services	248	425	643	1%	2%	2%	0%	1%
Mining	869	1,325	1,094	4%	5%	4%	1%	-1%
Construction	1,170	1,216	1,351	5%	4%	5%	-1%	0%
Manufacturing	2,763	3,753	2,342	12%	14%	8%	2%	-5%
Transportation and utilities	1,090	930	926	5%	3%	3%	-1%	0%
Wholesale trade	929	1,063	995	4%	4%	4%	0%	0%
Retail trade	4,090	4,882	5,608	18%	18%	20%	0%	2%
Services	4,493	5,152	6,933	19%	19%	25%	0%	6%
Government	4,175	5,307	4,922	18%	20%	18%	2%	-2%
Federal, civilian	407	377	390	2%	1%	1%	0%	0%
Military	252	304	211	1%	1%	1%	0%	0%
State and local	3,516	4,626	4,321	15%	17%	15%	2%	-2%
State government	1,381	1,584	1,758	6%	6%	6%	0%	0%
Local government	2,135	3,042	2,563	9%	11%	9%	2%	-2%

Eddy	1980	1990	2000	1980%	1990%	2000%	Change in % 1980-1990	Change in % 1990-2000
TOTAL	21,689	22,143	25,530	100%	100%	100%	0%	0%
Farm Employment	954	785	817	4%	3%	3%	-1%	0%
Non-farm Employment	20,735	21,358	24,713	96%	96%	97%	1%	0%
Private Employment	18,114	18,206	21,067	84%	82%	83%	-1%	0%
Agricultural services	159	287	354	1%	1%	1%	1%	0%
Mining	4,399	3,649	3,029	20%	16%	12%	-4%	-5%
Construction	1,587	1,038	1,451	7%	5%	6%	-3%	1%
Manufacturing	1,077	802	997	5%	4%	4%	-1%	0%
Transportation and utilities	1,248	1,722	2,017	6%	8%	8%	2%	0%
Wholesale trade	689	527	586	3%	2%	2%	-1%	0%
Retail trade	3,398	3,659	4,593	16%	17%	18%	1%	1%
Services	4,548	5,486	6,788	21%	25%	27%	4%	2%
Government	2,621	3,152	3,646	12%	14%	14%	2%	0%
Federal, civilian	307	407	517	1%	2%	2%	0%	0%
Military	222	247	170	1%	1%	1%	0%	0%
State and local	2,092	2,498	2,959	10%	11%	12%	2%	0%
State government	329	463	719	2%	2%	3%	1%	1%
Local government	1,763	2,035	2,240	8%	9%	9%	1%	0%

Lincoln	1980	1990	2000	1980%	1990%	2000%	Change in % 1980-1990	Change in % 1990-2000
TOTAL	5,970	7,219	10,536	100%	100%	100%	0%	0%
Farm Employment	523	440	476	9%	6%	5%	-3%	-2%
Non-farm Employment	5,447	6,779	10,060	91%	94%	95%	3%	2%
Private Employment	4,423	5,590	8,719	74%	77%	83%	3%	5%
Agricultural services	85	126	172	1%	2%	2%	0%	0%
Mining	47	143	(D)	1%	2%	(D)	1%	-
Construction	560	510	843	9%	7%	8%	-2%	1%
Manufacturing	117	191	336	2%	3%	3%	1%	1%
Transportation and utilities	190	213	332	3%	3%	3%	0%	0%
Wholesale trade	51	66	(D)	1%	1%	(D)	0%	-
Retail trade	1,023	1,768	2,390	17%	24%	23%	7%	-2%
Services	1,589	1,965	3,235	27%	27%	31%	1%	3%
Government	1,024	1,189	1,341	17%	16%	13%	-1%	-4%
Federal, civilian	171	133	135	3%	2%	1%	-1%	-1%
Military	51	62	64	1%	1%	1%	0%	0%
State and local	802	994	1,142	13%	14%	11%	0%	-3%
State government	286	363	197	5%	5%	2%	0%	-3%
Local government	516	631	945	9%	9%	9%	0%	0%

Table 7.2 Continued

Otero	1980	1990	2000	1980%	1990%	2000%	Change in % 1980-1990	Change in % 1990-2000
TOTAL	22,977	25,322	27,278	100%	100%	100%	0%	0%
Farm Employment	512	561	555	2%	2%	2%	0%	0%
Non-farm Employment	22,465	24,761	26,723	98%	98%	98%	0%	0%
Private Employment	10,543	13,407	16,321	46%	53%	60%	7%	7%
Agricultural services	96	162	(D)	0%	1%	(D)	0%	-
Mining	17	42	(D)	0%	0%	(D)	0%	-
Construction	774	870	1,514	3%	3%	6%	0%	2%
Manufacturing	1,029	825	872	4%	3%	3%	-1%	0%
Transportation and utilities	674	1,163	1,166	3%	5%	4%	2%	0%
Wholesale trade	180	307	332	1%	1%	1%	0%	0%
Retail trade	3,191	3,816	4,286	14%	15%	16%	1%	1%
Services	3,565	5,290	6,223	16%	21%	23%	5%	2%
Government	11,922	11,354	10,402	52%	45%	38%	-7%	-7%
Federal, civilian	2,718	2,315	2,025	12%	9%	7%	-3%	-2%
Military	6,934	5,917	4,090	30%	23%	15%	-7%	-8%
State and local	2,270	3,122	4,287	10%	12%	16%	2%	3%
State government	521	975	993	2%	4%	4%	2%	0%
Local government	1,749	2,147	3,294	8%	8%	12%	1%	4%

Notes: (D) Non-disclosure of confidential information, but included in totals, (L) Less than 10 jobs, and (N) Data not available for this year.

Source: Bureau of Economic Analysis

Aside from the usual high makeup of retail and services, Chaves County has a strong farm sector (dominated by dairy) that made up roughly the same percent of the county's total employment in 2000 as it did in 1980, with small decreases. It is not as heavily dependent on retail and services to supply jobs as the tourist-based economies in New Mexico such as Taos County. The service sector made up 6 percent more of the county's employment in 2000 than in 1990, and while most other industries show little change, manufacturing makes up ten percentage points less of total employment in 2000 than in 1990, showing a significant decrease in employment in that sector. Despite this, the manufacturing sector still accounted for 8 percent of total employment in 2000, which is quite high for New Mexico. The county also contains only a small portion of the Lincoln NF in its southwestern-most tip, a fair distance from Roswell, its largest settlement, so beyond the usual fuel wood and food uses by poorer residents, the county itself is not likely to depend on the forest as a job or money provider. This is especially true since the Lincoln NF allows only a small amount of fuel wood gathering.

Eddy County is similar to Chaves in many ways, also depending largely on retail and services for employment, but containing a fair number of farm sector jobs and getting almost 15 percent of jobs from the government sector. Compared to many other counties in New Mexico, this is a comparatively small percent for the government sector. Eddy County also has a strong mining sector, accounting for 12 percent of total employment, though it has suffered some employment loss and its contribution to the county's total employment was 9 percent lower in 2000 than in 1990.¹ Some other less important but still present sectors include transportation and utilities and construction. The relative size of industry sectors has remained mostly unchanged in the past twenty years, with the exception of the noted losses in the mining industry.

Lincoln County has much lower employment levels than the other counties in the Lincoln NF region, reflecting the small size of its population. It exhibits trends in line with most of the counties in New Mexico: a decline in the importance of farming and government, and an increase in the importance of retail and services. However, its industrial composition differs from the others in that the service and construction sectors make up a larger share of total employment.

¹ Mining has since recovered slightly since 2000, with a total employment of 3,362 in 2004

This is due to the development of second and retirement homes (mostly from Texas) in the Ruidoso and Ruidoso Downs area and tourist activities. Furthermore, contrary to the shrinking primary industries in most counties, the relative size of manufacturing and some other primary industries in Lincoln County are increasing, albeit slowly.

Otero County contains the majority of the Lincoln NF, as well as the Mescalero Indian Reservation and the Fort Bliss Military Reserve. It is no surprise then that government made up 38 percent of the county's employment in 2000, and much higher figures in previous years. Retail, services, and government together made up almost 80 percent of the county's employment in 2000. The relative size of other industries is correspondingly smaller, with only small percentages of employment in construction, manufacturing, and transportation and utilities, and negligible amounts in other industries. However, the trend in Otero County has been a decreasing role of government and an increasing role in retail, services, and other private industries. As retail and services employment has grown steadily since 1980, government employment has been slowly decreasing, while other private sectors have seen small gains and losses.

Table 7.3 shows the occupational structure of private employment for each county and the region as a whole.² The occupation data supports the data from previous tables, showing a large percent of jobs in management, sales and services occupations, though construction and production represent a substantial portion as well.

Table 7.3: Private Employment by Occupation for Region Counties in 2000

	Chaves County	Eddy County	Lincoln County	Otero County	Lincoln Region
Management and Professional	28%	25%	28%	28%	27%
Professional and related	16%	15%	16%	17%	16%
Education, training, and library	7%	6%	6%	7%	7%
Healthcare practitioners and technical	4%	4%	3%	3%	4%
Service	16%	17%	20%	19%	18%
Sales and office	25%	25%	28%	22%	24%
Farming, fishing, and forestry	4%	2%	2%	1%	2%
Construction, extraction, and maintenance	11%	16%	14%	16%	14%
Production and transportation	16%	14%	9%	13%	14%
Total Private Employment	23,028	20,591	8,539	21,934	74,092

Source: US Census 2000. Calculations by UNM-BBER.

Finally, **Table 7.4** shows the unemployment rates for each of the counties and the region as a whole from 1995 to 2004. The region as a whole is generally in line with unemployment trends in New Mexico, though it seems to have made steady progress in reducing its rates below the New Mexico average. Lincoln County seems to have made large strides in reducing unemployment rates, going from having the highest rates in the region in 1995 to having the lowest rates by 2004. In contrast Chaves County has maintained fairly level unemployment rates (with small fluctuations), and by 2004 it has the highest unemployment rates of the region and the only rates that are above the New Mexico average.

² The difference in total employment between **Table 7.2** and **Table 7.3** is primarily due to the inclusion of self-employment in the BEA data in the latter table.

Table 7.4: Average Annual Unemployment Rate for Region Counties, 1995-2004

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Chaves	7.6	8.2	5.4	9.7	5.5	5	5.6	7.5	7.1	6.1
Eddy	7.9	6.8	6.6	6.2	6.8	4.8	5.2	5.6	5.4	4.7
Lincoln	10.7	8.3	6.4	4.5	4.1	4.3	3.9	4	3.9	4
Otero	7.1	8.5	6.4	4.8	4.4	5.1	4.6	6.2	4.9	4.7
Lincoln Region	8.3	8.0	6.2	6.3	5.2	4.8	4.8	5.8	5.3	4.9
NM TOTAL	6.4	7.4	7.1	6.3	6	5.2	4.8	5.2	5.8	5.9

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

The data presented in this section show that, like the rest of New Mexico, the region is significantly oriented toward retail and service industries. However, in this case perhaps more than in any other forest region, farming and private sector industries aside from retail and services are an important segment of the region's total employment. As with other regions, the impacts from forest visitor spending, which support the retail and services sectors, are the most important. However, in this case, the use of forest resources in supporting other industries may play a larger role.

7.2 Methodology and Organization of Lincoln National Forest Impact

In estimating the contribution of the Lincoln NF to the regional economy, we consider both the operations of the Forest Service (FS) in the region as well as the various uses of forest-related products. IMPLAN software is used to determine the total economic value of each activity and the operations of the FS.³ IMPLAN uses county-level input-output (I-O) data to determine the extent to which these activities contribute to the local economy. In doing so, IMPLAN distinguishes between direct, indirect, and induced impacts, where:

Direct impacts include the economic value generated by the activity itself, such as the value of cattle grazed on Lincoln NF land.

Indirect impacts include the value generated by purchases to support that activity and the corresponding purchases to support those activities, in perpetuity. For example, indirect impacts would include the value of fencing purchased for ranching, the value of steel purchased to make the fencing, and so on.

Induced impacts capture the value of economic activity generated from spending by employees that produce the direct and indirect goods. The ranch employees will purchase food, pay for electricity, etc...all of which generates additional value from the purchases, as well as sparking new rounds of indirect and induced value.

The IMPLAN region is the same region used throughout this report, consisting of all counties containing or bordering any of the Lincoln NF districts. These counties include Chaves, Eddy, Lincoln, and Otero Counties. This single region, containing the above four counties, makes up the

³ IMPLAN[®] is a PC-based regional economic analysis system; originally developed by the Forest Service, it is now used by multiple federal agencies. The current IMPLAN database and model is maintained and sold by Minnesota IMPLAN Group, Inc., <http://www.implan.com>.

area considered as “local,” and the results shown from IMPLAN are for this region of four counties as a whole.

