

## 7 Economic Impacts

### 7.1 Gila National Forest Regional Economy

The Gila National Forest (NF) lies within Catron, Grant, Hidalgo, and Sierra Counties, with a significant majority of the forest land in Catron and Grant Counties. In terms of affected settlements, Silver City (2000 population 10,545), the largest city in Grant County, abuts the forest land, while Reserve (2000 population 387), the largest settlement in Catron County, is surrounded by the Gila NF. Other significant settlements in the region include Truth or Consequences (2000 population 7,359) in Sierra County and Lordsburg (2000 population 3,379) in Hidalgo County. These four counties comprise the assessment area used in this study, but the net economic contribution of the forest should be considered to lie mainly in Catron and Grant Counties, with a smaller but significant impact on Sierra County, and a minor effect on Hidalgo County.

Except for small micropolitan areas such as Silver City and Truth or Consequences, the assessment area is extremely rural and sparsely populated.<sup>1</sup> In 2000, the four counties combined had a population of 53,747. As seen in Chapter 2 on demographic trends, Grant County contains a large percentage of the assessment area's population, with Sierra County being the next largest, and Catron and Hidalgo Counties having small portions of the assessment area's population. **Table 7.1** shows employment for each county and it follows a similar pattern, with Grant County claiming 61 percent of the assessment area's jobs in 2003 while the other counties have only a small portion of the assessment area's jobs.

As shown in **Table 7.1**, the assessment area is also characterized by very low incomes, with the per capita incomes less than 60 percent of the U.S. average. Within the assessment area, this value is slightly higher for Grant and Sierra Counties, which contain the largest settlements, and lower in Catron and Hidalgo Counties, which are more sparsely populated.

**Table 7.1: Total Unemployment by County, 2003**

	Employment	Percent of Region	Per Capita Income	PCI Relative to US
<b>Catron County</b>	1,531	7%	16,303	0.52
<b>Grant County</b>	13,329	61%	19,190	0.61
<b>Hidalgo County</b>	2,352	11%	17,370	0.55
<b>Sierra County</b>	4,514	21%	18,295	0.58
<b>Gila Region</b>	21,726	100%	17,790	0.57
<b>New Mexico</b>	1,015,365	--	24,892	0.79
<b>United States</b>	167,488,500	--	31,484	1.00

Source: Bureau of Economic Analysis, 2003

The industrial composition of employment (full- and part-time and including self-employment) in each county from 1980 to 2000 is shown in **Table 7.2**. In general, the assessment area as a whole is characterized by an increase in the relative size of the service sector and a decrease in the relative size of farm and natural resource-based employment. The increased relative size of retail and services within the assessment area reflects a growing dependence on tourism and visitor spending, much of which is directly related to the Gila NF. In addition, the relative size of

<sup>1</sup> A micropolitan area is "... a community that is too urban to be called rural and too rural to be called urban; a location where the community mixes with the rural area that surrounds it and vice versa and that is seen locally as a small metropolitan area or the mother town in a small region."  
[http://www.findmehere.com/search/dictionary/m\\_index.htm#metro](http://www.findmehere.com/search/dictionary/m_index.htm#metro).

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government employment has decreased slightly from 1980 to 2000 in Catron and Sierra Counties. Despite this decrease, government employment provides about 25 percent of jobs in the assessment area. These trends are reflected throughout the assessment area as a whole, but each county differs in significant ways from its counterparts.

**Table 7.2: Total Employment by Private Sector by County, 1980, 1990, and 2000**

County	1980	1990	2000	1980%	1990%	2000%	Change in %	
							1980-1990	1990-2000
<b>Catron</b>								
<b>TOTAL</b>	1,059	1,246	1,456	100%	100%	100%	0.00%	0.00%
<b>Farm Employment</b>	349	282	274	33%	23%	19%	-10.32%	-3.81%
<b>Non-farm Employment</b>	710	964	1,182	67%	77%	81%	10.32%	3.81%
<b>Private Employment</b>	418	607	825	39%	49%	57%	9.24%	7.95%
Agricultural services, forestry, and fishing	(D)	(D)	(D)	--	--	--	--	--
Mining	(L)	(D)	(L)	--	--	--	--	--
Construction	40	64	(D)	4%	5%	--	1.36%	--
Manufacturing	117	106	58	11%	9%	4%	-2.54%	-4.52%
Transportation and utilities	12	46	69	1%	4%	5%	2.56%	1.05%
Wholesale trade	(L)	(L)	(L)	--	--	--	--	--
Retail trade	86	110	160	8%	9%	11%	0.71%	2.16%
Services	127	188	287	12%	15%	20%	3.10%	4.62%
<b>Government and government enterprises</b>	292	357	357	28%	29%	25%	1.08%	-4.13%
Federal, civilian	127	151	129	12%	12%	9%	0.13%	-3.26%
Military	12	13	12	1%	1%	1%	-0.09%	-0.22%
State and local	153	193	216	14%	15%	15%	1.04%	-0.65%
State government	34	66	63	3%	5%	4%	2.09%	-0.97%
Local government	119	127	153	11%	10%	11%	-1.04%	0.32%
<b>Grant</b>								
<b>TOTAL</b>	10,408	12,046	14,720	100%	100%	100%	0.00%	0.00%
<b>Farm Employment</b>	379	366	390	4%	3%	3%	-0.60%	-0.39%
<b>Non-farm Employment</b>	10,029	11,680	14,330	96%	97%	97%	0.60%	0.39%
<b>Private Employment</b>	7,837	8,857	10,754	75%	74%	73%	-1.77%	-0.47%
Agricultural services, forestry, and fishing	49	70	(D)	0%	1%	--	0.11%	--
Mining	2,613	1,496	(D)	25%	12%	--	-12.69%	--
Construction	577	870	1,001	6%	7%	7%	1.68%	-0.42%
Manufacturing	434	703	508	4%	6%	3%	1.67%	-2.38%
Transportation and utilities	344	436	451	3%	4%	3%	0.31%	-0.56%
Wholesale trade	181	221	314	2%	2%	2%	0.10%	0.30%
Retail trade	1,678	2,187	3,014	16%	18%	20%	2.03%	2.32%
Services	1,562	2,333	3,270	15%	19%	22%	4.36%	2.85%
<b>Government and government enterprises</b>	2,192	2,823	3,576	21%	23%	24%	2.37%	0.86%
Federal, civilian	239	218	265	2%	2%	2%	-0.49%	-0.01%
Military	135	140	102	1%	1%	1%	-0.13%	-0.47%
State and local	1,818	2,465	3,209	17%	20%	22%	3.00%	1.34%
State government	733	1,072	1,377	7%	9%	9%	1.86%	0.46%
Local government	1,085	1,393	1,832	10%	12%	12%	1.14%	0.88%
<b>Hidalgo</b>								
<b>TOTAL</b>	2,490	2,838	2,388	100%	100%	100%	0%	0%
<b>Farm Employment</b>	370	302	311	15%	11%	13%	-4%	2%
<b>Non-farm Employment</b>	2,120	2,536	2,077	85%	89%	87%	4%	-2%
<b>Private Employment</b>	1,749	2,099	1,524	70%	74%	64%	4%	-10%
Agricultural services, forestry, and fishing	(D)	88	(D)	--	3%	--	--	--
Mining	(D)	(L)	(D)	--	--	--	--	--
Construction	88	102	84	4%	4%	4%	0%	0%
Manufacturing	542	629	(D)	22%	22%	--	0%	--
Transportation and utilities	84	102	75	3%	4%	3%	0%	0%
Wholesale trade	80	162	(D)	3%	6%	--	2%	--
Retail trade	510	502	521	20%	18%	22%	-3%	4%
Services	352	442	454	14%	16%	19%	1%	3%
<b>Government and government enterprises</b>	371	437	553	15%	15%	23%	0%	8%
Federal, civilian	36	38	71	1%	1%	3%	0%	2%
Military	28	30	19	1%	1%	1%	0%	0%
State and local	307	369	463	12%	13%	19%	1%	6%
State government	59	51	78	2%	2%	3%	-1%	1%
Local government	248	318	385	10%	11%	16%	1%	5%

Sierra	1980	1990	2000	1980%	1990%	2000%	Change in % 1980-1990	Change in % 1990-2000
<b>TOTAL</b>	2,774	3,334	4,603	100%	100%	100%	0.00%	0.00%
<b>Farm Employment</b>	390	302	328	14%	9%	7%	-5.00%	-1.93%
<b>Non-farm Employment</b>	2,384	3,032	4,275	86%	91%	93%	5.00%	1.93%
<b>Private Employment</b>	1,731	2,299	3,315	62%	69%	72%	6.56%	3.06%
Agricultural services, forestry, and fishing	63	50	(D)	2%	1%	--	-0.77%	--
Mining	63	61	(D)	2%	2%	--	-0.44%	--
Construction	164	191	320	6%	6%	7%	-0.18%	1.22%
Manufacturing	36	(D)	(D)	1%	--	--	--	--
Transportation and utilities	163	166	124	6%	5%	3%	-0.90%	-2.29%
Wholesale trade	34	(D)	(D)	1%	--	--	--	--
Retail trade	533	669	879	19%	20%	19%	0.85%	-0.97%
Services	504	832	1,252	18%	25%	27%	6.79%	2.24%
<b>Government and government enterprises</b>	653	733	960	24%	22%	21%	-1.55%	-1.13%
Federal, civilian	146	104	120	5%	3%	3%	-2.14%	-0.51%
Military	39	51	44	1%	2%	1%	0.12%	-0.57%
State and local	468	578	796	17%	17%	17%	0.47%	-0.04%
State government	186	221	297	7%	7%	6%	-0.08%	-0.18%
Local government	282	357	499	10%	11%	11%	0.54%	0.13%

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

Catron County has experienced percent-wise growth in retail and services and a corresponding decrease in the percent of employment in nearly every other sector. A significant portion of economic activity in Catron County is derived from tourist spending, much of which is likely to be related to forest uses.