As discussed in Chapter 5 (Uses and Users), the principal value-generating activities related to the Lincoln NF land itself include ranching, recreation and wildlife related activities, and wood harvesting. Oil and gas production was present in small amounts before 2004, but the data show no extraction of oil and gas on forest land from 2004 on. In addition, two astronomy observatories located on forest land make a significant economic contribution, as do impacts that arise directly from FS purchases and the spending of wages by FS employees. For each activity, we estimate the direct impact, and use IMPLAN to estimate the total economic value by direct, indirect, and induced impacts. The FS and the observatories are unusual in that they do not produce a measured output, and so there is no easy measure of its direct economic value. Instead, we look at expenditures and salaries and wages to estimate the first round of indirect and induced impacts, and the corresponding economic activity generated by each. The indirect activity is captured by FS and observatory expenditures and the induced activity is captured by the disposable income of employees. In examining the contribution of the FS, we also consider direct employment by the FS.

This analysis draws on a wide range of data and information sources. Data on the structure of the local economies and characteristics of the workforce comes largely from the 2000 decennial census Summary File 3 and United States Department of Labor Local Area Unemployment Statistics. The FS provided data on the specific activities that occurred on the forest. Specific sources included the Forest Service infrastructure (INFRA) database (grazing), National Visitor Use Monitoring (NVUM) survey (recreation and wildlife), and the Region 3 Office (procurement, wages & salaries). The United States Department of Agriculture National Agricultural Statistics Service was the source of data on agricultural land values and cattle stocking rates. Oil and gas production values are from the ONGARD database provided by the Oil Conservation Division at the New Mexico Energy, Minerals and Natural Resources Department and the New Mexico Taxation and Revenue Department, while oil and gas prices are from GO-TECH at New Mexico Institute of Mining and Technology. Both the National Solar Observatory at Sacramento Peak and the Apache Point Observatory were very helpful in providing the data used to estimate their economic contributions.

7.3 Direct Impact of the Lincoln National Forest on the Regional Economy

The principal economic activities on the Lincoln NF include ranching, recreation and wildlife visits, astronomy observatories (the National Solar Observatory at Sacramento Peak and Apache Point Observatory), timber harvests, and the operational activities of the FS. Some of these activities are quite large economically, though their benefit to the local region can vary substantially. Additionally, there are activities such as skiing, discussed as a sub-category of recreation and wildlife visitors, and wildlife suppression activities by the FS that are somewhat unique and warrant extra consideration. There may also be additional tangible benefits from luxury recreational activities. Finally, intangible but extremely important impacts in terms of the reduction of heat and water evaporation as well as the contribution of the forest to regional aesthetic and, hence, tourist value are nearly impossible to measure, but should be considered in any analysis of the benefits of the forest to the surrounding region.

To maintain consistency, data for 2004 was used wherever possible. However, if data for that year did not exist, or more recent data was more easily available, we used that instead, adjusting values back to 2004 to account for price inflation. Data for FS salaries and wages is from fiscal year 2005 adjusted to 2004 dollars. Data on grazing land is from 2002. Visitor estimations are derived from the 2003 NVUM survey. Observatory data is from 2006 and projected 2007 budgets. All other data is from 2004 unless noted.

The FS provided data on cattle grazing from the INFRA database in terms of Animal Unit Months (AUMs), and we estimated the number of employees needed per AUM. Together these values provide an estimated number of employees needed to produce the 2002 AUMs. Using the IMPLAN value for output per employee, we derive a ranching output for grazing on the Lincoln NF. This is the direct value of ranching on Lincoln NF land.

Similarly, timber-harvesting data was derived from the Timber Information Manager database⁴ provided by the FS. We use 2004 timber prices to derive the total value of timber cut, which measures the direct value of timber harvested in Lincoln NF in 2004.

For recreation and wildlife visitors, we use estimates of visitors from NVUM data, broken out into several categories based on locality (local or non-local), the type of trip (day, overnight on the forest, overnight off the forest), and the reason for the visit (recreation or wildlife). The FS provided an average expenditure profile for each type of visitor, which estimates the direct economic value of visitor spending to the local economy. The impacts of ski visitors are measured based on the suggested percent of recreational forest visitors who indicated that their primary activity is downhill skiing, as shown in the NVUM data. As such, the impacts of ski visitors should only be taken as a rough estimate, since the actual number of visitors may vary substantially.

Rock and mineral extraction data was provided by the FS, and the market value of the production was calculated using an average of prices from relevant surveyed New Mexico businesses. However, in this case, the value of mineral extraction is quite small (permit value of roughly \$56,000), and is not included in this analysis.

Two observatories, the National Solar Observatory at Sacramento Peak, and the Apache Point Observatory, lie within the Lincoln NF, and represent an important economic contribution. Both observatories provided payroll and overall budget data as well as the number of employees. The National Solar Observatory also runs a visitor center in conjunction with the FS, and they provided estimates of visitors and typical visitor spending. In estimating the visitor impacts, we use the corresponding visitor spending profiles synthesized from the NVUM data.

Finally, for FS operations, the FS provided data on salaries and wages for its employees and total spending with an associated expenditure profile for use in IMPLAN. Since the direct economic value associated with the FS is unknown, we use expenditures to capture the first round indirect impacts and salaries and wages to capture the first round induced impacts. In both cases, the associated later round indirect and induced impacts are calculated by the IMPLAN model.

⁴ The TIM is a set of computer systems and databases used by the FS and the U.S. Department of Agriculture for managing technical and financial data about the sale of forest products and timber on FS lands.

Table 7.5 is a summary of the output, employment and labor incomes directly associated with these activities.⁵ These direct impacts are, in effect, ‘what you see’ – a measure of activities and their economic value as they actually occur on the Lincoln NF. For example, that table indicates that there is the equivalent of 7 full-time annual jobs harvesting lumber from the Lincoln NF and 92 jobs in the ranching industry. “FS operations” includes the direct employment and labor income of the FS. Output for the FS and the observatories is actually spending on operations, and the FS data does not include the costs of fighting wildfires, which is broken out separately.

Table 7.5: Direct Inputs of Lincoln NF, 2004
(000s of 2002 \$, Except Employment)

	Output	Employment	Labor Income
Ranching	13,154	92	4,882
Timber Harvesting	1,204	7	195
Visitors & Recreation	92,864	--	--
Skiers	16,288	--	--
NSO/Sac Point¹	818	45	1,745
Apache Point¹	645	31	1,349
Forest Service Operations¹	9,202	244	7,202
Wildfire Suppression¹	6,214	--	2,177

¹ Forest service operations output is actually the first round of indirect spending, while labor income is disposable employee income.

7.4 Economic Impacts and Multipliers

The direct activities associated with the Lincoln NF 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 Lincoln NF has on the economies of the neighboring communities. These impacts, in terms of employment, income and total output, are summarized in **Table 7.6**. Economic multipliers are shown in **Table 7.7**. Economic multipliers, equal to the total impact divided by the direct impact, indicate the effectiveness of the industry in generating growth in the local economy.

In total, the Lincoln NF contributes directly or indirectly an estimated 2,618 jobs and \$69.5 million in income to the economies of the four counties included in this study. This is equivalent to about 2.8 percent of the 93,356⁶ jobs in these areas in 2003. Visitor spending is by far the largest source of activity, contributing a total of 71.4 percent of the employment and 58.9 percent of the labor income impacts. The FS is the second largest contributor in terms of both employment and income, while ranching also contributes significantly and the impacts of timber harvesting and the observatories are much smaller. While 2.7 percent of the region’s employment is a substantial amount, the contribution does not make up as large a portion of the region’s employment as is the case in Carson NF, primarily because the Carson NF is a large attractor of visitors in the Carson NF region, and less so for Lincoln NF. One noticeable difference from

⁵ Labor income is the sum of employee compensation and proprietor income.

⁶ 2003 employment for the region as a whole from Table 7.1.

other forests is that the size of the ranching impacts is fairly large. While not as large as some other forests, the relative size of these impacts is much larger, indicating that the region makes significant use of the forest as a source of grazing land more so than in other forests in the state.

Table 7.6: Direct, Indirect, and Induced Impacts of Lincoln NF, 2004

TOTAL OUTPUT IMPACTS (000s of 2002 \$)				
	Direct	Indirect	Induced	Total
Ranching	13,154	6,278	3,204	22,636
Timber Harvesting	1,204	543	160	1,907
Visitors & Recreation	81,847	18,484	15,487	115,819
Skiers	15,041	3,056	3,023	21,120
NSO/Sac Point	--	569	1,923	2,492
Apache Point	--	425	1,509	1,934
Forest Service Operations	--	10,474	5,680	16,154
Wildfire Suppression	--	6,618	1,618	8,236
Total	96,205	43,390	29,581	169,176

TOTAL EMPLOYMENT IMPACTS (#)				
	Direct	Indirect	Induced	Total
Ranching	92	46	43	181
Timber Harvesting	7	4	2	13
Visitors & Recreation	1461	197	210	1869
Skiers	281	35	41	357
NSO/Sac Point	45	4	15	65
Apache Point	31	5	12	48
Forest Service Operations	244	66	78	387
Wildfire Suppression	--	39	17	56
Total	1,880	361	377	2,618

TOTAL LABOR INCOME IMPACTS (000s of 2002 \$)				
	Direct	Indirect	Induced	Total
Ranching	4,879	2,136	1,024	8,040
Timber Harvesting	195	155	51	402
Visitors & Recreation	30,489	5,485	4,950	40,923
Skiers	6,109	920	966	7,996
NSO/Sac Point	1,745	119	350	2,213
Apache Point	1,349	144	277	1,770
Forest Service Operations	7,202	2,822	1,801	11,824
Wildfire Suppression	2,177	1,765	400	4,341
Total	48,034	12,626	8,852	69,512

Based on NVUM spending rates, Ski visitors generated a total of \$21.8 million in revenues, 357 jobs, and \$7.9 million in additional labor income. This sub-category of visitor impacts is larger than the impacts of ranching and timber harvesting, and almost as large in terms of employment as the FS employment itself. The relevance of these impacts for the local economy is somewhat uncertain. In addition to the uncertainty surrounding the estimated number of ski visitors, there is some question as to the degree that the NVUM data accurately captures the number of ski visitors. While this is less of a problem in Lincoln NF than in Carson NF, it still implies that the number should only be applied with some degree of skepticism.

An important note is that the impact estimates for the National Solar Observatory do not include their visitor impacts. Visitors to the FS-run visitor center should be represented by the NVUM data (to the extent that the data is correct), and hence, including those impacts would cause some degree of double counting. However, there are some visitors to the observatory for conferences and professional use that are not captured by the NVUM data. These visitors contribute approximately \$225,000 in output, 4 jobs, and \$75,000 in labor income that is not included in the above numbers.⁷ Significantly, a recently completed national review of astronomy facilities by the National Science Foundation, the organization that funds the Sacramento Peak Observatory, recommends the phased withdrawal of funding for the facility as new technologies in other locations come on line.⁸ As with changes in the administration of other federal facilities, advocates are pursuing alternative missions for the existing structures, although at this point the future economic contribution of the facilities remains uncertain.

For FS wildfire suppression spending, we have to consider both expenditures on equipment and contractors and employee compensation. In the case of employee compensation, it is suspected that a large degree of the take home income of fire fighters is spent locally, in part because of the long periods of intensive work followed by a large paycheck and a few days of free time. Thus a large fraction of the estimated \$2.1 million in disposable income is likely spent locally. In the impacts shown for wildfire suppression in **Table 7.8**, we assume that 100 percent of this income is spent locally, which generates an impact of \$2.6 million in output, 22 jobs, and \$528 thousand in additional labor income.⁹ If one has an estimate of the portion of income that is spent within the local region, it is a simple matter to share these impacts down to their appropriate amounts.

One additional benefit not captured above is revenues received by counties under the Title I and Title III distribution laws. Though these revenues total only slightly more than \$116,000, they contribute to the maintenance of roads and school buildings in each county. The large majority of these funds are distributed to Lincoln and Otero Counties, with Chaves and Eddy receiving only very small distributions.

The economic multipliers shown in **Table 7.7** offer additional insights into the economic dynamics of the Lincoln NF. Most of the multipliers are well within logical range. As we might expect, the multipliers indicate that the gains from the service sector oriented visitor spending generate relatively lower impacts than the ranching and timber harvesting. The FS also has strong multipliers, largely due to the pay scales of FS employees and their corresponding spending patterns.

⁷ These numbers are based on \$500 spending per visitor – a number that, considering that a visitor may remain for several days as part of work or a conference, is probably a good approximation.