Economic activity in Grant County is centered in Silver City and the surrounding micropolitan area. The industrial composition of Grant County employment has remained relatively constant from 1980 to 2000, with small decreases in manufacturing and increases in retail and services. One of the most important changes in the assessment area as a whole, but especially for Grant County, is the sharp decrease in mining, which decreased from 25 percent of Grant County employment in 1980 to 12 percent in 1990, and by 1990 was small enough to warrant nondisclosure. In Grant County, the important mining activity was copper, and this industry virtually went out of existence as world copper prices tumbled. High copper prices over the past few years prompted the reopening of a Phelps Dodge mine, but the copper industry, including the copper smelting activity classified under manufacturing, in Grant County today is a shadow of its former self. The importance of mining, and the subsequent loss of jobs as mining decreased, is a theme throughout the assessment area, where some communities tout ghost towns as tourist attractions.

While most of the assessment area has experienced small declines in the relative size of government employment, Hidalgo County experienced an increase of 8 percent from 1990 to 2000, of which local government accounted for more than half. Again contrary to the assessment area trend, the relative size of private employment decreased from 1990 to 2000, while the size of farm employment had a slight increase. Hidalgo County has been impacted by the decline of the copper industry, specifically, the closure of a large copper smelter.

Sierra County, like Grant, exhibits more stability, probably largely because of the presence of Truth or Consequences and a large retirement community. Most of the changes in the composition of employment in Sierra County are small, but they reflect the overall trend of a reduced relative size of the farm sector, primary industries, and government, while showing an increase in the service sector. While a shift away from farming and toward retail and services is not surprising, it does suggest that the assessment area is largely dependent, and becoming more so, on those activities such as tourism that generate spending in the retail and services sector.

However, this is not to say that farming is not important, especially in Catron County, where it makes up nearly 20 percent of the total employment in the county.

To examine these ideas in more detail, **Table 7.3** shows employment and output by relevant industrial sector, with detail for each county and for the assessment area as a whole for 2002.

As we discuss the economic contribution of the Gila NF below, it is useful to compare the estimated impacts of the Gila NF to each of the industries included in **Table 7.3**. The industries shown are those industries that make the most use of the Gila NF as a resource, specifically ranching, timber harvesting, recreation related industries, and Forest Service (FS) operations.

The data in **Table 7.3** show the regional economic importance of ranching, services, and federal non-military activity, all of which exist largely because of the presence of the Gila NF. Note the distinct lack of a logging sector, which reflects the very minor degree to which the Gila NF is now used for logging purposes.

**Table 7.3: Employment and Output for Select Industries by County, 2002  
(Output in Thousands of 2002 Dollars)**

	Employment	% Of Total	Output	% Of Total
<b>Catron County</b>	<b>1,005</b>	<b>100.0%</b>	<b>78.84</b>	<b>100.0%</b>
Cattle Ranching, Farming	246	24.5%	19.75	25.1%
Logging	17	1.7%	4.66	5.9%
Food Services and Drinking Places	17	0.1%	0.60	0.1%
Federal Non-Military	147	14.6%	10.79	13.7%
<b>Grant County</b>	<b>12,307</b>	<b>100.0%</b>	<b>1,047.44</b>	<b>100.0%</b>
Cattle Ranching, Farming	354	2.9%	24.23	2.3%
Logging	0	0.0%	0.00	0.0%
Copper, Nickel, Lead, Zinc Mining	711	5.8%	144.21	13.8%
Primary Smelting and Refining of Copper	160	1.3%	172.19	16.4%
Food Services and Drinking Places	1119	9.1%	36.97	3.5%
Federal Non-Military	263	2.1%	19.66	1.9%
<b>Hidalgo County</b>	<b>2,389</b>	<b>100.0%</b>	<b>204.00</b>	<b>100.0%</b>
Cattle Ranching and Farming	212	8.9%	11.54	5.7%
Logging	0	0.0%	0.00	0.0%
Agricultural and Forestry Support	471	19.7%	5.11	2.5%
Gold, Silver etc. Mining	4	0.2%	0.26	0.1%
Primary Smelting and Refining of Copper	80	3.3%	85.19	41.8%
Food Services and Drinking Places	249	10.4%	8.80	4.3%
Federal Non-Military	109	4.6%	8.21	4.0%
<b>Sierra County</b>	<b>3,545</b>	<b>100.0%</b>	<b>295.79</b>	<b>100.0%</b>
Cattle Ranching and Farming	147	4.1%	13.66	4.6%
Logging	0	0.0%	0.00	0.0%
Food Services and Drinking Places	430	3.5%	15.04	1.4%
Federal Non-Military	110	3.1%	8.35	2.8%
<b>Gila Region</b>	<b>19,246</b>	<b>100.0%</b>	<b>1,626.07</b>	<b>100.0%</b>
Cattle Ranching, Farming	959	5.0%	69.19	4.3%
Logging	17	0.1%	4.66	0.3%
Food Services and Drinking Places	1815	9.4%	61.41	3.8%
Federal Non-Military	629	3.3%	47.01	2.9%

Source: IMPLAN 2002 data, calculations by UNM-BBER. Percents do not sum to 100 because not all industries are included.

To complete the picture, **Table 7.4** shows private employment by percent of occupation for each county and the assessment area as a whole. The occupational data support the data from previous tables, showing a large percent of jobs in management, sales, and services occupations, with construction representing a substantial portion as well. (Differences in the total employment between **Table 7.2** and **Table 7.4** reflect the fact that the Bureau of Economic Analysis data [Table 7.2] are establishment data by place of work and include multiple job holders, whereas the occupation data [Table 7.4] are from the 2000 census on households.)

**Table 7.4: Private Employment by Occupation for Assessment Area Counties in 2000**

	Catron County	Grant County	Hidalgo County	Sierra County	GNF Region
<b>Management and Professional</b>	31%	30%	21%	27%	28%
Professional and related	19%	20%	11%	15%	18%
Education, training, and library	8%	9%	6%	5%	7%
Healthcare practitioners and technical	2%	5%	2%	5%	4%
<b>Service</b>	16%	20%	23%	23%	20%
<b>Sales and office</b>	22%	22%	21%	22%	22%
<b>Farming, fishing, and forestry</b>	5%	1%	5%	3%	2%
<b>Construction, extraction, and maintenance</b>	16%	16%	17%	16%	16%
<b>Production and transportation</b>	10%	12%	14%	9%	11%
<b>Total Private Employment</b>	<b>1,270</b>	<b>11,413</b>	<b>2,119</b>	<b>4,470</b>	<b>19,272</b>

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

Finally, **Table 7.5** shows the unemployment rates for each of the counties and the assessment area as a whole from 1995 to 2004. Sierra and Hidalgo Counties have maintained unemployment rates that are quite low (with the exception of 1999 in Hidalgo County, the year following the closure of the Phelps-Dodge smelter), often below the New Mexico average, while Catron and Grant Counties have somewhat higher levels of unemployment. This has been particularly true in Catron County, which had very high unemployment levels in the late 1990s, but has stabilized somewhat since then.

**Table 7.5: Average Annual Unemployment Rate for Assessment area Counties, 1995-2004**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Catron County</b>	15.3	14.5	13	10.9	11	6.7	6.2	7.1	8.1	7.9
<b>Grant County</b>	7.6	7	6	6.9	6.9	4.8	6.5	9.4	10.6	6.9
<b>Hidalgo County</b>	5.1	4.7	4.2	5.4	14.4	4.9	4.8	3.8	5	5.5
<b>Sierra County</b>	5.4	3.6	4.4	3.1	3.2	3.8	5	5	5.1	5.3
<b>GNF Region</b>	8.4	7.5	6.9	6.6	8.9	5.1	5.6	6.3	7.2	6.4
<b>NM TOTAL</b>	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 a region that is very rural with the exception of a few small cities and towns. As is typical of rural regions, incomes are low and unemployment rates are somewhat higher than in more urban parts of the state. The rural nature of the region in and of itself makes the Gila NF assessment area more dependent on forest resources as a source of economic activity. The prevalence of the Gila NF in the assessment area, in both an economic and geographic sense, contributes to this dependence as well. This is particularly true in Catron and Grant Counties, where the forest plays such a large role. Finally, it is apparent from Chapter 5 on Uses and Users that a significant number of assessment area residents, especially in Catron and Grant Counties, make extensive use of the forest's food and fuel products to supplement their low incomes.

## 7.2 Methodology and Organization of Gila National Forest Economic Impact

In estimating the contribution of the Gila NF to the assessment area economy, we consider both the operations of the FS in the assessment area 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.<sup>2</sup> IMPLAN uses county-level input-output 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 Gila 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 Gila NF districts: Catron, Grant, Hidalgo and Sierra Counties. This region makes up the area considered as “local,” and the results obtained from IMPLAN are for this region.