⁸ National Science Foundation, Division of Astronomical Sciences, Senior Review Committee, October 22, 2006. *“From the Ground Up: Balancing the NSF Astronomy Program”*.

⁹ These employee wage impacts are included in the wildfire suppression impacts in Table 7.7.

Table 7.7: Economic Multipliers for Lincoln NF, 2004

	Output	Employment	Income
Ranching	1.72	1.97	1.65
Timber Harvesting	1.58	1.84	2.06
Visitors & Recreation	1.42	1.28	1.34
Skiers	1.40	1.27	1.31
NSO/Sac Point	--	1.43	1.27
Apache Point	--	1.55	1.31
Forest Service Operations	--	1.59	1.64
Wildfire Suppression	--	--	1.99

7.5 Challenges and Opportunities for Forest Management

According to the estimates outlined in this report, activities on Lincoln NF represent about 2.7 percent of all employment in the assessment region. Recreation, by large, generates the greatest impact; ranching and FS operations are also significant.

The impact of the forest on the local economy varies substantially between the four counties, although the data and methodology used in this report do not allow for precise quantification of impacts on the county scale. In absolute terms, Otero County likely receives the greatest benefit. Otero County contains the largest portion of FS-owned land of any county in the region (slightly more than one-half); it is closest to the largest nearby population centers (El Paso, Texas and Las Cruces, in Dona Ana County, New Mexico); and it is the location of Lincoln NF headquarters (in Alamogordo), where FS operations are concentrated. Lincoln County also receives substantial economic benefits from the forest; in relation to its relatively small economy, the impact is probably the greatest of the four counties in the assessment area. More than one-third of FS-owned land is in Lincoln County; development that favors proximity to protected forest resources has been intense in Lincoln County, particularly in and around Ruidoso and Ruidoso Downs in the southern edge of the county; and much of the tourism and recreation activity associated with the forest, including skiing, is in Lincoln County.

By contrast, the economic benefits of Lincoln NF to Chaves and Eddy Counties are relatively marginal. Together, the two counties contain less than 17 percent of FS-owned land, although the forest's relatively rich grazing land in the area does create jobs and generate revenues. Population centers that provide visitors to the Lincoln NF are relatively far from forest land in the two county area, in particular in the Guadalupe RD; and FS operations have a small presence in the two county area. More importantly, the relatively large regional economy in the area, driven in large part by the oil and gas industry, means that the local economy is proportionately less dependent on forest-based activities.

Resource and tourism-based economies are highly volatile. This represents a major challenge to the FS in managing its role in the local economy. The oil and gas industry is perhaps most volatile, and while it has a very marginal presence within the Lincoln NF, its indirect impact is very significant as it is the source of much of the money that flows into region's tourism and development markets. Likewise, the ranching industry is subject to wide swings in market prices.

The volatility of these sectors makes it difficult for communities in the assessment area to develop and implement effective, long-term policy.

Another challenge facing the FS and other managers of regional economy are the restrictions of limited resources and the conflicts that arise in their various uses. Much of the recent growth in the region, particularly in Lincoln County, has been associated with land development and related recreational activities, mainly in and around Ruidoso. However, by most accounts the area is approaching build out. As the construction phase of development reaches its conclusion, revenues decline while costs continue to rise. Local governments must find new, more sustainable revenue sources. Similarly, the recent increase in energy prices is encouraging policymakers to intensify exploitation of region's rich oil and gas resources, particularly in southern Otero County. While this may help the local economy offset losses in other sectors and other areas, it may also exacerbate rather than counterbalance the volatility of the regional economy. Further, increasing the exploitation of natural resources may compromise the vibrancy of the recreation and tourism economy, which accounts for two-thirds of the total contribution of the Lincoln NF to the local economy.

A critical function of the Lincoln NF, particularly the mountain districts, is the generation and retention of water that supply areas beyond the forest boundaries. A complete analysis of the economic role of water sources in the forest is beyond the scope of this report, but it is evident that the viability of many communities in the assessment area depend on the substantially of this crucial resource.

Another challenge facing the regional economy is the expected closing of the observatories located on NF land at Sunspot, New Mexico. The total impact of these facilities is estimated to be about \$4.5 million. It is possible that officials will identify an alternative use for the facilities, but it is likely that this use will contribute less to the local economy than do the observatories, and that any alternative use may be only temporary.

8 Community Relationships

This chapter describes the relationships between the Forest Service (FS) and the communities surrounding the Lincoln National Forest (NF). The FS has an extensive history of working with local communities on various projects ranging from economic development to forest health and sustainability. Partnerships are an indispensable method of managing operations and conducting business. They are a vital means of achieving goals that might not be met by the FS alone.

8.1 Lincoln National Forest Communities

Chapter 2 provided a demographic profile of the four counties that comprise the Lincoln NF assessment area. Information pertaining to the major communities within these four counties was also presented. **Table 8.1** provides links to socio-economic information from the 2000 census for each of the major communities in the area.

Table 8.1: Lincoln NF Communities: Socioeconomic Profiles, Census 2000

<u>County/Community</u>	<u>Link to Socio-Economic Information</u>
<u>Chaves County</u>	http://www.unm.edu/~bber/census/sample/05035005.pdf
Dexter town	http://www.unm.edu/~bber/census/sample/1603520620.pdf
Hagerman town	http://www.unm.edu/~bber/census/sample/1603531330.pdf
Lake Arthur town	http://www.unm.edu/~bber/census/sample/1603537840.pdf
Roswell city	http://www.unm.edu/~bber/census/sample/1603564930.pdf
<u>Eddy County</u>	http://www.unm.edu/~bber/census/sample/05035015.pdf
Artesia city	http://www.unm.edu/~bber/census/sample/1603505220.pdf
Carlsbad city	http://www.unm.edu/~bber/census/sample/1603512150.pdf
Hope village	http://www.unm.edu/~bber/census/sample/1603533290.pdf
Loving village	http://www.unm.edu/~bber/census/sample/1603544420.pdf
<u>Lincoln County</u>	http://www.unm.edu/~bber/census/sample/05035027.pdf
Capitan village	http://www.unm.edu/~bber/census/sample/1603511800.pdf
Carrizozo town	http://www.unm.edu/~bber/census/sample/1603512500.pdf
Ruidoso village	http://www.unm.edu/~bber/census/sample/1603565210.pdf
Ruidoso Downs village	http://www.unm.edu/~bber/census/sample/1603565280.pdf
<u>Otero County</u>	http://www.unm.edu/~bber/census/sample/05035035.pdf
Alamogordo city	http://www.unm.edu/~bber/census/sample/1603501780.pdf
Cloudcroft village	http://www.unm.edu/~bber/census/sample/1603516280.pdf
Tularosa village	http://www.unm.edu/~bber/census/sample/1603579980.pdf

8.2 Partnerships

Data provided by the FS shows that over 200 businesses and community and governmental organizations partner with the Lincoln NF on various projects. **Table 8.2** lists the number of organizations, agencies, tribes, businesses, and educational institutions that partnered with the Lincoln NF during 2005, and provides a specific example of each partner type.

Table 8.2: Partnership Types for Lincoln NF, 2005

Partner Type	Example	Number of Partnerships
Federal	Bureau of Land Management	15
State Government	NM Department of Game and Fish	22
Local Government	Otero County Administration	38
Tribal	Mescalero Apache Tribe	19
Non-Governmental Org.	Rocky Mountain Elk Foundation	48
Private	Geo-Marine, Inc.	36
Universities/Public Schools	New Mexico State University	28
Total		206

Source: USDA Forest Service

As indicated in **Table 8.2**, collaborations between the Lincoln NF and non-governmental organizations occur more frequently than collaborations between the forest and other entities. Partnerships are beneficial to the forest itself, users of the forest, the FS, and the collaborators. A list of all grants and agreements between Lincoln NF and other organizations is provided in Appendix **Table A.5**. The list details the partner name and contribution amounts (from both the FS and the partner, and in the form of both dollar contributions and in-kind contributions), but does not provide project descriptions or information pertaining to other collaborators (many projects are collaborations among numerous organizations).

The FS has a wide variety of collaborative projects with numerous partners. A selection of these collaborative projects is discussed briefly below; a complete discussion is not feasible due to the large number of partnerships. Lincoln NF works on vegetative treatments and water development projects with a variety of wildlife organizations such as the Rocky Mountain Elk Foundation, Quail Unlimited, and the Mule Deer Foundation. Wildlife studies (pertaining to such species as the Cloudcroft checkerspot butterfly, the Sacramento Mountain salamander, elk, and goshawks) are conducted with a variety of organizations, including New Mexico State University, the New Mexico Game and Fish Department, and Hawks Aloft.

Many collaborative efforts are ranger district-specific. Collaborations on the Smokey Bear Ranger District (RD) include the following: FS personnel and the Lincoln County Bird Club have worked on bald eagle and osprey surveys; presentations and field trips were provided for the NASA and Eastern New Mexico University science camps (presentation and field trips pertained to a variety of subjects, including bats, endangered species, and riparian areas); and efforts have been made to coordinate watershed and fuel reduction projects with the Upper Hondo Watershed Coalition.

On the Sacramento RD collaborations include a collaborative project with the New Mexico Rails to Trails Association to convert old railroad grades to trails, trail maintenance, and the creation and installation of interpretive signs; priority setting, coordination of access, and fuel reduction activities have been conducted with the Otero County Wildland-Urban Interface Committee; and biological surveys and wildlife work has been conducted with the aid of the Student Conservation Association and Furman University students, among others.

Collaborative efforts specific to the Guadalupe RD include cave restoration, bat counts, rescue training, and biological surveys conducted jointly with the High Guads Restoration Project; trail

maintenance and cave maintenance with the Cloudcroft Youth Conservation Corps crew; and training of boy scouts in caving techniques and cave conservation, preservation, and restoration.

8.3 Collaborative Forest Rehabilitation Program (CFRP)

The Community Forest Restoration Act of 2000 (Title VI, Public Law 106-393) established in New Mexico the Collaborative Forest Restoration Program (CFRP). The CFRP provides funding in the form of cost-share grants for the purposes of collaborative forest restoration projects on public lands. A diversity of stakeholders is required to be involved in the design and implementation of CFRP projects, which should be designed to address such issues as wildfire threat reduction, ecosystem restoration (including non-native tree species reduction), reestablishment of historic fire regimes, reforestation, preservation of old and large trees, increased utilization of small diameter trees, and the creation of forest-related local employment.¹⁰ An amount of \$5 million is appropriated annually to support the CFRP. A variety of public and private entities – including (but not limited to) local and tribal governments, educational institutions, landowners, non-profit organizations, and conservation organizations – may apply for funds.¹¹

Throughout New Mexico there were thirteen CFRP projects funded during 2005 at a total cost of roughly \$4.3 million. One of the 13 projects (the Cedar Creek restoration project) was located in the Lincoln NF. The project accomplished forest and watershed restoration on 252 acres within the Smokey Bear RD. A low-impact forwarder harvesting system was used, with the resulting harvested material used in value-added products.

8.4 New Mexico Fire Plan Collaborative Efforts

A collaborative effort between state, local, and federal agencies, industry, and environmental organizations has made significant headway in addressing fire-related issues and is working to accomplish the following goals:¹²

- Restore the natural fire cycles and ecological processes of watersheds across all ownerships.
- Provide support for the development of economically viable uses of resources derived from forest and rangeland restoration projects on all ownerships.
- Promote awareness and accelerate work to reduce the risk of catastrophic wildfires to communities and private lands.

In 2004, more than 91 thousand acres were treated statewide using prescribed fire, fire use, and machinery. Treated acres were located within numerous wildland-urban interface areas, particularly those associated with the “20 Communities Most at Risk” identified by the New Mexico State Forestry Division.¹³ Treatment and community protection costs were \$3.6 million.

¹⁰ <http://www.fs.fed.us/r3/spf/cfrp/>.

¹¹ <http://www.southwestareagrants.org/nm/cfrp.php>.

¹² Discussion is based on “New Mexico Fire Plan/National Fire Plan 2004 Accomplishment Report: Southwestern New Mexico.”

¹³ The twenty communities identified as most at-risk by the New Mexico State Forestry Division are Pinos Altos, Reserve, Apache Creek, Pine Cienega, Little Walnut, Poverty Creek, Kingston, Agua Fria, Black

Funds came from a variety of sources: \$1.7 million in federal non-grant dollars, \$177 thousand in state dollars, \$1.3 million in grant dollars, and \$435 thousand in matching dollars. In addition to the treatment of many thousands of acres, the collaborative process resulted in numerous other accomplishments during 2004:

- Chips, firewood, saw logs, board lumber, and round wood were among the by-products that resulted from the treatment process.
- More than 120 jobs were created through contracting with local workers to help with the treatment process.
- More than 700 individuals were certified to participate and help with treatment.