As discussed in Chapter 5, the principal economic value-generating activities related to the forest land itself include ranching, timber harvests, and recreation and wildlife visits. There are no currently active oil or gas wells in the Gila NF, nor are there mining operations. 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 is unusual in that it does not directly produce a good or service, so there is no easy measure of its direct economic value. Instead, we look at FS expenditures and salaries and wages to estimate the first round of indirect and induced impacts of the FS, and the corresponding economic activity generated by each. The indirect activity is captured by FS expenditures, and the induced activity is captured by the disposable income of FS employees. Of course, 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 come largely from the 2000 decennial census summary file 3 and U.S. 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

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<sup>2</sup> IMPLAN<sup>®</sup> 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>.

(NVUM) Survey (recreation and wildlife), and the Region 3 Office (procurement, wages & salaries). The U.S. Department of Agriculture National Agricultural Statistics Service was the source of data on agricultural land values and cattle stocking rates.

To maintain consistency, data for 2004 were used wherever possible. However, if data for that year did not exist or more recent data were more easily available, the recent data were used with values adjusted back to 2004. Data for recreation and wildlife visitors are from 2001, and data for FS salaries and wages are from fiscal year 2005 adjusted to 2004 dollars. Data on grazing land are from 2002. All other data are for 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 derived a ranching output for grazing on the Gila NF. This is the direct value of ranching on the Gila NF land.

Similarly, timber harvesting data were derived from the Timber Information Management database provided by the FS. We used 2004 timber prices to derive the total value of timber cut, which measures the direct value of timber harvested in the Gila NF in 2004.

For recreation and wildlife visitors, we used 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 that estimates the direct economic value of visitor spending to the local economy. It is likely that there are several benefits here that are not captured. Many of the additional benefits of a NF in terms of recreation do not involve economic transactions and hence cannot be measured. In addition to these un-measurable benefits, there is some degree of outfitter and guide activity that is probably not captured. The outfitter businesses include guided hunting trips, whitewater rafting on the Gila River, and other specialized uses by private companies. The impacts from this segment are small, but can be important, since the customers are almost exclusively non-local and the trips can be quite expensive.

Finally, for FS operations, the FS provided data on salaries and wages for its Gila NF 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 rounds of indirect and induced impacts are calculated using the IMPLAN model.

### **7.3 Direct Impact of the Gila National Forest on the Local Economies**

The principal economic activities on the Gila NF include ranching, timber harvests, recreation and wildlife visits, and the operation activities of the FS. Most of these activities are quite large economically, with the exception of timber harvests, which have been reduced to a very small amount. As we will see later on in this chapter, a substantial portion of the ranching industry is supported by the use of Gila NF grazing land. Additionally, there is a large degree of economic

Before looking at the indirect and induced impacts of these values, some idea of their importance for the assessment area economy can be found by comparing the values in **Table 7.6** with the industry values in **Table 7.3**. In particular, notice that the estimated direct economic activity generated from recreation and visitor spending makes up a substantial portion of the service sector shown in **Table 7.3**. Similarly, estimated ranching activity on federal lands is a large part of the total ranching activity for the assessment area as a whole, with 161 jobs in ranching on federal land compared with 959 ranching sector jobs for the assessment area as a whole. This impact is even more substantial if we consider that a large majority of grazing on FS land occurs in Catron and Grant Counties, which only contain 600 ranching jobs. Additionally, the 374 employees of the FS in the assessment area make up more than half of the 629 federal non-military employees in the assessment area and a substantial portion of employment in the assessment area as a whole. The same is true for timber harvesting, though the sector is practically non-existent in the IMPLAN data from **Table 7.3**. All of this indicates, without considering the additional impacts generated by business purchases or employee spending, that the role of the Gila NF and the FS in the assessment area economy is quite substantial.

### 7.4 Economic Impacts and Multipliers

The direct activities associated with the Gila 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 Gila NF has on the economies of the neighboring communities. These impacts, in terms of employment, income, and total output, are summarized in **Table 7.7**.

**Table 7.7: Direct, Indirect, and Induced Impacts of the Gila NF, 2004**

<b>TOTAL OUTPUT IMPACTS (000s of 2002 \$)</b>				
	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Ranching</b>	11,617	7,230	989	19,836
<b>Timber Harvesting</b>	1,244	317	123	1,685
<b>Visitors &amp; Recreation</b>	111,170	15,196	14,993	141,359
<b>Forest Service Operations</b>	--	8,940	5,546	14,485
<b>Total</b>	<b>124,031</b>	<b>31,683</b>	<b>21,652</b>	<b>177,366</b>

<b>TOTAL EMPLOYMENT IMPACTS (#)</b>				
	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Ranching</b>	161	109	15	285
<b>Timber Harvesting</b>	4	5	2	10
<b>Visitors &amp; Recreation</b>	2122	196	222	2540
<b>Forest Service Operations</b>	374	88	79	540
<b>Total</b>	<b>2661</b>	<b>398</b>	<b>317</b>	<b>3376</b>

<b>TOTAL LABOR INCOME IMPACTS (000s of 2002 \$)</b>				
	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Ranching</b>	1,254	1,740	301	3,295
<b>Timber Harvesting</b>	270	93	38	400
<b>Visitors &amp; Recreation</b>	42,009	4,750	4,561	51,319
<b>Forest Service Operations</b>	4,172	3,118	1,604	8,894
<b>Total</b>	<b>47,705</b>	<b>9,699</b>	<b>6,504</b>	<b>63,908</b>

In total, the Gila NF contributes directly or indirectly an estimated 3,376 jobs and \$63.9 million in income to the economies of the four counties included in this study. This is equivalent to about 17.5 percent of the 19,245 jobs in these areas in 2002. Visitor spending is by far the largest source of activity, contributing a total of 75 percent of the jobs and 80 percent of the labor income impacts. Ranching also contributes significantly, while the impacts of timber harvesting are negligible.

The comparatively large contribution of recreational and visitor spending is a result of the number of people visiting the Gila NF. More than one million parties visited the Gila NF in 2001, which indicates a substantial degree of use.

The economic multipliers shown in **Table 7.8** offer additional insights into the economic dynamics of the Gila NF. 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. A

first observation is that the multipliers are fairly low, though typical of New Mexico in general, indicating that direct activities either require few inputs or, more likely, that the small local economies are unable to provide many of the inputs, forcing expenditures to leave the region.

**Table 7.8: Economic Multipliers for the Gila NF, 2004**

	<b>Output</b>	<b>Employment</b>	<b>Income</b>
<b>Ranching</b>	<b>1.71</b>	<b>1.77</b>	<b>2.63</b>
<b>Timber Harvesting</b>	<b>1.35</b>	<b>2.69</b>	<b>1.48</b>
<b>Visitors &amp; Recreation</b>	<b>1.27</b>	<b>1.20</b>	<b>1.22</b>
<b>Forest Service Operations</b>	<b>--</b>	<b>1.44</b>	<b>2.13</b>
<b>Total</b>	<b>--</b>	<b>1.27</b>	<b>1.34</b>

While the impacts discussed above capture a large degree of the contribution of the Gila NF to the economic activity of the assessment area, there are a number of special, high income activities that warrant special attention and that may not be satisfactorily captured in the visitor survey measurements. In particular, there are a number of private businesses that offer guided tours and hunting trips.

As noted in chapter 5, the FS's Special Uses Database System shows that there are 142 permits for outfitters and guides, 99 of which are active. Some of the 99 open permits issued are for organizations from outside the assessment area, and it is likely that the economic contribution of their business to the assessment area is marginal. However, those outfitters and guides that are located within the assessment area represent a significant amount of economic activity. For hunting outfitters, standard prices seem to range from \$600 to \$700 per day, often with a multiple day minimum. Customers of these companies are almost exclusively from outside the local region, so they represent an important flow of money into the region. Without specific data from these companies on their revenues, it is difficult to measure their economic contribution, but it should be recognized that this is a potential contribution of the forest that is not well incorporated into the measurements above.

A factor not discussed yet, but introduced above, is the impact of wildfire suppression spending. As a conservative estimate, if we assume that nearly all equipment and personnel are hired from outside the region, we are left with the spending by workers during the fire suppression activity. Using the above multipliers and recognizing that disposable income is significantly lower than the personnel compensation, a quick estimate of the economic activity generated by wildfire personnel is about \$2.1 million dollars. This is roughly equivalent to 40 annual full-time jobs. Alternatively, including wildfire suppression spending and using the associated IMPLAN profile, additional economic activity of \$3 million in output, 18 jobs, and \$459,000 of labor income is generated.

## 7.5 Challenges and Opportunities for Forest Management

Looking strictly at economic impacts, it is estimated that the Gila NF contributes to almost 18 percent of the assessment area economic activity in terms of employment. It is likely that the majority of this impact occurs in Catron and Grant Counties. The distribution of Gila NF lands

throughout the counties, and the differences in the size of the economy in each county, suggest different degrees of reliance on the Gila NF as a source of economic activity.

In addition to the strict economic contributions described above, there are several less strictly economic impacts that are nevertheless capable of causing a significant difference in the economic activity of the assessment area. One particularly good example is the water retention and generation properties of the forest, but other factors, such as the role the forest (and more appropriately, the minerals underneath it) played in the initial founding of settlements, are also important. In arid southwest regions such as this, the presence of a river is crucial to enabling the survival of local populations. Analyzing how the Gila NF impacts the quality and availability of water so critical to local settlements and their economies is beyond the scope of this report. Suffice it to say that there are ecological impacts from the forest that support economic activity in the assessment area beyond the activities that have been measured here.

Catron County is possibly, for a variety of reasons, the most dependent of the four counties on the use of the Gila NF. First of all, a large portion of its land is forest land. Additionally, the county is extremely rural, with a very small population and economic base. In **Table 7.3**, it can be seen that just over 25 percent of Catron County's economic output is from ranching and farming, and it is likely that a substantial portion of these activities make use of the Gila NF. Additionally, in economies as small as that of Catron County, visitor spending is a vital source of money, and the Gila NF is the primary tourist attraction of Catron County. The dependence of the Catron County economy on the Gila NF is very probably limitless. Given that 47.9 percent of Catron County is covered by the Gila NF, associating even 25 percent (844) of the total Gila NF employment impacts with Catron County would produce a result that equals more than 50 percent of the county's total 2003 employment.

Grant County also contains a significant portion of the Gila NF, though the slightly more urban region of Silver City and the correspondingly more robust economy serve to make it less dependent than Catron County on the economic contribution of the forest. That said, the Gila NF covers almost 35 percent of Grant County, and a large majority of the impacts from the forest are likely to occur there. The presence of Silver City as the largest city in the region also serves to increase the portion of the forest impacts that are felt in Grant County. In all, despite the more robust economy of Grant County, the economic contribution of the Gila NF is substantial, and tourist dollars are a particularly important part of that contribution.

The impact of the Gila NF on Hidalgo County is likely to be relatively small, and, in truth, a greater impact is probably felt from whatever trade relationship exists between Silver City and the residents of Hidalgo County than from the existence of the forest. The Gila NF covers only 0.35 percent of Hidalgo County, so whatever activities can be said to be generated from the forest must be quite small. Though we can see from **Table 7.3** that Hidalgo County has a substantial ranching sector, very little, if any of it, involves grazing on Gila NF lands. Correspondingly, few if any Gila NF employees are located in Hidalgo County, and it is likely that virtually all visitor spending benefits occur in other counties. There is some impact that occurs as the benefits of the forest accrue in other counties and that generates further rounds of spending, some of which undoubtedly occurs in Hidalgo County, but these benefits are nebulous and by definition much smaller.

Sierra County contains a fair portion of the Gila NF, and 13.5 percent of the county is covered by the Gila NF, so it is not as removed from the forest's economic benefits as Hidalgo County. In

addition, Sierra County contains Truth or Consequences, which appears to serve as an important base for non-local visitors to the forest, much as Silver City does. In this respect, and in the contribution from ranching and FS employment, the presence of the Gila NF is important to the county. However, like Grant County, Sierra County has a substantially larger population and a stronger economic base, and so is not as dependent on the economic contribution of the forest as Catron County.

One particular issue that may arise, as discussed in Chapter 5 on Uses and Users, is the effect of falling rancher income in Catron and Grant Counties. Farm income in these counties has been declining substantially over the past several years. Most of the farm activity in these two counties is based around cattle, which has accounted for the decline in incomes, especially since the more diversified farm sectors of Hidalgo and Sierra Counties have not experienced the same trend. This situation, coupled with the fact that a large amount of grazing land in Catron and Grant Counties is located on the Gila NF, has created the potential for a tense situation. Though compared with recreational spending the impact of ranching is relatively small, it makes up a large portion of economic activity in Catron County in particular.

In examining forest planning and management issues, we are left with the difficulty of assessing the relevance of the Gila NF to an assessment area that consists of four counties that each contain substantially different amounts of the Gila NF and share a rural and generally poor economic profile. Certainly, as discussed above, the economic contribution of the forest is felt most keenly in Catron and Grant Counties, if nothing else simply because of the huge portion of the forest that they contain. This is particularly true for the very small economy of Catron County. The Gila NF also plays an important role in the Sierra County economy, but is much less important for the economy of Hidalgo County. Forest planning should recognize the extreme dependence of Catron County residents on the Gila NF, not just in terms of the economic benefits discussed here, but also as a source of food and fuel. This is also true, albeit to a lesser extent, for Grant and Sierra Counties.

It is also important to recognize, as some previous events have indicated, that many of the assessment area's residents consider the use of forest products to be a right, and actively resist any attempt to curtail their use. Planning for future management of the forest must balance the needs of the local population with the mandate of maintaining a national forest and wilderness areas.

## 8 Community Relationships

This chapter describes the relationships between communities surrounding the Gila National Forest (NF) and the Forest Service (FS). 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 Gila National Forest Communities

Chapter 2 provided a demographic profile of the four counties that make up the Gila NF assessment area. Some information was also provided on the major communities within these counties. **Table 8.1** below provides links to socioeconomic information from the 2000 census on each of the major communities in the area.

**Table 8.1: Gila NF Communities: Socioeconomic Profiles from Census 2000**

<u>County/Community</u>	<u>Link to Socio-Economic Information</u>
<b><u>Catron County</u></b>	
Reserve	<a href="http://www.unm.edu/~bber/census/sample/1603562620.pdf">http://www.unm.edu/~bber/census/sample/1603562620.pdf</a>
<b><u>Grant County</u></b>	
Silver City	<a href="http://www.unm.edu/~bber/census/sample/1603573260.pdf">http://www.unm.edu/~bber/census/sample/1603573260.pdf</a>
Bayard	<a href="http://www.unm.edu/~bber/census/sample/1603506270.pdf">http://www.unm.edu/~bber/census/sample/1603506270.pdf</a>
Hurley	<a href="http://www.unm.edu/~bber/census/sample/1603533850.pdf">http://www.unm.edu/~bber/census/sample/1603533850.pdf</a>
<b><u>Hidalgo County</u></b>	
Lordsberg	<a href="http://www.unm.edu/~bber/census/sample/1603542180.pdf">http://www.unm.edu/~bber/census/sample/1603542180.pdf</a>
<b><u>Sierra County</u></b>	
Truth or Consequences	<a href="http://www.unm.edu/~bber/census/sample/1603579840.pdf">http://www.unm.edu/~bber/census/sample/1603579840.pdf</a>
Elephant Butte	<a href="http://www.unm.edu/~bber/census/sample/1603522720.pdf">http://www.unm.edu/~bber/census/sample/1603522720.pdf</a>

The people who make up these communities have very diverse histories, cultural backgrounds, and ways of using the Gila NF. As a result, their relationships with each other, the Gila NF, and the FS are also varied. In their 2005 report *Values, Attitudes and Beliefs Toward National Forest System Lands: The Gila National Forest*, John Russell and Peggy Adams-Russell isolated areas of contention and of agreement among residents of the communities surrounding the Gila NF. The participants in this study indicated that the most prominent divide in the values, attitudes, and beliefs of community residents is rooted in “conflicts about resource uses, particularly grazing and wilderness.” While this conflict is long-standing and at times seemingly insurmountable, Russell and Adams-Russell also isolated several areas of agreement that included participants from both sides of the divide: a shared “outdoor lifestyle,” an admiration for the vastness of the forest, a love of the diversity and richness of the resources in the forest, and an appreciation for the ease of access to the forest, among others. The study also found that, despite the “pervasive”

activity in terms of guided trips, including hunting tours, whitewater rafting, horseback riding vacations, and other luxury recreational activities that are either not captured in the recreational data used here or are likely to be substantially underrepresented.

**Table 7.6** is a summary of the output, employment, and labor incomes directly associated with ranching, timber harvesting, visits and recreation, and FS operations activities.<sup>3</sup> These direct impacts are, in effect, ‘what you see’ – a measure of activities and their economic value as they actually occur on the Gila NF. For example, there is the equivalent of 2,122 full-time annual jobs that directly supply the goods and services supported by the spending of recreation and wildlife visitors, and a similar 161 jobs in the ranching industry. In the case of the FS, employment is the number of employees directly employed by the FS in the Gila NF, and labor income is the wages paid to those employees. Output for the FS is actually FS spending on operations. In the analysis discussed below, we do not include the costs of fighting wildfires, which involve large amounts of non-local labor and business.

The question of the impact of wildfire suppression spending is a difficult one. Certainly the impact of worker spending while on the job in a location is significant. In fiscal year 2004, FS spending on wildfire suppression in the Gila NF exceeded \$5 million, of which \$2.7 million was for compensation.<sup>4</sup> At a minimum, some fraction of this \$2.7 million is certainly going to be spent in the nearest local town, and the impact of that could be significant. We discuss this issue in further detail below.

**Table 7.6: Direct Impacts on Gila NF, 2004**  
(Output and Income Figures in Thousands of 2002 Dollars)

	<b>Output</b>	<b>Employment</b>	<b>Labor Income</b>
<b>Ranching<sup>1</sup></b>	<b>11,617</b>	<b>161</b>	<b>1,254</b>
<b>Timber Harvesting</b>	<b>1,359</b>	<b>4</b>	<b>270</b>
<b>Visitors &amp; Recreation</b>	<b>111,170</b>	<b>2122</b>	<b>42,009</b>
<b>Forest Service Operations<sup>2</sup></b>	<b>8,563</b>	<b>374</b>	<b>9,942</b>
<b>Total</b>	<b>132,709</b>	<b>2,661</b>	<b>53,476</b>

<sup>1</sup> For Ranching, we use proprietor income from 2001, since proprietor income for 2002 is negative

<sup>2</sup> Forest service operations output is actually the first round of indirect spending, while labor income is disposable employee income

The direct impacts indicate that visitor spending is by far the largest contributor to the economic activity of the assessment area, providing \$111 million in output and 2,122 jobs. FS operations account for a substantial number of jobs as well, and ranching operations on FS land produce \$11.6 million of output with an estimated 161 employees. Because workers are paid on a federal pay scale, the comparative contribution of the FS to labor income, and hence induced spending, is quite large.