In 2003, the village of Ruidoso received a grant for \$335 thousand under the National Fire Plan, and a participating agreement with Lincoln NF for an additional \$150 thousand to work on fuels reduction in the area of the village.

In accordance with the Healthy Forests Restoration Act of 2003 (aimed at implementing portions of the National Fire Plan), collaborative Wildlife-Urban Interface working groups have formed and developed community wildfire protection plans. The working groups are collaborative efforts between state, local, tribal, and federal agencies, as well as fire departments, private landowners, insurers, and local businesses. The groups work to address hazard mitigation, structure protection, and community preparedness, and are the primary channel for coordinating funding and grants requests, fuels management projects, and interagency/business relationships. More specifically, the groups establish geographical boundaries where priorities and treatments are applied. Forest health and watershed management issues are also addressed. Working groups use public awareness campaigns to educate homeowners and communities about structural ignitability.

8.5 Rio Peñasco Watershed Restoration Project

Initiated in 1999, the Rio Peñasco Watershed Restoration Project is an on-going partnership effort originally designed to restore ecological integrity and biodiversity, improve water quality and supply, and create an economic base for local businesses dependent on forest resources. The Rio Peñasco Watershed Restoration Project is one of only 16 such projects nationwide. The project's development stems from recognition that former activities and resource use practices have resulted in poor current watershed conditions, including reduced surface water availability, poor water quality, increased presence of invasive non-native plants, and unhealthy forests at high risk for catastrophic wildfires and insect and disease infestations. The project was subsequently refocused on reducing fire susceptibility, although watershed restoration continues to be integrated into the project's new focus.

The Upper Rio Peñasco is a 120,000-acre watershed that drains into the Pecos River. The Sacramento RD covers two-thirds of the watershed, which is also home to several communities (including Cloudcroft and Mayhill) and subdivisions.

The partnership is community-based and involves both local and regional interests. Current partners include Lincoln NF, assorted local, state, and federal agencies, private industry, and various non-governmental organizations. On-the-ground accomplishments to date include

Mountain, Devil's Peak, Rancho Grande, Elk Springs, Silver City, Pie Town, Datil, Beaverhead, Davenport Lookout, Mimbres, Lake Roberts, Hanover, Santa Clara, Arenas Valley, and Caballo Mountain.

thinning of small-diameter trees, replacing culverts, resurfacing roads, and improving drainage ditches. Additional accomplishments include the preparation of documentation required for the use of prescribed fire and thinning on several thousand acres, establishment of a slash disposal pit for use by private citizens conducting thinning, and holding seminars and workshops. Future efforts will include the development of fuels reduction and water quality improvement projects, strengthening and expanding the partnership, exploration of new ways to commercially use restoration by-products, and funds acquisition.

8.6 Volunteers

Data obtained from the FS indicates that during 2005 Lincoln NF gained from the efforts of more than 585 volunteers. Volunteers are a valuable resource and enable Lincoln NF to undertake more projects than would be possible without the aid of volunteers. Volunteers have helped with a variety of projects, including recreation site and trail maintenance, business and finance activities, and heritage resource protection. Clearly, the FS benefits from relationships with volunteers, but volunteers also benefit, as they have the opportunity to learn about the forest and its wildlife and heritage resources.

Table 8.3 provides details regarding the ethnicity of Lincoln NF volunteers over the past 6 years. Over the past several years, there have generally been more non-Hispanic volunteers than minority volunteers. **Table 8.4** describes Lincoln NF volunteers according to their age and gender characteristics. On average, 75 percent of volunteers are male. Volunteers tend to be young to middle-aged; 32 percent are 18 or younger, 52 percent of volunteers are between the ages of 18 and 54, and 16 percent are 55 or older.

Table 8.3: Ethnicity and Gender of Lincoln NF Volunteers, 2000–2005

2005				2004			
Race/Ethnicity	Male	Female	Total	Race/Ethnicity	Male	Female	Total
White (Non-Hispanic)	27%	31%	28%	White (Non-Hispanic)	72%	84%	75%
Black (Non-Hispanic)	0%	2%	0%	Black (Non-Hispanic)	0%	0%	0%
Hispanic	36%	33%	36%	Hispanic	14%	8%	13%
Native American/Alaskan Native	0%	0%	0%	Native American/Alaskan Nativ	0%	0%	0%
Asian/Pacific Islander	0%	0%	0%	Asian/Pacific Islander	0%	0%	0%
Total Minorities	36%	35%	36%	Total Minorities	14%	8%	13%
TOTAL	432	153	585	TOTAL	113	38	151

2003				2002			
Race/Ethnicity	Male	Female	Total	Race/Ethnicity	Male	Female	Total
White (Non-Hispanic)	89%	90%	89%	White (Non-Hispanic)	55%	59%	56%
Black (Non-Hispanic)	2%	3%	2%	Black (Non-Hispanic)	0%	1%	1%
Hispanic	4%	3%	4%	Hispanic	22%	20%	21%
Native American/Alaskan Native	0%	0%	0%	Native American/Alaskan Nativ	0%	0%	0%
Asian/Pacific Islander	0%	0%	0%	Asian/Pacific Islander	0%	0%	0%
Total Minorities	6%	5%	6%	Total Minorities	23%	21%	22%
TOTAL	124	39	163	TOTAL	275	97	372

2001				2000			
Race/Ethnicity	Male	Female	Total	Race/Ethnicity	Male	Female	Total
White (Non-Hispanic)				White (Non-Hispanic)	68%	92%	73%
Black (Non-Hispanic)				Black (Non-Hispanic)	1%	3%	2%
Hispanic				Hispanic	15%	1%	12%
Native American/Alaskan Native				Native American/Alaskan Nativ	0%	0%	0%
Asian/Pacific Islander				Asian/Pacific Islander	0%	0%	0%
Total Minorities				Total Minorities	16%	4%	13%
TOTAL	NA	NA	NA	TOTAL	517	151	668

Notes: Column percentages may not sum to 100% due to non-reporting by some individuals. NA = not available.
 Source: USDA Forest Service Volunteer Data, Human Resource Department

Table 8.4: Age and Gender of Lincoln NF Volunteers, 2000–2005

2005					2004				
	Under 18	18-54	Over 55	Total		Under 18	18-54	Over 55	Total
Male	82%	77%	60%	77%	Male	90%	68%	71%	73%
Female	18%	23%	40%	23%	Female	10%	32%	29%	27%
TOTAL	164	138	55	357	TOTAL	29	72	31	132

2003					2002				
	Under 18	18-54	Over 55	Total		Under 18	18-54	Over 55	Total
Male	92%	69%	71%	75%	Male	74%	72%	75%	73%
Female	8%	31%	29%	25%	Female	26%	28%	25%	27%
TOTAL	38	85	31	154	TOTAL	116	138	36	290

2001					2000				
	Under 18	18-54	Over 55	Total		Under 18	18-54	Over 55	Total
Male					Male	92%	69%	74%	75%
Female					Female	8%	31%	26%	25%
TOTAL	NA	NA	NA	NA	TOTAL	138	357	84	579

Source: USDA Forest Service Volunteer Data, Human Resource Department

Table 8.5 provides detailed information regarding the number of volunteer hours, the associated appraised value, and the number of person years associated with volunteer activities in each of a number of broad categories for each of the past 6 years. The FS has estimated that 16,437 hours of volunteer work were donated in 2005; the Bureau of Business and Economic Research (BBER) estimates that these contributions of volunteer time are worth \$166,165. BBER's appraisal of the value of the donated volunteer hours is assessed by accounting for the volunteers' skill levels and adjusting the appraised value to the government pay grade scale. The "person years" column specifies the number of years' worth of work that was subsidized by volunteers' efforts.

The area that benefits most significantly from volunteer efforts is recreation (trail maintenance). Other areas that benefit substantially include the Heritage Program; wildlife, fish, and rare plants; and business and finance. During the past 6 years, volunteers have donated an average of 15,605 hours of their time per year, valued at \$176,828 and equivalent to 9 person-years worth of work. The FS has received the most benefit from volunteer efforts related to recreation activities.

Table 8.5: Value of Volunteers on Lincoln NF, 2000-2005

Resource Category	2005			2004			2003		
	Accum. Hours	Appraised Value (Dollars)*	Person Years**	Accum. Hours	Appraised Value (Dollars)*	Person Years**	Accum. Hours	Appraised Value (Dollars)*	Person Years**
Recreation	15,989	\$158,678	8.88	12836	\$127,659	7.13	13,088	\$168,336	7.27
Heritage Program				469	\$6,344	0.28	240	\$4,000	0.13
Wildlife, Fish & Rare Plants	360	\$6,648	0.20				64	\$950	0.04
Business & Finance	40	\$412	0.02	736	\$7,117	0.41	32	\$475	0.02
Other	48	\$427	0.03						
TOTALS	16,437	\$166,165	9.13	14,041	\$141,120	7.82	13,424	\$173,761	7.46

Resource Category	2002			2001			2000		
	Accum. Hours	Appraised Value (Dollars)*	Person Years**	Accum. Hours	Appraised Value (Dollars)*	Person Years**	Accum. Hours	Appraised Value (Dollars)*	Person Years**
Recreation	14,196	\$155,690	7.89				18,657	\$233,879	10.37
Heritage Program	90	\$1,035	0.05				0	\$0	0.00
Wildlife, Fish & Rare Plants							800	\$7,775	0.44
Business & Finance	124	\$1,984	0.07				48	\$438	0.03
Other	208	\$2,295	0.12						
TOTALS	14,618	\$161,004	8.13	NA	NA	NA	19,505	\$242,092	10.84

*Appraised Value estimated according to Government Pay Grade

**Person Years = Accum. Hours/1800 Hours

Source: USDA Forest Service Volunteer Data, Human Resource Department

8.7 Challenges and Opportunities for Forest Management

Direct benefits of Lincoln NF are concentrated mostly in the communities surrounding the forest areas. This is illustrated in part by the fact that with few exceptions, grazing permittees are local to the Lincoln NF area – only three permittees do not live in close proximity to the forest.¹⁴ In addition, locals comprise more than 70 percent of those who use Lincoln NF for recreational purposes.¹⁵ The communities and economies of Ruidoso and Cloudcroft benefit from the operation of Ski Cloudcroft and Ski Apache, both of which are located in part on FS land.

¹⁴ Information on grazing permittees is summarized in **Table 5.4**.

¹⁵ Information on recreational use is summarized in **Table 5.1**.

Formal working agreements with community partners (such as CFRP grants) enable the FS to introduce and facilitate innovative projects designed to improve forest health and reduce future threats to forest health (such as fire and disease). Recent fires (such as the 2004 Peppin Fire) have highlighted to area residents the importance of forest health for both the forest itself and for the health of surrounding communities. This has hopefully created an atmosphere in which the FS can form new and effective partnerships with community members and organizations to address issues such as forest health. The Rio Peñasco Watershed Restoration Project is an excellent example of how the FS and the surrounding communities can work together to reach common goals that benefit not only the FS and the communities, but also the forest itself and its visitors. The FS has received support in these efforts both through formal collaborations and through the aid of volunteers.

Although a number of collaborative projects have been highlighted, the list is by no means comprehensive – numerous other collaborative projects have been undertaken for a variety of purposes, including fire rehabilitation, road construction, and wildlife habitat improvements. In addition, the FS has worked with the village of Cloudcroft and the Mescalero Apache tribe to ensure that the Ski Cloudcroft and Ski Apache ski areas remain operational.

Collaboration is a valuable tool to the FS, and its value is likely to grow as the pace of economic, social, and cultural change accelerates in communities that neighbor the forest. The efficiencies of collaboration are obvious – it allows the FS to leverage its resources to get more done. But there is an indirect benefit that may be more important. Economic, social, and cultural change in communities that neighbor Lincoln NF are associated with broader changes in the interests and needs of forest users, and in knowledge and values about land ethics and use. For the FS to be effective in its mission, it must be well informed as these changes unfold. Collaboration offers the FS a unique opportunity to maintain strong community relationships, to learn of the changing needs and views of its constituents. Equally, collaboration provides an opportunity for communities and constituents to understand the concerns and strategies of forest managers. An example is partnerships with organizations such as off-highway vehicle (OHV) clubs. Such partnerships would provide opportunities for both the FS and OHV users to understand each other's concerns and needs, leading to strategies that are workable and sustainable.

9 Principal Findings, Challenges, and Opportunities

9.1 Economic Restructuring and Changes in Forest Uses

The economic impact of the Lincoln NF reflects a national (and global) pattern of economic restructuring that has been underway since at least the 1970s. During this period, the value of primary resources, including rangeland, timber, minerals, and oil and gas, have declined sharply (notwithstanding 2006 increases in oil and gas prices), while values based on amenity-based uses, particularly residential and recreational development, have increased commensurately. Few expect this pattern of economic restructuring to change significantly in coming years, so it should serve as the baseline for planning.