<sup>3</sup> Labor income is the sum of employee compensation and proprietor income.

<sup>4</sup> FS region 3 Summary of Financial Obligations.

conflicts, “some local groups composed of a cross-section of diverse interests . . . are working together in collaborative efforts.”<sup>5</sup>

Study participants indicated several areas of contention with the FS: frustration with perceived political influence on FS decision making, criticism of “one issue” management versus “whole system” management, and concern over a perceived lack of funding and expertise for effective management of the Gila NF.<sup>6</sup> Many participants expressed their desire for FS staff to spend more time in direct interaction with the forest and the community members around it.<sup>7</sup> The following sections describe some of the ways in which the FS has gotten involved with these communities.

## 8.2 Partnerships

Data provided by the FS show that over 200 community organizations and businesses partner with the FS on various projects around the state. **Table 8.2** below lists the types of partners the FS worked with in 2005 and gives examples relevant to the Gila NF.

**Table 8.2: Partnership Types for Gila NF, 2005**

Partner Type	Example	Number of Partnerships
Federal	Bureau of Land Management	15
State Government	NM Game and Fish Dept.	22
Local Government	Catron County Commission	38
Tribal	Ramah Band of Navajos	19
Non Governmental Org.	Center for Biological Diversity	48
Private	Gila Woodnet	36
Universities/ Public Schools	Western New Mexico Univ.	28
		206

Source: USDA Forest Service

The most common partners are non-governmental organizations, which are typically non-profit organizations such as neighborhood associations and agricultural sustainability groups, like the Center for BioDiversity, and State government agencies, like the New Mexico Department of Game and Fish. The partnerships work to benefit both the forest land and the users. Appendix **Table A.6** provides a list of all the grants and agreements between the Gila NF and other organizations. The list is extensive. It gives the name of the partner and the contribution amounts, both dollar and in-kind, from the partner and from the FS itself. Missing are descriptions of the project and lists of the other partners involved. Many of the projects are collaborations among a variety of different types of organizations.

<sup>5</sup> John C. Russell and Peggy A. Adams-Russell, “Values, Attitudes and Beliefs toward National Forest System Lands: The Gila National Forest,” *Adams-Russell Consulting* (released as a Forest Service report under the same name) (2005): 12-13.

<sup>6</sup> *Ibid.*, pp. 33-34.

<sup>7</sup> *Ibid.*, pp. 37-38, 49.

Below are descriptions of some of the projects going on in the Black Range RD, as listed on their webpage.<sup>8</sup>

### **Exhibit 8.1: Current Collaborative Projects in the Black Range RD**

**Wildland-Urban Interface Fuels Reduction** – around the Kingston and Poverty Creek areas.

**Wahoo Watershed Partnership Planning** – a collaborative partnership approach to address watershed, forest and grassland restoration.

**Hermosa Prescribed Burn Project** – coordinated with Ted Turner’s Ladder Ranch, this project aims to reduce fuel load and enhance wildlife habitat on thousands of acres on the Black Range.

**Continental Divide Trail** – New construction and maintenance of the Continental Divide Trail, working with partners and volunteer groups like the Back Country Horseman’s Association.

**Fire Use Program** – This program is extensive. “Fire use” is simply allowing naturally occurring fires to burn when no threat to people or property exists. These low-intensity fires rid the forest of heavy fuel loads and debris, and improve our rangelands, watersheds and wildlife habitat. Nearly 20 percent of the district burned in 2003. The effort is open to all volunteers.<sup>9</sup>

## **8.3 Collaborative Forest Restoration Program**

One way the Gila NF has been teaming up with community groups is through the Collaborative Forest Restoration Program (CFRP). The Community Forest Restoration Act of 2000 (Title VI, Public Law 106-393) established a cooperative forest restoration program in New Mexico.<sup>10</sup> The program provides cost-share grants to stakeholders for forest restoration projects on public land that are designed through a collaborative process. Projects must address specific issues, such as wildfire threat reduction, ecosystem restoration, preservation of old and large trees, and increased utilization of small diameter wood products. The Act authorizes up to \$5 million annually.<sup>11</sup> State, local, and tribal governments, educational institutions, landowners, conservation organizations, and other interested public and private entities can apply for funds.<sup>12</sup>

In New Mexico, about 13 projects were funded between 2001 and 2005. The three projects in the Gila NF that were funded in 2005 are described in **Exhibit 8.2** below.

<sup>8</sup> USDA FS: Gila National Forest, “Black Range Ranger District,” <http://www2.srs.fs.fed.us/r3/gila/about/distmain.asp?district=black>.

<sup>9</sup> Ibid.

<sup>10</sup> Secure Rural Schools and Community Self-Determination Act of 2000 (May also be cited as the “Community Forest Restoration Act”), H.R. 2389 (Title VI, Pub. L. No. 106-393)

<sup>11</sup> USDA FS, Southwestern Region, “State and Private Forestry, Collaborative Forest Restoration Program (CFRP),” <http://www.fs.fed.us/r3/spf/cfrp/index.shtml>.

<sup>12</sup> Southwest Area Forest, Fire, and Community Assistance Grants, “Collaborative Forest Restoration Program,” <http://www.southwestareagrants.org/nm/cfrp.php>.

## **Exhibit 8.2: 2006 Collaborative Forest Restoration Projects in Gila NF**

### **JL Enterprises**

JL Enterprises of Catron County received \$17,993 for purchase of equipment to increase firewood sales. Linda Cooke of JL Enterprises said, "This program will enable us to purchase a trailer, which will be used to transport packaged firewood. We will be able to make 7 trips to Albuquerque for what it would cost to ship one load by semi. These 7 trips will equal 3½ semi loads. The ability to transport larger quantities of packaged firewood will increase our customer base and provide additional jobs in Catron County."

### **Lower Frisco Wood Products**

Lower Frisco Wood Products, operators of a sawmill south of Reserve, was awarded \$120,000 to replace a malfunctioning log loader that reduced mill productivity. The mill employs six people full-time and manufactures products including vigas, utility poles and rough-cut dimensional lumber. The grant also includes funds for personnel training on existing mill equipment.

### **Upper Gila Watershed Alliance**

The Upper Gila Watershed Alliance received \$360,000 to conduct wildlife and archeological surveys as components of a National Environmental Policy Act (NEPA) assessment in the Signal Peak area. The NEPA analysis will provide the basis for future forest restoration management decisions. Along with educational and monitoring components, the work plan includes approximately 165 acres of forest restoration treatment near Pinos Altos.

### **Trout Unlimited, Inc.**

Trout Unlimited, Inc. was awarded \$360,000 for environmental assessments associated with forest restoration planning in the Aldo Leopold Wilderness. The NEPA assessments will assist the Gila National Forest in planning for the reestablishment of natural fire regimes to reduce the threat of large scale, high intensity wildfire. The consequent reduction in detrimental watershed impacts will enhance and protect Gila trout habitat. The project also includes restoration of streams near Glenwood and Reserve to expand loach minnow and other native fish habitat.<sup>13</sup>

## **8.4 New Mexico Fire Plan Collaborative Efforts**

One of the areas where significant progress is being made as a result of collaboration is a broad-based coalition of federal land management agencies, state agencies, local governments, industry groups, and environmental groups working on issues relating to fire.<sup>14</sup> In working together, the

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<sup>13</sup> USDA FS, Gila National Forest, "Collaborative Forest Restoration Program," <http://www2.srs.fs.fed.us/r3/gila/cfrp/>.

<sup>14</sup> The discussion that follows is based on the USDA FS report, "New Mexico Fire Plan/National Fire Plan 2004 Accomplishment Report, Southwestern New Mexico," The "regional command team" included "New Mexico State Forestry, USDA Forest Service, DOI Bureau of Land Management, U.S. Fish and Wildlife Service, New Mexico State Fire Marshal, New Mexico Soil and Water Conservation Division, New Mexico Environment Department, Council of Government Community Groups, Industry/Utilization Representatives, [and] Sierra, Socorro, Grant, San Francisco, Hidalgo, Salado, Quemado and Luna Soil and Water Conservation Districts." [http://www.emnrd.state.nm.us/fd/RCT/documents/GilaNMFP\\_NFP04Layout\\_indd.pdf](http://www.emnrd.state.nm.us/fd/RCT/documents/GilaNMFP_NFP04Layout_indd.pdf).

groups hope to develop and implement a comprehensive strategic framework to accomplish the following goals:

- 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.<sup>15</sup>

According to the *New Mexico Fire Plan/National Fire Plan 2004 Accomplishment Report*, in 2004, over 91 thousand acres were treated, with a focus on the “20 Communities Most at Risk” identified by the State Forestry Department in New Mexico and at a cost of over \$3.5 million in federal, state, grant, and matching dollars. The biomass produced during treatment was converted into chips, firewood, saw logs, board lumber, and roundwood. Over 120 jobs were created through contracting with local workers. More than 700 people received certifications to participate in and help with the treatments.<sup>16</sup>

The report details several specific examples of successful cooperative projects, two of which are in the assessment area. The first is a CFRP program for forest restoration in the Sheep Basin area southeast of Reserve. One hundred-fifty acres were thinned in the first month. The thinned trees, largely small diameter (under 12 inches), were transported to the Reserve Sawmill to start initial operations. The mill is owned by Catron County and leased to the Catron County Citizens Group. A variety of local business people worked on finding markets for the wood products and also for the wood by-products of the mill.<sup>17</sup>

A second success is the Mangas Water Quality Project. The sediment erosion problems of the Mangas watershed had put this important tributary of the Gila River on to New Mexico’s 303-D list.<sup>18</sup> A grant brought together a partnership between the Grant Soil and Water Conservation District, the NM Environment Department, the FS, the Gila NF, the Bureau of Land Management, and residents of the Mangas watershed. In Phase 1, 100 erosion control structures were completed and three prescribed burns were conducted on roughly 9,000 acres. The hope is to restore the forest to 200 trees per acre from as many as 1,200 today.<sup>19</sup>

## 8.5 Volunteers

There is no doubt that volunteers comprise a major source of labor for the FS, allowing the agency to take on more projects than it could without volunteers. Volunteers perform a long list of tasks, including maintaining recreation sites and trails, litter pick up, and wildlife restoration.