- According to estimates outlined in Chapter 7 of this report, recreational activities had the largest economic impact of all activities on the Lincoln NF in the 2004 study year, accounting for about two-thirds of the total economic impact of forest-related activities. Recreational activities in the Lincoln NF directly and indirectly generated an estimated \$115.8 million in output (roughly equivalent to revenues), created 1,869 jobs, and funded \$40.9 million in labor income (including wages, benefits, and profits).
- Activities directly associated with FS operations – including salaries, contracts, and other expenditures – also contribute substantially to the local economy; the impact is still greater when activities associated with fire suppression are tallied. These activities account for an estimated \$24.3 million in output, 413 jobs, and \$16.1 million in labor payments.
- The combined value of resource-based activities – primarily ranching, but also including timber harvesting – account for about 5 to 8 percent of the economic impact of all forest-based activities. These activities account for 99 jobs and \$5.1 million in labor payments. Trends in the local agricultural sector suggest that the impact of these activities may be flat or declining, while recreational activities are almost certain to continue to increase.
- Other activities include the solar observatories at Sunspot, within the Sacramento ranger district (RD) south of Cloudcroft. These employ about 115 persons and pay about \$4.0 million in labor income. The uncertain future of these facilities may result in a diminished impact.

9.2 Social and Demographic Change

Economic restructuring and the associated shift from resource- to amenity-based uses of forest resources are associated with changes in the demographic and social profile of forest users and constituents. These changes generally track national demographic and social patterns, but, while uneven across counties, are somewhat more pronounced. The population in the Lincoln NF assessment area is becoming older, ethnically, racially and economically more diverse, better educated, and, on average, wealthier.

- Between the 1990 and 2000 censuses, the total population in the four county assessment area (Lincoln, Otero, Eddy and Chaves) grew from 154,620 to 194,749. The 14 percent increase was well below the statewide 20 percent increase. Forecasts indicate that the growth of the regional population will continue to lag behind the statewide pattern during the next two or three decades.
- Over the same ten-year period, the share of Hispanics in the four county

- assessment area increased sharply, from 35 percent to 42 percent, while the share of the White/non-Hispanic population declined from 50 percent to 45 percent.
- Between 1990 and 2000, the share of the four county population 65 years old or older increased slightly, from 13 percent to 14 percent, slightly higher than the New Mexico statewide average. According to forecast estimations, the age of this population will increase significantly, well beyond that of the state or national populations.
 - The economic circumstances of residents of the four county assessment region are increasingly divided. While real per capita income for the total population increased by 98 percent between 1990 to 2000, compared to a 76 percent increase for the state, the share of the four county population living in poverty remained unchanged, at 19 percent. During the same period, the share of the statewide population fell from 21 percent to 18 percent.

9.3 Differences between the Northern and Southern Segments of the Assessment Area

The northern part of the assessment area (Sacramento and Smokey Bear RDs) is growing much more rapidly than the southern part of the assessment area (by more than 47 percent during the 1980-2000 period, compared to only 14 percent during the same period in the Guadalupe RD). This trend is expected to continue: population in the northern counties for the period 2000 to 2030 is projected to grow by 26 percent, compared to 15 percent in the southern areas.

- Population growth in the northern assessment area, particularly in Lincoln County, is driven largely by the influx of older, better educated, White/non-Hispanic persons, including a large number of retirees. In Lincoln County, one in four residents will be 65 years old or older by 2010; one in three will be of that age by 2030. In the other counties, only about 15 percent of the population will be over 65 years of age by 2010, and the senior population will remain slightly less than one-quarter by 2030. Likewise, the population of the northern assessment area is much more likely to be made up of recent arrivals than their counterparts in the southern assessment area. In 2000, about 26 percent of Lincoln and Otero County residents had moved into the county during the preceding five-year period. By contrast, about 16 percent of Chaves and Eddy County residents had moved into the county during the same period.
- These demographic patterns reflect and create differences in use patterns of forest resources. Although the Lincoln NF issues far more permits for grazing in the northern than the southern RDs, overall, the area is less dedicated to ranching. In 2004, labor and proprietors' income from the livestock industry in Chaves and Eddy Counties was 30 times greater than the corresponding income generated in Otero and Lincoln Counties. Further, oil and gas exploration and extraction is a principal economic engine of the southern assessment area. The northern assessment area has no comparable resource-based industry.
- To the same extent that resource industries drive the economies of the southern assessment area and shape use within the forest, recreation, residential development, and government activities are the main drivers of the northern assessment area and uses of forest land. Ruidoso, in Lincoln County, is

characteristic of the expansion of amenity and recreational uses of the Sacramento and Smokey Bear RDs. Land development occurs at the fringe of forest land, but is clearly shaped by the value that Lincoln NF brings to community residents.

9.4 Fragmented Patterns of Landownership within the Lincoln National Forest

Within the boundaries of the Lincoln NF, about 166,571 acres or 13 percent of the land area is under private ownership. Far from consolidated, privately owned land is widely distributed in relatively small parcels throughout the three RDs, creating a fragmented or checkerboard pattern of land ownership. This fragmented pattern of land ownership poses both challenges and opportunities to the management of the Lincoln NF.

- Fragmented landownership generates difficult issues regarding access and rights of way. FS-maintained roads are part of the road network used by local residents, and in some cases, these roads provide exclusive access to private land. Conversely, there are many situations where access to FS-owned land requires right-of-way consent of private landowners. In this respect, public-private relationships are critical to the functioning of the region.
- Often, effective ecological management requires consistent application across large contiguous areas, yet managers of public and private land often have different priorities and different resources, undermining FS management goals. For example, threatened and endangered species habitats often cross boundaries of landownership, but effective management must be carried out on the same scale in all parts of the habitats. Similarly, strategies to eradicate or manage invasive species must be applied evenly over areas because areas where these strategies are not applied may harbor these invasive species. Finally, fragmented landownership makes fire and fuel management more difficult by both limiting the capacity of the FS to apply good practice, and putting private property in the path of dangerous forest fires.
- On the positive side, the checkerboard pattern of landownership also provides a valuable opportunity for Lincoln NF managers to demonstrate alternative and sustainable management practices to private landowners that neighbor FS-owned land. This enables the FS to better achieve its land management objectives and fulfill its broadest mission to demonstrate the sustainable multiple-use management concept.
- Lincoln NF has been effective in enacting land exchanges and adjustments during recent years, reducing the problems associated with land fragmentation. To date, the principal objective of land adjustments on the Lincoln NF have been to ensure access to FS-owned land. Unfortunately, increasing land prices associated with land development, especially in Lincoln and Otero Counties, is likely to increase the cost of efforts to consolidate landownership in the future.

9.5 Localized Impacts Versus National Constituencies

Lincoln NF is located in a relatively remote area – the assessment area is thinly populated and it is located a considerable distance from larger metropolitan areas. A consequence is that the forest

tends to have a strong and, some may say, nearly exclusive impact on local communities.¹⁶ However, new transportation and communication technologies, the expansion of recreation and tourism economies, and the national and even global character of advocacy means that FS managers also must be responsive to an ever-widening constituency. This raises challenges, but also opportunities, for Lincoln NF managers.

- The four county assessment area of the Lincoln NF is populated by 194,749 persons over 21,708 square miles – an average population density of only 9 persons per square mile. The forest is also located 120 miles from the closest major metropolitan area and large airport, in El Paso, Texas.
- The geographical distribution of permits to graze livestock on Lincoln NF land is a useful indicator of the concentration of forest benefits. Of the 117 permittees to the forest, only 9 are held by persons not within the immediate vicinity of the forest. All others are held by persons living in small towns within miles of the forest boundaries. Grazing permits are not only critical to ranching operations, but they are also integral to the equity value of ranching businesses.
- The forest and forest management impact local communities in a number of other ways. Forest roads are common to the travel patterns of local residents; fire and environmental management on the forest directly affects local residents; the forest provides fuel wood to local communities; recreational opportunities are enjoyed largely by those living closest to the forest; and open space and other amenities associated with the forest support property values of local residents.
- Yet, the mandate of the FS is to support and protect all public interests and uses associated with the forest, not just those in closest proximity or with the longest historical ties to the forest. Preservation for future use, protection of threatened and endangered species, maintenance of wilderness areas and similar concerns are fundamental to the mission of the FS. This is very true of the Lincoln NF, which provides habitat for threatened and endangered species, includes two designated wilderness areas, and provides recreational opportunities to a growing number of persons outside the area.
- Opportunities exist to weave together these potentially conflicting interests. As the data in this report indicate, the economic benefits of Lincoln NF stem overwhelmingly from recreation use. The recreational value of the forest, in turn, depends on protecting the quality of the resources. By creating industries and business that bring the economic benefits of recreational and other amenity-based activities to a wider segment of the local population, some conflicts may be averted.

9.6 The Benefits of Collaboration in Forest Management

Lincoln NF administration has been very successful in fostering collaboration with the local constituents. As documented in Chapter 8, Lincoln NF has engaged in collaborative work with federal, state, and local government; tribal governments; non-governmental organizations; private

¹⁶ Shumway J.M. and S.M. Otterstrom. 2001. *Spatial Patterns of Migration and Income Change in the Mountain West: The Dominance of Service-Based, Amenity-Rich Counties*. Professional Geographer. Vol. 53(4): 492-502.

individuals; and universities and public schools. Collaboration will likely continue to be important as the FS addresses many challenges that lie ahead.

- Collaborative efforts, involving both financial and in-kind commitments, allow the FS to stretch increasingly scarce public resources. The same is true for other public and private parties, which also seek to leverage their resources for greater impact.
- As the demographic and economic profiles of the communities neighboring Lincoln NF continue to change during coming years, collaboration offers forest managers a unique opportunity to learn of the concerns and demands of its new users. Likewise, collaboration provides an opportunity for forest managers to educate the community about their mission, objectives, and effective environmental practice.
- Perhaps most importantly, as uses of forest resources change and the potential for conflict among uses and users inevitably arises, collaboration between the FS and its constituents may serve as a productive arena for communication and conflict resolution.

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Appendices

Table A.1: Capital Outlays and Transportation Infrastructure Improvements

I 10, Texas State Line to Las Cruces

This project involves reconstruction of existing lanes and expansion from a four-lane to a six-lane highway to accommodate high commuter and commercial traffic from El Paso. This is a major corridor for east to west coast transport of goods and services. Construction is scheduled to take place from August 2007 to May 2009.

U.S. 380, Capitan to Hondo

Project objectives are shoulder widening and pavement and drainage structure replacement along the existing two lanes. Emphasis will be placed on the cultural, natural and historic resources of the area. The project will improve the mobility of people and goods in the area. Construction is scheduled from June 2007 to October 2008.

U.S. 62, Texas State Line to Carlsbad

The existing two-lane highway will be reconstructed and enhanced with widened shoulders and periodic passing opportunities. This route accommodates tourists going to Carlsbad Caverns National Park, which is the most visited park in New Mexico. The project will run from June 2006 to February 2008.

U.S. 62, Texas State Line to Lea/Eddy County Line

The project will reconstruct and improve the existing two-lane highway and will widen shoulders to 8 feet. Improvements include replacement of pavement structure, drainage structures, guardrail, permanent signing, and striping. The roadway is a main corridor for oil field truck traffic. The project began in September 2004 and is scheduled for completion in July 2007.

NM 128, Jal to Texas State Line

The first ten and one-half miles will be realigned and reconstructed to relocate the roadway away from salt lakes. Reconstruction and improvement of the remainder of the route will address severely deteriorated surfacing and poor sub grade. Improvements will include widened lanes and shoulders. The project began March 2005 and is scheduled for completion in December 2008.

NM 8, Eunice N. to Jct U.S. 62 W. of Hobbs

Project objectives are to reconstruct and rehabilitate the existing lanes and add 8-foot shoulders. Improvements include replacement of drainage and pavement structures. This roadway is a main corridor for oil field traffic and is vital to the local economy. The project is scheduled from April 2010 to April 2011.

NM 83, Lovington E. to NM 132

The existing two lanes will be reconstructed and rehabilitated, and 8-foot wide shoulders will be added. Improvements will include replacement of pavement structure, drainage structures, guardrail, permanent signing, and striping. This facility is a main corridor for

oil field traffic and is vital to the local economy. Construction is scheduled from April 2007 to January 2008.

U.S. 380, Tatum to Texas State Line

The project will reconstruct the existing two lanes – shoulders will be widened and drainage structures replaced. This will improve the mobility of people, goods, and oil field truck traffic. The project began August 2004 and is scheduled for completion January 2008.

Table A.2: Trails on Lincoln NF

Name	Segment Length	Name	Segment Length
TELEPHONE CANYON	1	DARK CYN	6
PEACOCK	2	NELSON CYN	0
SITTING BULL FALLS	3	PRESTRIDGE W.	1
ALAMO PEAK	3	PRESTRIDGE E.	1
LAST CHANCE CANYON	6	RANCHARIO	3
OSHA	2	ROAD CYN ALT	1
OSHA	0	INDIAN WELLS	1
CEDAR CREEK	2	PINES N. TRAIL	1
CABALLERO CYN	4	CHIPPEWAY SPUR	1
ALAMO CYN	7	BAILEY S.	1
SOUTH BASE	12	OSHA SPUR	1
SUMMIT	8	FIR	2
PADILLA	3	LOWER SAN ANDRES	2
MITT AND BAR	1	SUNSPOT	1
MITT AND BAR	1	PINES BYPASS	1
MITT AND BAR	3	DEERHEAD CYN	1
PIERCE CANYON	4	CAMP WILDERNESS RID	4
PIERCE CANYON	2	SILVER CROSS-COUNTR	1
PANCHO CANYON	4	LITTLE APACHE	3
COPELAND CANYON	1	APACHE NATURE	1
CAPITAN PEAK	5	LA PASADA ENCANTADA	0
CAPITAN PEAK	1	ESCONDIDO RIDGE	3
NORTH BASE	6	ESCONDIDO RIDGE	1
SEVEN CABINS	4	HEART ATTACK CYN	1
THORIUM CANYON	2	GOBBLER KNOB	3
GRAND VIEW	1	CHIPPEWAY	3
GRAND VIEW SPUR	0	WILLS/HAY CYN	3
GRAND VIEW SPUR	0	WAYLAND CYN	4
UPPER DRY CYN	3	CORRAL CYN	1
"A"	5	CLOUD-CLIMBING TRES	1
DRY CYN	5	VILLAGE SPUR	0
UPPER DRY CYN ALT	1	OVERLOOK	0
HELL'S HOLE	1	OVERLOOK	0
RIM	1	OVERLOOK	0
RIM	27	OLD CLOUDCROFT HWY	3
DOG CYN	6	BENSON CYN	4
ROUNDUP GROUND	3	BENSON CYN ALT	2
PIPELINE	2	BENSON CYN S.	2
ATKINSON FIELD	2	TAYLOR CYN	2
WILLIE WHITE SPUR	1	SCENIC	1
WILLIE WHITE	5	SCHOFIELD CYN	2
GOAT SPRINGS	2	SHORTCUT	1
MONUMENT CYN	2	SCHOFIELD/BENSON CY	2
MONUMENT CYN	1	SCHOFIELD/TAYLOR CY	0
SAN ANDRES CYN	2	OLD SUNSPOT HWY TRA	1

Name	Segment Length	Name	Segment Length
SOUTHFORK	5	TURKEY CANYON	3
SOUTHFORK	1	PENNSYLVANIA CANYON	4
APPLE TREE CYN	5	INDIAN	4
APPLE TREE CYN II	1	NORTH MCKITRICK CAN	6
RODAMAKER CANYON	3	LONESOME RIDGE	3
PUMPHOUSE RIDGE I	1	USSERY	2
PUPMHOUSE RIDGE II	1	CCC TRAIL	2
PUMPHOUSE RIDGE III	3	OVERLOOK TRAIL	2
PUMPHOUSE RIDGE IV	0	WHITE OAKS	2
PUMPHOUSE RIDGE V	1	HORSE SPRING SPUR	1
THOUSAND MILE CYN	2	ANDERSON CANYON	1
HUBBELL CYN	4	GILSON SPRING TRAIL	2
MILLS CANYON	5	HORSE SPRING TRAIL	2
UPPER WILLS CYN	4	HORSE CANYON	3
UPPER WILLS CYN ALT	0	HORSE CANYON	1
DRY MILLS	1	CAMP WILDERNESS RID	2
CREST	18	FRANK'S SPRING	0
CREST	2	BLACK RIVER SPRING	2
SPRING CANYON	3	MUNSON TRAIL	2
PERK RIDGE TRAIL	3	JUNIPER WELLS TRAIL	1
BLUEFRONT	4	CAVE CANYON	3
BLUEFRONT	2	TELEPHONE RIDGE	2
NORMAN CANYON	2	PACK TRAIL	2
GRINDSTONE TRAIL (M	4	SLAUGHTER	1
FITNESS TRAIL	1	WILSON CANYON	1
LOOKOUT MOUNTAIN	1	ROBERT'S CANYON	1
ASPEN	2	BENSON RIDGE/BLUFF	1
ASPEN	0	BENSON RIDGE/BLUFF	0
BARBER SPRINGS TRAI	7	SACRAMENTO N.	1
JOHNNIE CANYON TRAI	4	SACRAMENTO N.	0
BIG BONITO	5	BENSON RIDGE/BLUFF	1
CARRIZO PEAK	3	LICK CYN	4
TUCSON MOUNTAIN	2	MINERAL SPRINGS	2
PATOS MOUNTAIN	3	MINERAL SPRINGS	1
LITTLE BONITO	1		
CHURCH MOUNTAIN	2	TOBOGGAN CYN	1
TORTOLITA CANYON	9	BRADFORD CYN	1
WATER CANYON	4	LITTLE APACHE	3
CUT ACROSS	1	ZINKER CYN TRAIL	2
ARGENTINA CANYON	3	SPILLER CYN	1
GAYLORD CANYON	2	LOST LODGE	1
DOHERTY RIDGE	3	SUNSHINE VALLEY	1
NOGAL CANYON	1	TOBOGGAN CYN S.	1
THREE RIVERS	6	LICK RIDGE N.	1
SKULL SPRINGS	2	LICK RIDGE N.	0

Name	Segment Length
LONG RIDGE	2
LONG RIDGE	0
MULE CYN	2
MULE CYN	1
BRIDGE CYN	2
SILVER CROSS-COUNTR	1
APPLE TREE SPUR	1
PINES	0
MOONSHINE	2
LUCAS CYN	5
SCOTT ABLE	4
ELK CYN	3
WILLIE WATSON CYN	1
APACHE NATURE	1
SADDLE NATURE	1
SILVER NATURE	0
DEVIL'S DEN	4
BARBER RIDGE	6
MINER'S ROAD	2
CLEAR WATER	1
NORTH EAGLE CREEK	2
SANDER'S RIDGE	2
PHANTOM	1
MAVERICK	1
OAK RIDGE	2
DRY CANYON	3
GOAT CANYON	2
COYOTE CANYON	2
SAND WASH	3
WARNER GULCH	2
NOGAL PEAK	1
PIERCE ALTERNATE TR	1
TRAIL CANYON	2
SWITCHBACK	3
CROSSOVER	0
WILLS CYN	4
COURTNEY MINE	2
CATHEY CYN	2
LITTLE LEWIS CYN	4
SBF SHORT CUT	0
GUNSIGHT CANYON	1
COTTONWOOD TRAIL	1
LOST TRAIL	1

All trail types are listed as Standard/Terra Trail

Table A.3: Hunting Regulations for Management Units in Lincoln NF

Big Game					
Species	License/Permit Type	Hunt Dates	Special Arms	Units	Permits
Deer	Public Draw	Varies per unit 10/28-11/22	Any Legal Sporting Arm	Units 29, 30, 32, 33, 36 - 38, 43, 45	25-1500
Deer	Public Draw	Varies per unit 9/1-1/15	Bows Only	Units 29, 30, 32, 33, 36 - 38, 43, 45	50-350
Deer	Public Draw	Varies per unit 9/23-11/26	Muzzleloaders	Units 29, 32, 36, 38, 43, 45	50-200
Deer	Public Draw	10/21-10-25	Restricted Muzzleloaders	Units 30, 33, 37	50-500
Elk	Private Land	Varies per unit 9/30-1/31	Any Legal Sporting Arm	Units 36, 37, 43, 45	
Elk	Private Land	9/1-9/22	Bows Only	Units 36, 37, 45	
Elk	Private Land	9/30-12/31	Muzzleloaders	Units 36, 37, 45	
Elk	Public Draw	Varies per unit 9/30-10/25	Any Legal Sporting Arm	Units 36, 37, 43, 45	25-140
Elk	Public Draw	9/1-9/22	Bows Only	Units 36, 37, 45	40-170
Elk	Public Draw	Varies per unit 9/30-11/15	Muzzleloaders	Units 36, 37, 45	25-140
Elk	OTC	Varies per unit 11/11-12/13	Bows Only	Units 37, 43	TBD
Antelope	Public Draw	Varies per unit 9/9-9/17	Any Legal Sporting Arm	Units 29, 32-34, 37	10 or 300
Antelope	Public Draw	8/19-8/23	Bows Only	Units 32-34, 37	200
Antelope	Public Draw	9/9-9/10	Muzzleloaders	Unit 29	50
Antelope	Public Draw	8/5-8/7	Mobility Impaired	Units 28, 32-34, 37	45
Bighorn Sheep	Public Draw	8/26-9/8	Restricted	Unit 45	8
Javelina	Public Draw	1/15-3/31	Any Legal Sporting Arm	Unit 30	600
Barbary Sheep	Public Draw	2/1-2/28	Any Legal Sporting Arm	Units 28-30, 32, 33, 36, 37	
Bear	OTC	Varies per unit 8/16-11/30	Restricted	Units 36-38, 43, 45	Until harvest is reached
Cougar	OTC	10/1-3/31	Restricted	Units 28-30, 32, 33, 36-38, 43, 45	Until harvest is reached
Furbearer	OTC	Varies per furbearer 9/1-4/1	Dogs, firearms, bows, traps/snares	Not well-specified; certain areas closed	n/a
Small Game/Waterfowl					
Species	License/Permit Type	Hunt Dates	Special Arms	Units/Counties/Zones	Permits
Quail	OTC	11/15-2/15	Any Legal Sporting Arm	Statewide	n/a
Quail	OTC	9/1-9/30 & 12/1-12/30	Any Legal Sporting Arm	South Zone	n/a
Dove	OTC	Varies per unit 9/1-12/30	Any Legal Sporting Arm	Statewide	n/a
Band-Tailed Pigeon	OTC	9/1-12/16	Any Legal Sporting Arm	Statewide (except Southwest)	n/a
Squirrel	OTC	9/1-10/31	Any Legal Sporting Arm	S-3	n/a
Sandhill Crane	OTC	10/31-1/31	Any Legal Sporting Arm	Eastern Hunt (Chaves and Eddy County)	n/a
Pheasant	OTC	12/8-12/11	Any Legal Sporting Arm	Statewide (except Valencia County)	n/a
Pheasant	OTC	12/3 & 12/10	Any Legal Sporting Arm	Seven Rivers & Huey WMA	n/a
Duck/American Coot	OTC	10/26-1/29	Any Legal Sporting Arm	Central Flyway South Zone	n/a
Moorhen	OTC	10/8-12/16	Any Legal Sporting Arm	Central Flyway South Zone	n/a
Sora/Virginia Rail	OTC	9/17-11/25	Any Legal Sporting Arm	Central Flyway South Zone	n/a
Light Goose	OTC	10/17-1/31	Any Legal Sporting Arm	Central Flyway South Zone	n/a
Dark Goose	OTC	10/17-1/31	Any Legal Sporting Arm	Central Flyway South Zone	n/a
Common Snipe	OTC	10/8-1/22	Any Legal Sporting Arm	Central Flyway South Zone	n/a
Pintail Canvasback	OTC	10/8-12/16	Any Legal Sporting Arm	Central Flyway South Zone	n/a

Source: New Mexico Department of Game and Fish, *Big Game & Trapper Rules & Information 2006-2007 License Year and 2005-2006 Small Game & Waterfowl Rules & Information*. <http://www.wildlife.state.nm.us/recreation/hunting/ind>

Bag Limit definitions: Deer definitions: APRD (antler point restrictions) one deer with at least 3 points on one antler. Elk definitions: MB - one male bull; A - one antlerless elk; ES - one elk, any sex; ARPE - elk with 5 or more points on one buck Antelope.

License/Permit Type definitions: OTC - Over the Counter Permit.

Wildlife Management Unit designations: S-3 (includes Lincoln, Otero, Chaves, & Eddy). Central Flyway South Zone (includes Lincoln, Otero, Chaves, & Eddy). Antelope Units: Lincoln - 34, 37; Chaves - 32, 33, 34; Otero - 29, 35; Eddy - 28, 29, 33; Otero - 28, 29, 43, 45; Eddy - 30.