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<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> Section 303(d) of the Clean Water Act establishes that states are to list waters for which technology-based limits alone do not ensure attainment of applicable water quality standards. This list is commonly called the “303(d) list.”

<sup>19</sup> USDA FS, “New Mexico Fire Plan/National Fire Plan 2004 Accomplishment Report, Southwestern New Mexico,” [http://www.emnrd.state.nm.us/fd/RCT/documents/GilaNMFP\\_NFP04Layout\\_indd.pdf](http://www.emnrd.state.nm.us/fd/RCT/documents/GilaNMFP_NFP04Layout_indd.pdf).

The relationships between volunteers and the FS benefit the national forests and the volunteers, who are provided opportunities to learn about the forest, wildlife, and forest health.

According to data collected from the FS, the Gila NF benefited from the work of 350 volunteers in 2005. **Table 8.3** shows the gender and age breakdown of all Gila NF volunteers in each of the past six years. In the past few years, around 30 percent of the volunteers have been over 55 years of age, which means that the remaining 65-70 percent have been of prime working age, 18 to 54 years old.

**Table 8.3: Age and Gender of Gila NF Volunteers, 2000 – 2005**

2005					2004				2003					
	< 18	18-54	55+	TOTAL		< 18	18-54	55+	TOTAL		< 18	18-54	55+	TOTAL
Male	6	156	74	236	Male	7	101	51	159	Male	27	94	57	178
Female	5	72	37	114	Female	4	81	38	123	Female	18	84	26	128
<b>Total</b>	<b>11</b>	<b>228</b>	<b>111</b>	<b>350</b>	<b>Total</b>	<b>11</b>	<b>182</b>	<b>89</b>	<b>282</b>	<b>Total</b>	<b>45</b>	<b>178</b>	<b>83</b>	<b>306</b>
2002					2001				2000					
	< 18	18-54	55+	TOTAL		< 18	18-54	55+	TOTAL		< 18	18-54	55+	TOTAL
Male	23	190	121	334	Male	21	93	54	168	Male	22	63	35	120
Female	10	72	13	95	Female	17	93	35	145	Female	23	55	27	105
<b>Total</b>	<b>33</b>	<b>262</b>	<b>134</b>	<b>429</b>	<b>Total</b>	<b>38</b>	<b>186</b>	<b>89</b>	<b>313</b>	<b>Total</b>	<b>45</b>	<b>118</b>	<b>62</b>	<b>225</b>

Source: USDA Forest Service Volunteer Data (Human Resource Department)

The FS estimates the appraised value of 26,531 volunteer hours at over \$289,000 in 2005, as shown in **Table 8.4**. The data account for the “skill-level” of volunteers, adjusting appraised value to the government pay grade scale. The “person years” column illustrates how many years worth of work was subsidized by the efforts of volunteers. Clearly, the FS benefits the most from volunteer efforts related to recreational activities and facilities (campground and trail maintenance); volunteers provide more than \$234,000 worth of time and about 12 person-years worth of work in this area. Volunteers also contribute substantially to heritage programs and business and finance. The amount and value of the time donated is quite large, particularly when one considers that only about 54,000 people lived in the four-county assessment area in 2000. This level of effort is testament to the value of the forest to local residents.

**Table 8.4: Value of Volunteers on Gila NF**

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	21,708	\$234,171	12.06	17,500	\$178,969	9.72	18,821	\$178,377	10.46
Heritage Program	1,289	\$22,869	0.72	6	\$105	0.00	0	\$0	0.00
Wildlife, Fish & Rare Plants	324	\$3,907	0.18	464	\$4,869	0.26	858	\$10,385	0.48
Range Management	80	\$375	0.04	1,087	\$14,527	0.60	3,348	\$41,197	1.86
Forest Management	192	\$1,008	0.11	826	\$5,369	0.46	829	\$9,722	0.46
Watershed & Air Mgt	40	\$95	0.02	30	\$400	0.02	287	\$1,639	0.16
Protection	96	\$1,156	0.05	0	\$0	0.00	414	\$2,331	0.23
Research	0	\$0	0.00	231	\$2,597	0.13	0	\$0	0.00
Business & Finance	1,648	\$15,829	0.92	3,434	\$27,979	1.91	1,888	\$21,704	1.05
Facilities Const (Off-Center)	0	\$0	0.00	0	\$0	0.00	0	\$0	0.00
Facilities Const (On-Center)	494	\$2,500	0.27	0	\$0	0.00	58	\$633	0.03
Other Facilities	0	\$0	0.00	0	\$0	0.00	0	\$0	0.00
Other	660	\$6,943	0.37	1,872	\$21,350	1.04	520	\$5,602	0.29
<b>TOTALS</b>	<b>26,531</b>	<b>\$ 288,853</b>	<b>14.7</b>	<b>25,450</b>	<b>\$ 256,165</b>	<b>14.14</b>	<b>27,023</b>	<b>\$271,590</b>	<b>15.02</b>
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	17,906	\$193,124	9.95	25,633	\$274,767	14.24	14,382	\$140,775	7.99
Heritage Program	340	\$4,080	0.19	1,480	\$54,101	0.82	0	\$0	0.00
Wildlife, Fish & Rare Plants	812	\$9,584	0.45	3,258	\$36,809	1.81	2,628	\$25,076	1.46
Range Management	2,497	\$29,524	1.39	510	\$6,516	0.28	1,620	\$19,602	0.90
Forest Management	270	\$3,212	0.15	8	\$92	0.00	0	\$0	0.00
Watershed & Air Mgt	0	\$0	0.00	0	\$0	0.00	0	\$0	0.00
Protection	0	\$0	0.00	0	\$0	0.00	72	\$4,861	0.04
Research	10	\$38	0.01	0	\$0	0.00	0	\$0	0.00
Business & Finance	96	\$450	0.05	2,900	\$26,558	1.61	1,134	\$9,312	0.63
Facilities Const (Off-Center)	0	\$0	0.00	50	\$496	0.03	72	\$538	0.04
Facilities Const (On-Center)	0	\$0	0.00	0	\$0	0.00	792	\$6,418	0.44
Other Facilities	0	\$0	0.00	1,262	\$5,280	0.70	0	\$0	0.00
Other	1,378	\$14,935	0.77	402	\$4,333	0.22	0	\$0	0.00
<b>TOTALS</b>	<b>23,309</b>	<b>\$ 254,947</b>	<b>13.0</b>	<b>35,503</b>	<b>\$ 408,952</b>	<b>19.71</b>	<b>20,700</b>	<b>\$206,582</b>	<b>11.50</b>

\* Accum. Hours/1800 Hours (Expressed in years)

\*\* Accum. Hours\*Estimated Government Pay Grade

Source: USDA Forest Service Volunteer Data (Human Resource Department)

## 8.6 Challenges and Opportunities for Forest Management

The direct benefits of the Gila NF are concentrated in the communities surrounding the forest. These communities derive substantial economic benefit from the forest, and local residents comprise almost 60 percent of the people who use the forest for recreational purposes. Increasingly, the benefits to local communities are associated with recreational uses of the forest and from tourism. Amenity migrants are also bringing dollars into the region. The transition from economies based on mining, ranching, and timber to economies reliant on tourism, retirees, and lone eagles is not an easy one and has been made more difficult by clashes in values, beliefs, and attitudes regarding the management of NF lands.

Despite fundamental differences, the people who live in proximity to the Gila NF and most of those who visit share a love of the outdoors and treasure the Gila NF. The figures presented in this chapter regarding NF volunteers, along with the narratives regarding collaborative efforts, are a testament to the importance of the forest to local communities and the willingness of residents to work toward finding solutions to complex problems.



## 9 Principal Findings, Challenges, and Opportunities

The Gila National Forest (NF), with its vast wilderness and undisturbed roadless areas, its abundant wildlife, its streams and rivers, and its heritage resources, is a national treasure. The Gila NF, however, is also a local treasure, a central feature of the landscape for people in the surrounding communities; it is also an asset that has major economic impacts on the counties of the assessment area and that holds promise for the future prosperity of these areas.

### 9.1 Changing Economic Fortunes

The Gila NF assessment area is an area of changing economic fortunes, and many of the changes relate to the natural resources of the area and to changing policies regarding the use of national forests. Reflecting these changes, there are sharp divisions over Forest Service (FS) policies and over how FS lands should be managed.

- Over the past few decades, much of the logging industry in this part of New Mexico has disappeared, with the largest sawmill, in Reserve, closing in 1993. An industry based on harvesting small diameter trees holds much promise, but is as yet in its infancy.
- Ranching continues to be a major activity in the Gila NF assessment area counties, but the economic viability of ranching is threatened by prolonged drought conditions and by market forces over which individual producers have no control. In New Mexico as elsewhere, the population engaged in ranching is aging. Some ranching operations have undoubtedly also been adversely affected by the restrictions imposed on some federal grazing allotments in an effort to encourage more sustainable grazing practices in compliance with federal law.
- Falling copper prices on international markets were one major factor in the layoffs and closures that occurred in the mines and also in the smelters of Grant and Hidalgo Counties, but in today's environment of high copper prices, only a fraction of the industry has returned. (Phelps-Dodge is instead investing in a new mine across the Arizona border in Morenci. While the jobs will be elsewhere, the Gila NF may well attract visitors from the growing community surrounding the Morenci mine.)
- On the other hand, the Gila NF has attracted increasing numbers of recreational users. The local tourism industries have expanded and there has been considerable amenity migration into the area by retirees and others, along with major investments in vacation homes. New subdivisions are opening up on the wildland-urban interface.

The Gila NF is a major asset for communities in the assessment area counties. The Gila NF has many lands under grazing allotments and there may be opportunities for the FS to work with ranchers to increase the viability of their enterprises through the adoption of sustainable grazing practices and by helping them to get grants for demonstration projects and loans to cover investments.

There are efforts to create a viable forest products industry in communities around the Gila NF, and the FS has been involved. Work on collaborative efforts to create viable forest product enterprises can be a benefit for the Gila NF.

There are also opportunities for the FS to work in partnership with communities to develop recreational options and heritage sites attractive to tourists from outside the area. With more

options, tourists may be encouraged to spend more time in the area, staying at local hotels, frequenting local restaurants, and buying local art and crafts. It is important that visitors from outside the area have quality experiences, whether at specific recreational activities or at other sites. On the other hand, some recreational uses, like off-highway vehicle drivers, can impinge upon and degrade the experiences of others and may need to be restricted.

## **9.2 Subdivision of Land for Residential Uses in the Wildland – Urban Interface**

The strong market for residential properties in the interior of the forest or at the forest's edge has tempted ranchers and other owners to sell off their properties. New housing inside or on the forest's perimeter creates a whole series of complex management issues: what kind of road access to allow to properties inside the forest; what to do about the denial of traditional local access to the forest as the new owners put up fences and no trespassing signs; how to protect these new properties from fire and other threats (and how to pay for this protection). It is critical to understand the roles those lands now being subdivided have had in the larger ecological systems of the Gila NF, e.g., providing forage and other sustenance for wildlife.<sup>20</sup> It is also critical to understand how the new uses of the land may threaten the health of the forest, e.g., by introducing non-native species. The new residents create new demands that may be incompatible with managing for multiple uses: e.g., they may be opposed to having cattle graze in certain areas or they may not like the smoke generated by programs to clean-out brush and other kindling. They also put new demands on limited local government resources.

There may be an opportunity to protect the wildland-urban interface by working with ranchers to increase the viability of their enterprises. There may also be opportunities for the FS to work collaboratively – with local governments, conservancy groups, and others – to acquire for open space lands that would otherwise be subdivided and sold for residential or other incompatible uses and/or to purchase development rights from ranchers. Additionally, there may be opportunities to work with communities to place reasonable restrictions (where possible) on existing and future residential subdivisions within the public-private interface. The above could be combined with public education campaigns regarding the importance of ranching and open space to the NF and to the quality of life in the assessment area counties. Resort development on the periphery of the forest may or may not be a compatible use, depending upon the nature and extent of the development. However, there should be opportunities to work with local governments and citizen groups to put reasonable restrictions on this development to ensure compatibility for forest needs.

## **9.3 Growing Popularity of Off-Highway Vehicles**

Off-highway vehicles (OHVs) are increasingly popular recreation alternatives, and they can also offer considerable utility to ranchers, hunters, and those harvesting wood products from the forest. However, recreational OHV use can conflict with most other forest uses and has many adverse effects, as these vehicles can cause damage to riparian and other areas of the forest and

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<sup>20</sup> See, for example, Jack Ward Thomas and Stephanie Lynn Gripne, "Maintaining Viable Farms and Ranches Adjacent to National Forest for Future of Wildlife and Open Space," *Rangelands* 24, no. 1 (2002): 10-16.

can result in a whole network of user-created roads. In part to address the problem of OHVs, the FS has promulgated a new management directive, the Travel Management Rule, requiring each of the NFs to designate those roads, trails, and areas that are open to motor vehicle use.

This is likely to be an extremely controversial issue. Critical will be the up-front work of planning and advertising meetings to involve the public in shaping policies to restrict OHV use, so that all stakeholders are involved. Because the issue is contentious, good facilitation will be key. OHVs are popular and this use must be provided with designated areas that offer satisfactory recreational experiences, while tightly restricting and prohibiting entirely this use elsewhere. The issues of non-recreational OHV use need to be addressed. In this regard, the State Game and Fish restrictions on vehicle use by hunters may suggest a model.<sup>21</sup>

The FS mission of sustainability is a long-term objective overlaid on a society that tends to think in the short-term. While Americans have become more environmentally conscious, they also exhibit paradoxical behaviors that can create environmental damage. Many of the issues tied to forest health are directly related to the public's desire to obtain short-term benefits (e.g., unmanaged OHV use, but also housing at the wildland-urban interface). Thus, it is increasingly desirable that the public be educated and informed about the fragility of the forest system and the impacts associated with its misuse. FS partners and volunteers help to mediate some of this, and these efforts should be encouraged. It may also be useful to reach out to and educate the communities of special interest groups, such as hunting, fishing, and OHV-user organizations. Participants in these types of organizations tend to be less inclined to violate rules and regulations once they are familiar with them and aware of the consequences. The education of these groups also provides a capacity for policing and reporting of those who violate these rules.

## 9.4 Overgrowth of the Forest and Fire

Of the 21 million acres of NF lands in the Southwestern region, more than 80 percent is at moderate to high risk of “uncharacteristic” wildfire. These fires are larger and more intense than naturally occurring wildfires. They can alter soils, reducing their ability to retain moisture, accelerate erosion, and compromise water quality. Further, wildlife habitats and the forest's aesthetic quality are damaged. The Gila NF has the highest number of fire occurrences of the NFs in the state. The forest's mountainous terrain, dense strands of mature trees, and continuing drought have combined to create a dangerous wildland fire situation that threatens wildlife habitat and nearby communities. The stakes have become higher as more and more people take up residence within the Gila NF or along the forest periphery.

How to restore the forest, so that natural processes, including fire, will have a sustaining role in maintaining the health of the forest? Many forest-users perceive the need for logging, or at least selective logging – forest thinning – to promote forest health in the long term, and they see possibilities for economic development based on processing small-diameter trees. There are a number of promising projects around the Gila NF. Making them work in the longer term requires investment; it requires finding, developing, and expanding markets for the products as well as the byproducts, and it requires developing a continual local supply of input (small diameter trees) to keep saw mills running and customer orders filled. While these projects seem to be a win-win

<sup>21</sup> New Mexico Department of Game and Fish, “New Mexico Wildlife Rules and Information Booklets,” <http://www.wildlife.state.nm.us/publications/BigGameRulesandInformationBooklet.htm>.

both for the forest and for the communities that surround them, there are some who voice concerns about any type of logging or removal of trees from the forest.

Controlled burns, either intentionally set or naturally started, are an alternative and indeed may be pursued as a complimentary strategy. This is happening in the Gila NF. Of course, there are numerous examples of “controlled” burns that have raged out of control. Complicating the strategy of allowing fire to destroy the brush and the small trees are the growing number of people who have taken up residence within or right next to the forest and who may voice opposition.

As described in Chapter 8, the Gila NF has a track record in working with communities and non-profits, and it has the opportunity to build on and expand these collaborative efforts. Public education, and particularly education of newer residents in the wildland-urban interface, is important. The FS can make sure necessary resources to contain fires are available by giving some emphasis to training programs. As indicated above, there may be opportunities to work with other entities to restrict or prevent conversion of land in these border areas to residential subdivisions.

## **9.5 Endangered Species, Invasive Species**

The presence of a number of endangered species within the Gila NF – and the continual threat of litigation – puts considerable pressure on the FS to protect habitat. Protecting habitat, however, may mean restrictions or outright bans on certain uses in certain areas. The Mexican spotted owl is seen as having put the logging industry out of business. Protecting habitat for the willow flycatcher and other endangered species, as well as complying with the provisions of the Clean Water Act, has emphasized additional protections for riparian areas – protections that may have the adverse consequences of reducing income and/or increasing costs for some ranchers with grazing allocations. The reintroduction of the Mexican gray wolf creates additional challenges, given both the perceived and perhaps the actual threat to livestock.

Throughout New Mexico, non-native animals and vegetation pose threats to habitat. There should be opportunities to educate the public regarding invasive species and to work with communities and volunteers on programs to eradicate non-native species.