Table A.4: Designated Areas of Lincoln NF

Site Name	Site Type	Operational Status	ROS Class
Guadalupe District			
Sitting Bull F Fpg	Picnic Site	Open	Roaded Natural
Last Chance Cyn Th	Trailhead	Open	Roaded Natural
Sacramento District			
Apache Fc	Campground	Open	Rural
Apache Pt Obs Osp	Organization Site Privately Owned	Open	Roaded Natural
Aspen Gc	Group Campground	Open	Rural
Black Bear Gc	Group Campground	Open	Rural
Bluff Springs Th	Trailhead	Open	Roaded Natural
Camp Dale Res Osp	Organization Site Privately Owned	Open	Rural
Cathey Vista Os	Observation Site	Open	Roaded Natural
Deerhead Fc	Campground	Open	Rural
Fir Lower Gc	Group Campground	Open	Rural
Fir Upper Gc	Group Campground	Open	Rural
Haynes Cyn Vist Os	Observation Site	Open	Roaded Natural
James Canyon Fc	Campground	Open	Rural
Karr Canyon Lower Fp	Picnic Site	Open	Rural
Karr Canyon Upper Fc	Campground	Open	Roaded Natural
La Pasada Encan Th	Trailhead	Open	Rural
Nelson Cyn Vist Is	Cua Interp/Info	Open	Roaded Natural
Osha Th	Trailhead	Open	Roaded Natural
Pines Fc	Campground	Open	Rural
Rim Th	Cua Trailhead	Open	Roaded Natural
Sacramento Rd Is	Interpretive Site (Admin)	Open	Rural
Saddle Fg	Campground	Open	Rural
Scott Able 4H Osp	Organization Site Privately Owned	Open	Rural
Sierra Blanca Vista Os	Observation Site	Open	Roaded Natural
Silver Amp Is	Interpretive Site (Minor)	Open	Rural
Silver Fc	Campground	Open	Rural
Silver Overflow Fc	Campground	Open	Rural
Silver Snowplay Ow	Other Winter Sports Site	Closed	Roaded Natural
Ski Cloudcroft Sa	Ski Area Alpine	Closed	Roaded Natural
Sleepy Grass Fc	Campground	Open	Rural
Sleepy Grass Fpg	Picnic Site	Open	Rural
Slide Gc	Group Campground	Open	Rural
Sunspot Observ Osp	Organization Site Privately Owned	Open	Urban
Trestle Fpg	Picnic Site	Open	Rural
Trestle Th	Trailhead	Open	Roaded Natural
Trestle Vista Os	Observation Site	Open	Roaded Natural
Tunnel Vista Os	Observation Site	Open	Roaded Natural

Site Name	Site Type	Operational	
		Status	ROS Class
Smokey Bear District			
Argentin/Bonito Th	Trailhead	Open	Primitive
Baca Fc	Campground	Open	Roaded Natural
Cedar Cr Fpg	Picnic Site	Open	Rural
Cedar Cr Ftns Th	Trailhead	Open	Rural
Crest Trailhead North	Cua Trailhead	Open	Rural
Crest Trailhead South	Cua Trailhead	Open	Rural
Dry Mills Trailhead	Cua Trailhead	Open	Rural
E Capitan Vista Is	Cua Interp/Info	Open	Roaded Natural
E Carizzo Vista Is	Cua Interp/Info	Open	Roaded Natural
Eagle Rr	Recreation Residence	Open	Urban
Lookout Mtn Os	Observation Site	Open	Rural
Mills Cyn Th	Trailhead	Open	Roaded Natural
Monjeau Fc	Campground	Open	Roaded Natural
Oak Grove Fc	Campground	Open	Roaded Natural
Pancho Trailhead	Cua Trailhead	Open	Roaded Natural
Pine Lodge Rr	Recreation Residence	Open	Rural
Pine Lodge Trailhead	Cua Trailhead	Open	Roaded Natural
Ruidoso Gun Rng Pp	Playground Park Specialized Sport	Open	Rural
S Capitan Vista Is	Cua Interp/Info	Open	Roaded Natural
Sam Tobias Memorial Gc	Group Campground	Open	Rural
Scenic Trailhead	Cua Trailhead	Open	Roaded Natural
Schoolhouse Fpg	Picnic Site	Open	Rural
Seven Cabins Trailhead	Cua Trailhead	Open	Roaded Natural
Ski Apache Sa	Ski Area Alpine	Open	Roaded Natural
Skyline Fc	Campground	Open	Roaded Natural
South Fork Fc	Campground	Open	Rural
South Fork Th	Trailhead	Open	Roaded Natural
Summit Trailhead	Cua Trailhead	Open	Roaded Natural
Three Rivers Fc	Campground	Open	Rural
Three Rivers Th	Trailhead	Open	Roaded Natural
W Capitan Vista Is	Interpretive Site (Minor)	Open	Roaded Natural
Windy Pt Vista Os	Observation Site	Open	Roaded Natural

Table A.5: Grants and Agreements Contracts for Lincoln NF

Grant & Agreement Number	Cooperator Cash Contribution	Cooperator Other Contribution	Cooperator Total Contribution	FS Cash Contribution	FS Other Contribution	FS Total Contribution	Total G&A Amount
02-CO-11030800-031	\$66,852.00	\$0.00	\$66,852.00	\$0.00	\$0.00	\$0.00	\$66,852.00
	Cooperator/ Contributors: NEW MEXICO GAME AND FISH, ROCKY MTN. ELK FOUNDATION						
02-CS-11030800-016	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: STEVE WEST						
02-CS-11030800-018	\$0.00	\$7,700.00	\$7,700.00	\$0.00	\$0.00	\$0.00	\$7,700.00
	Cooperator/ Contributors: NATL. WILD TURKEY FEDERATION						
02-IA-11030800-037	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: HOLLOMAN AIR FORCE BASE						
02-JV-11030800-019	\$12,000.00	\$0.00	\$12,000.00	\$0.00	\$0.00	\$0.00	\$12,000.00
	Cooperator/ Contributors: STATE OF NM, EMNRD						
02-MU-11030800-008	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: WAL-MART SUPERCENTER						
02-MU-11030800-009	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: WAL-MART SUPERCENTER						
02-MU-11030800-010	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: WAL-MART SUPERCENTER						
02-MU-11030800-011	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: WAL-MART SUPERCENTER						
02-MU-11030800-014	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: GEO-MARINE, INC.						
02-PA-11030800-040	\$20,000.00	\$12,800.00	\$32,800.00	\$0.00	\$4,450.00	\$4,450.00	\$37,250.00
	Cooperator/ Contributors: OTERO COUNTY ADMINISTRATION						
03-CO-11030800-015	\$12,000.00	\$0.00	\$12,000.00	\$0.00	\$0.00	\$0.00	\$12,000.00
	Cooperator/ Contributors: NATIONAL WILD TURKEY FEDERATION						
03-DG-11030800-032	\$1,000.00	\$0.00	\$1,000.00	\$0.00	\$0.00	\$0.00	\$1,000.00
	Cooperator/ Contributors: VILLAGE OF RUIDOSO						
03-IA-11030800-021	\$69,712.00	\$0.00	\$69,712.00	\$0.00	\$0.00	\$0.00	\$69,712.00
	Cooperator/ Contributors: BUREAU OF INDIAN AFFAIRS (BIA), NATIONAL PARKS SERVICE						
03-LE-11030800-007	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: OTERO COUNTY SHERIFF'S DEPT.						

Appendices

03-PA-11030800-030	\$57,620.00	\$5,929.00	\$63,549.00	\$0.00	\$0.00	\$0.00	\$63,549.00
	Cooperator/ Contributors:	SOUTH CENTRAL MOUNTAIN RC&D COUNCIL, INC.					
04-CO-11030800-001	\$234,995.00	\$0.00	\$234,995.00	\$0.00	\$0.00	\$0.00	\$234,995.00
	Cooperator/ Contributors:	DALE HALL					
04-DG-11030800-011	\$50.00	\$0.00	\$50.00	\$0.00	\$0.00	\$0.00	\$50.00
	Cooperator/ Contributors:	MIKE E. EOFF					
04-LE-11030800-003	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	D. KENT WALLER					
04-LE-11030800-004	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	JOHN BLANSETT					
04-LE-11030800-005	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	TOM SULLIVAN					
05-CO-11030800-001	\$227,356.00	\$0.00	\$227,356.00	\$0.00	\$0.00	\$0.00	\$227,356.00
	Cooperator/ Contributors:	NM DEPT. OF GAME AND FISH					
05-CO-11030800-002	\$10,500.00	\$0.00	\$10,500.00	\$0.00	\$0.00	\$0.00	\$10,500.00
	Cooperator/ Contributors:	ROCKY MTN. ELK FOUNDATION					
05-IA-11030800-016	\$0.00	\$0.00	\$0.00	\$6,000.00	\$0.00	\$6,000.00	\$6,000.00
	Cooperator/ Contributors:	BUREAU OF INDIAN AFFAIRS, USDI, BUREAU OF INDIAN AFFAIRS					
05-LE-11030800-015	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	NM MOUNTED PATROL TROOP 5					
05-LE-11030800-017	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	OTERO COUNTY NARCOTICS ENFORCEMENT UNIT					
05-MU-11030800-009	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	NEW MEXICO STATE UNIVERSITY					
05-PA-11030800-024	\$0.00	\$0.00	\$0.00	\$33,875.00	\$0.00	\$33,875.00	\$33,875.00
	Cooperator/ Contributors:	ECOSERVANTS DBA SIERRA BLANCA SERVICE CORPS					
94-CA-11030801-009	\$10,000.00	\$0.00	\$10,000.00	\$5,000.00	\$0.00	\$5,000.00	\$15,000.00
	Cooperator/ Contributors:	VILLAGE OF RUIDOSO, VILLAGE-RUIDOSO					
01-MU-11030801-002	\$0.00	\$24,760.00	\$24,760.00	\$0.00	\$0.00	\$0.00	\$24,760.00
	Cooperator/ Contributors:	BUREAU OF THE PUBLIC DEBT					

Grant & Agreement Number	Cooperator Cash Contribution	Cooperator Other Contribution	Cooperator Total Contribution	FS Cash Contribution	FS Other Contribution	FS Total Contribution	Total G&A Amount
02-CO-11030801-012	\$46,064.00	\$19,727.00	\$65,791.00	\$0.00	\$0.00	\$0.00	\$65,791.00
	Cooperator/ Contributors:	UPPER HONDO WATERSHED COALITION					
02-CO-11030801-013	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	MTD, INC.					
02-DG-11030801-001	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	SHERRY BARROW STRATEGIES					
02-DG-11030801-005	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	VILLAGE OF RUIDOSO					
02-DG-11030801-006	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	RUIDOSO MUNICIPAL SCHOOL DIST.					
02-IA-11030801-020	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	BUREAU OF THE PUBLIC DEBT					
02-LE-11030801-003	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	LINCOLN COUNTY SHERIFF'S DEPT.					
02-PA-11030801-028	\$0.00	\$10,000.00	\$10,000.00	\$0.00	\$0.00	\$0.00	\$10,000.00
	Cooperator/ Contributors:	CITY OF ALAMOGORDO					
03-DG-11030801-025	\$131,995.00	\$0.00	\$131,995.00	\$358,699.00	\$0.00	\$358,699.00	\$490,694.00
	Cooperator/ Contributors:	SOUTH CENTRAL MOUNTAIN RC&D COUNCIL, INC., SOUTH CENTRAL MTN RC&D, SOUTH CENTRAL MTN. RC&D COUNCIL					
03-LE-11030801-019	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	VILLAGE OF RUIDOSO POLICE DEPT.					
03-PA-11030801-028	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	VILLAGE OF RUIDOSO					
04-CA-11030801-029	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	LINCOLN COUNTY BOARD OF COMMISSIONERS					
04-CO-11030801-031	\$27,164.00	\$0.00	\$27,164.00	\$0.00	\$0.00	\$0.00	\$27,164.00
	Cooperator/ Contributors:	UPPER HONDO WATERSHED COALITION					
04-DG-11030801-020	\$0.00	\$9,500.00	\$9,500.00	\$0.00	\$0.00	\$0.00	\$9,500.00
	Cooperator/ Contributors:	CITY OF RUIDOSO DOWNS					
04-DG-11030801-022	\$0.00	\$1,250.00	\$1,250.00	\$0.00	\$0.00	\$0.00	\$1,250.00
	Cooperator/ Contributors:	SOUTH CENTRAL MOUNTAIN RC&D COUNCIL					

Appendices

04-DG-11030801-023	\$0.00	\$1,250.00	\$1,250.00	\$0.00	\$0.00	\$0.00	\$1,250.00
	Cooperator/ Contributors:	SOUTH CENTRAL MOUNTAIN RC&D COUNCIL					
04-DG-11030801-025	\$130,000.00	\$0.00	\$130,000.00	\$360,000.00	\$0.00	\$360,000.00	\$490,000.00
	Cooperator/ Contributors:	SOUTH CENTRAL MTN RC&D					
04-IA-11030801-027	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	DOT-FAA, SW REGION HEADQUARTERS					
04-IA-11030801-034	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	TREASURY FRANCHISE FUND/ADMIN. RESOURCE CENTER					
04-IA-11030801-037	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	NATIONAL PARK SERVICE					
04-MU-11030801-017	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	LINCOLN COUNTY COOPERATIVE WEED MANAGEMENT AREA					
04-MU-11030801-024	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:	WILDLAND FIREFIGHTER MUSEUM					
05-CA-11030801-029	\$0.00	\$0.00	\$0.00	\$26,163.60	\$0.00	\$26,163.60	\$26,163.60
	Cooperator/ Contributors:	LINCOLN COUNTY ROAD DEPARTMENT					
05-CA-11030801-035	\$0.00	\$0.00	\$0.00	\$5,000.00	\$0.00	\$5,000.00	\$5,000.00
	Cooperator/ Contributors:	VILLAGE OF RUIDOSO, VILLAGE-RUIDOSO					
05-DG-11030801-022	\$0.00	\$0.00	\$0.00	\$360,000.00	\$0.00	\$360,000.00	\$360,000.00
	Cooperator/ Contributors:	SHERRY BARROW STRATEGIES					
05-LE-11030801-003	\$0.00	\$0.00	\$0.00	\$22,500.00	\$0.00	\$22,500.00	\$22,500.00
	Cooperator/ Contributors:	LINCOLN COUNTY SHERIFF, LINCOLN COUNTY SHERIFF'S DEPT.					
06-LE-11030801-006	\$0.00	\$0.00	\$0.00	\$22,500.00	\$0.00	\$22,500.00	\$22,500.00
	Cooperator/ Contributors:	LINCOLN COUNTY SHERIFF'S DEPT.					
00-CA-11030802-011	\$0.00	\$0.00	\$0.00	\$33,000.00	\$0.00	\$33,000.00	\$33,000.00
	Cooperator/ Contributors:	SOUTH CENTRAL MOUNTAIN RC&D COUNCIL INC, USDA, NRCS					
01-CA-11030802-009	\$0.00	\$0.00	\$0.00	\$100,000.00	\$0.00	\$100,000.00	\$100,000.00
	Cooperator/ Contributors:	RIO GRANDE BIRD RESEARCH, RIO GRANDE BIRD RESEARCH, INC					
01-CA-11030802-015	\$0.00	\$0.00	\$0.00	\$62,300.00	\$0.00	\$62,300.00	\$62,300.00
	Cooperator/ Contributors:	HAWKS ALOFT INC, HAWKS ALOFT, INC.					

Grant & Agreement Number	Cooperator Cash Contribution	Cooperator Other Contribution	Cooperator Total Contribution	FS Cash Contribution	FS Other Contribution	FS Total Contribution	Total G&A Amount
01-IA-11030802-008	\$0.00	\$0.00	\$0.00	\$126,858.09	\$0.00	\$126,858.09	\$126,858.09
	Cooperator/ Contributors:		US GEOLOGICAL SURVEY				
01-MU-11030802-001	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		CLOUDCROFT NORDIC SKI PATROL				
02-CO-11030802-030	\$6,000.00	\$0.00	\$6,000.00	\$0.00	\$0.00	\$0.00	\$6,000.00
	Cooperator/ Contributors:		NATIONAL WILD TURKEY FEDERATION				
02-CO-11030802-041	\$190,861.00	\$0.00	\$190,861.00	\$0.00	\$0.00	\$0.00	\$190,861.00
	Cooperator/ Contributors:		NM DEPT. OF GAME AND FISH				
02-DG-11030802-007	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		OTERO SOIL AND WATER CONS. DIST.				
02-IA-11030802-024	\$347,398.00	\$0.00	\$347,398.00	\$0.00	\$0.00	\$0.00	\$347,398.00
	Cooperator/ Contributors:		FEDERAL HIGHWAY ADMINISTRATION				
02-IA-11030802-026	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		T.E.A.M.S.				
02-IA-11030802-036	\$52,075.04	\$0.00	\$52,075.04	\$0.00	\$0.00	\$0.00	\$52,075.04
	Cooperator/ Contributors:		OTERO SWCD				
02-LE-11030802-002	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		OTERO COUNTY SHERIFF'S DEPT.				
02-PA-11030802-017	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		STUDENT CONSERVATION ASSOC.				
02-PA-11030802-021	\$0.00	\$320,000.00	\$320,000.00	\$0.00	\$0.00	\$0.00	\$320,000.00
	Cooperator/ Contributors:		OTERO COUNTY				
02-PA-11030802-022	\$0.00	\$320,000.00	\$320,000.00	\$0.00	\$0.00	\$0.00	\$320,000.00
	Cooperator/ Contributors:		NM STATE HIGHWAY & TRANSPORTATION				
02-PA-11030802-023	\$0.00	\$15,500.00	\$15,500.00	\$0.00	\$2,000.00	\$2,000.00	\$17,500.00
	Cooperator/ Contributors:		REGENTS OF NEW MEXICO STATE UNIVERSITY				
02-PA-11030802-027	\$1,000.00	\$13,900.00	\$14,900.00	\$0.00	\$4,700.00	\$4,700.00	\$19,600.00
	Cooperator/ Contributors:		SNMYC/CHINS				
02-PA-11030802-035	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		HARVEY E. YATES, JR.				

Appendices

02-PA-11030802-039	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	COLEMAN CATTLE COMPANY, INC.						
03-CA-11030802-035	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	OTERO COUNTY ADMINISTRATION						
03-DG-11030802-026	\$13,400.00	\$0.00	\$13,400.00	\$0.00	\$0.00	\$0.00	\$13,400.00
Cooperator/ Contributors:	DERAL LEE BOOKOUT, JR.						
03-IA-11030802-024	\$290,585.00	\$0.00	\$290,585.00	\$0.00	\$0.00	\$0.00	\$290,585.00
Cooperator/ Contributors:	FEDERAL HIGHWAY ADMINISTRATION						
03-IA-11030802-036	\$12,500.00	\$0.00	\$12,500.00	\$0.00	\$0.00	\$0.00	\$12,500.00
Cooperator/ Contributors:	U.S. ARMY CORPS OF ENGINEERS						
03-LE-11030802-020	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	CLOUDCROFT POLICE DEPARTMENT						
03-PA-11030802-033	\$0.00	\$7,374.00	\$7,374.00	\$40,000.00	\$0.00	\$40,000.00	\$47,374.00
Cooperator/ Contributors:	COLLEGE OF AGRICULTURE, NEW MEXICO STATE UNIVERSITY						
04-CA-11030802-030	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	OTERO COUNTY ADMINISTRATION						
04-CO-11030802-009	\$4,000.00	\$0.00	\$4,000.00	\$0.00	\$0.00	\$0.00	\$4,000.00
Cooperator/ Contributors:	HAROLD MCCULLOUGH						
04-CS-11030802-014	\$0.00	\$7,700.00	\$7,700.00	\$0.00	\$2,550.00	\$2,550.00	\$10,250.00
Cooperator/ Contributors:	NATIONAL WILD TURKEY FEDERATION						
04-DG-11030802-035	\$20,000.00	\$0.00	\$20,000.00	\$0.00	\$0.00	\$0.00	\$20,000.00
Cooperator/ Contributors:	TURKEY CREEK FORESTRY SERVICES, INC.						
04-IA-11030802-013	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	T.E.A.M.S.						
04-MU-11030802-026	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	OTERO COUNTY ADMINISTRATION						
04-MU-11030802-036	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	CARLSBAD SOIL AND WATER CONSERVATION DISTRICT						
04-PA-11030802-010	\$35,000.00	\$0.00	\$35,000.00	\$55,000.00	\$0.00	\$55,000.00	\$90,000.00
Cooperator/ Contributors:	OTERO COUNTY						

Grant & Agreement Number	Cooperator Cash Contribution	Cooperator Other Contribution	Cooperator Total Contribution	FS Cash Contribution	FS Other Contribution	FS Total Contribution	Total G&A Amount
04-PA-11030802-015	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		STUDENT CONSERVATION ASSOCIATION				
04-PA-11030802-016	\$1,500.00	\$0.00	\$1,500.00	\$0.00	\$276.00	\$276.00	\$1,776.00
	Cooperator/ Contributors:		FURMAN UNIVERSITY				
05-CA-11030802-006	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		OTERO COUNTY ADMINISTRATION				
05-CA-11030802-028	\$0.00	\$0.00	\$0.00	\$30,864.60	\$0.00	\$30,864.60	\$30,864.60
	Cooperator/ Contributors:		OTERO COUNTY ADMINISTRATION				
05-CS-11030802-019	\$0.00	\$0.00	\$0.00	\$2,000.00	\$0.00	\$2,000.00	\$2,000.00
	Cooperator/ Contributors:		NATL. WILD TURKEY FEDERATION				
05-CS-11030802-025	\$0.00	\$0.00	\$0.00	\$4,556.39	\$0.00	\$4,556.39	\$4,556.39
	Cooperator/ Contributors:		DR. PAT BARLOW-IRICK				
05-LE-11030802-004	\$0.00	\$0.00	\$0.00	\$24,000.00	\$0.00	\$24,000.00	\$24,000.00
	Cooperator/ Contributors:		OTERO COUNTY SHERIFF'S DEPT.				
05-PA-11030802-010	\$0.00	\$0.00	\$0.00	\$5,950.00	\$0.00	\$5,950.00	\$5,950.00
	Cooperator/ Contributors:		STUDENT CONSERVATION ASSOC, STUDENT CONSERVATION ASSOCIATION, INC.				
05-PA-11030802-011	\$0.00	\$0.00	\$0.00	\$2,975.00	\$0.00	\$2,975.00	\$2,975.00
	Cooperator/ Contributors:		STUDENT CONSERVATION ASSOC, STUDENT CONSERVATION ASSOCIATION, INC.				
05-PA-11030802-012	\$0.00	\$0.00	\$0.00	\$2,975.00	\$0.00	\$2,975.00	\$2,975.00
	Cooperator/ Contributors:		STUDENT CONSERVATION ASSOC, STUDENT CONSERVATION ASSOCIATION, INC.				
05-PA-11030802-020	\$0.00	\$0.00	\$0.00	\$2,500.00	\$0.00	\$2,500.00	\$2,500.00
	Cooperator/ Contributors:		NMSU DEPT OF BIOLOGY				
06-LE-11030802-007	\$0.00	\$0.00	\$0.00	\$24,000.00	\$0.00	\$24,000.00	\$24,000.00
	Cooperator/ Contributors:		OTERO COUNTY SHERIFF'S DEPT.				
01-MU-11030803-003	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		BLM/NPS				
02-IA-11030803-015	\$4,352.78	\$0.00	\$4,352.78	\$0.00	\$0.00	\$0.00	\$4,352.78
	Cooperator/ Contributors:		USDA/FAS/ICD/DRD				
02-LE-11030803-004	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors:		EDDY COUNTY SHERIFF'S DEPT.				

Appendices

04-CA-11030803-006	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	ROBERT FORREST						
04-IA-11030803-033	\$0.00	\$12,000.00	\$12,000.00	\$70,000.00	\$15,750.00	\$85,750.00	\$97,750.00
Cooperator/ Contributors:	BLM/CARLSBAD FIELD OFFICE, BUREAU OF LAND MGMT						
04-MU-11030803-007	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	USDI-NPS (GUADALUPE MTNS.NATL PARK)						
04-MU-11030803-018	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	USDI-BLM CARLSBAD FIELD OFFICE, USDI-BLM ROSWELL FIELD OFFICE						
05-CA-11030803-014	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Cooperator/ Contributors:	ROBERT FORREST						
05-LE-11030803-005	\$0.00	\$0.00	\$0.00	\$16,000.00	\$0.00	\$16,000.00	\$16,000.00
Cooperator/ Contributors:	EDDY COUNTY SHERIFF DEPT, EDDY COUNTY SHERIFF'S DEPT.						
06-LE-11030803-008	\$0.00	\$0.00	\$0.00	\$16,000.00	\$0.00	\$16,000.00	\$16,000.00
Cooperator/ Contributors:	EDDY COUNTY SHERIFF DEPT						
Grand Totals:	\$2,035,979.82	\$789,390.00	\$2,825,369.82	\$1,818,716.68	\$29,726.00	\$1,848,442.68	\$4,673,812.50
G&A Count:	112						