## **9.6 Inventoried Roadless Areas**

The elimination of the Roadless Rule and the new policy involving Inventoried Roadless Areas raised concern among NF users all over the country that forest lands were being opened up to provide more access to motorized vehicles, including access to areas that have been historically protected as wilderness areas. While a recent court decision effectively reinstated the Roadless Rule, this decision may be appealed. Governor Richardson has been outspoken on this issue. As Governor, he would have a key role to play should the policy of Inventoried Roadless Areas be re-instated.

## 9.7 Heritage Sites

The long history of settlement in the Gila NF area, dating back to prehistoric times, and the more recent experiences with the Apache and the U.S. military campaign against them, with mining booms and busts, and with logging and ranching, have left a legacy of many sites of archeological and historical interest. This situation confronts the FS with the challenge of how to preserve and protect sites and of how to prioritize resources to do so.

The Gila NF has thousands of archeological sites and sites of historical interest and a list of some 500 heritage sites. Developing, protecting, and preserving these sites requires strategic planning to determine how these sites fit within the larger whole and to set priorities. Protecting sites can easily come into conflict with other uses of the forest, as it may require restrictions of use, including outright bans or the fencing off of areas. On the other hand, the need to protect sites grows as more people come into the forest. Trails bring people into the forest where they may discover sites of interest, taking home arrowheads and potshards or worse. Vandalism can be a problem. Such behavior raises all kinds of concerns, including FS responsibilities under the Native American Graves Protection Act. The Gila NF is such a vast area that policing what happens at remote sites throughout the forest is simply not practical. Public education is critical. FS volunteers and partners are an important resource in efforts both to educate the public and to monitor activities in the more remote areas of the NF.

## 9.8 Special Places to Native Americans

Where known, the identity and other information about these areas is kept confidential out of respect for the privacy of tribal activities and uses. The fact that many of these sites are unknown and that the tribes desire to keep both their location and what happens there secret complicates managing multiple uses on the resource. Tribal uses of land can easily conflict with non-tribal uses. In a study examining tribal attitudes and values regarding FS-managed lands, tribal representatives suggested that they take a more active role in forest planning, management, and decision-making processes, to ensure their special areas are not compromised by other uses.

There are opportunities both to bring tribal representatives into the process, perhaps making them paid consultants on planning efforts, and to work to develop signed agreements with Native American tribes that have cultural affinity or historical use of areas within the Gila NF.

## 9.9 Economic Impacts

Looking strictly at economic impacts, it is estimated that the Gila NF contributes to almost 18 percent of the assessment area's economic activity in terms of employment. It is likely that the majority of this impact occurs in Catron and Grant Counties. The distribution of forest land throughout the counties and the differences in the size of the economy in each county suggest different degrees of reliance on the Gila NF as a source of economic activity.

These economic impacts only relate to market activity. Unknown is the importance of the forest – as a source of dietary protein to local families who rely on hunting and fishing, as a source of firewood and fuel with which to heat homes and perhaps to cook, and as a source of building and fencing materials. Also incalculable in this study is the value of the rivers, streams, and watersheds in the Gila NF.

Good decisions require good information. Since NF policies clearly impact the economies of surrounding communities and the overall wellbeing of residents, the subtleties and complexities of policy impacts need to be understood. Casting a broad net in terms of bringing stakeholders into the planning process is critical. Good planning and good decisions require good listening, sincere efforts to understand different perspectives, probing as to the impacts of decisions, and the ferreting out of unintended consequences.

### **9.10 Communities are Willing Partners**

Despite fundamental differences, the people who live in proximity to the Gila NF share a love of the outdoors and cherish the Gila NF. The figures presented regarding NF volunteers along with the narratives regarding collaborative efforts are a testament to the importance of the forest to local communities and the willingness of residents to work toward finding solutions to complex problems. The future budgetary situation is not encouraging. The Gila NF has a tremendous asset in its volunteers, whose efforts must be valued and appreciated, and there is great potential for further partnering with communities, nonprofits, and other government agencies. The risks lay in failing to establish trust, but it will also be necessary to find areas of common agreement.

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# Appendices

**TableA.1: Capital Outlays for Counties in Gila NF**

Counties	Road	Terminus	Year	Amount	Description
Catron	LOCAL	Mountaineer Road in Reserve	2006	50,000	Road Improvements
Catron	NM0012	JCT US0180 - East	2006	1,250,000	Bridge Replacement
Catron	NM0012	NM 12 Bridges Near Reserve	2007	1,700,000	Bridge Replacement
Catron	NM0012	Rockfall Mitigation	2006	240,000	Rockfall Mitigation
Catron	NM0012	Reserve to Aragon	2007	600,000	Bridge Deck Replacement
Catron	NM0012	Reserve to Aragon	2007	1,700,000	Bridge Replacement
Catron	NM0012	Reserve to Aragon	2007	5,000,000	3R & Reconstruction
Catron	NM0032	Guardrail Installation	2006	210,000	Guardrail, Safety
Catron	NM0032	Rockfall Mitigation	2006	75,000	Rockfall Mitigation
Catron	NM0032	Rockfall Mitigation	2006	113,000	Rockfall Mitigation
Catron	NM0036	Rockfall Mitigation	2006	29,000	Rockfall Mitigation
Catron	NM0435	Sidewalks / Bikeways in Reserve	2008	180,000	Sidewalks/Bikeways
Catron	US0060	Rockfall Mitigation	2006	49,000	Rockfall Mitigation
Catron	US0180	Guardrail Installation	2006	400,000	Guardrail, Safety
Catron	US0180	Rockfall Mitigation	2006	292,000	Rockfall Mitigation
Catron	US0180	Guardrail Installation	2006	150,000	Guardrail, Safety
Catron	US0180	4 miles south of JCT nm0012 - south	2007	500,000	Alignment Study
Catron	US0180	4 miles south of JCT nm0012 - south	2009	6,700,000	Reconstruction
Catron	US0180	Rockfall Mitigation	2006	460,000	Rockfall Mitigation
Catron	US0180	Rockfall Mitigation	2006	224,000	Rockfall Mitigation
Catron	US0180	10 Miles South of JCT NM0012 - South	2010	6,700,000	Reconstruction
Catron	US0180	9.1 Miles north Grant/Catron C/L - South	2009	3,000,000	Pavement Rehabilitation
Catron	US0181	9.1 Miles north Grant/Catron C/L - South	2009	3,000,000	Reconstruction
Catron	US0180	2.0 Miles north of Grant/Catron C/L - South	2009	2,000,000	Pavement Preservation
Catron	US0180	2.0 Miles north of Grant/Catron C/L - South	2009	1,000,000	Reconstruction
Grant	LOCAL	Diaz Avenue Multi-Use Path	2008	250,000	Multi-Use Path
Grant	FL4843	College Avenue, Texas Street to E Street	2006	400,000	Road Improvements
Grant	FL4848	Pope Street/College Avenue	2006	297,000	Signalization
Grant	FL6403	Bayard Street, Village of Santa Clara	2006	1,000,000	Reconstruction
Grant	I10	I-10, Various Locations, MP 44 - MP 58	2007	5,700,000	Pavement Rehabilitation
Grant	NM0015	US 180 to 32nd Street	2008	300,000	Sidewalks/Bikeways
Grant	NM0015	US 180 to 32nd Street	2008	1,800,000	Intersection Improvements
Grant	NM0090	San Vicente Arroyo	2009	3,500,000	Bridge Replacement
Grant	NM0346	Within Bayard	2007	850,000	Miscellaneous Construction
Grant	US0180	.25 Mile West of JCT. Silver Heights - East	2006	4,000,000	Reconstruction
Grant	US0180	.25 Mile West of JCT. Silver Heights - East	2006	300,000	Intersection Improvements
Grant	US0180	.25 Mile West of JCT. Silver Heights - East	2006	700,000	Pavement Rehabilitation
Grant	US0180	.25 Mile West of JCT. Silver Heights - East	2006	1,000,000	Safety
Grant	US0180	.25 Mile West of JCT. Silver Heights - East	2006	275,000	Signalization
Grant	US0180	Deming to Bayard (Segment I of III)	2009	13,700,000	Reconstruction
Grant	US0180	US 180 at Carrasco Avenue	2006	31,000	Lighting -Safety
Grant	US0180	Deming to Bayard (Segment II of III)	2008	10,800,000	Reconstruction
Grant	US0180	Deming to Bayard (Segment III of III)	2008	5,500,000	Reconstruction
Hidalgo	VAR	I-10 Corridor "ITS"	2006	140,000	Miscellaneous Construction
Hidalgo	VAR	I-10 Corridor "ITS"	2006	800,000	Signing

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Counties	Road	Terminus	Year	Amount	Description
Hidalgo	VAR	I-10 Corridor "ITS"	2006	600,000	Safety
Hidalgo	VAR	I-10 Corridor "ITS"	2007	200,000	Safety
Hidalgo	VAR	I-10 Corridor "ITS"	2008	200,000	Safety
Hidalgo	VAR	I-10 Corridor "ITS"	2009	200,000	Safety
Hidalgo	I10	MP 0.0 - MP 20.0	2010	10,000,000	Pavement Rehabilitation
Hidalgo	I10	Lordsburg West/Interchange East	2007	3,200,000	Pavement Preservation
Hidalgo	I10	Lordsburg to JCT. NM 146 (Segment II of II)	2006	10,955,000	Reconstruction
Hidalgo	L00021	Upgrade Sidewalks to 1991 ADA Requirements	2008	900,000	Pedestrian Facilities
Hidalgo	NM0009	Various Locations	2009	5,000,000	Pavement Preservation
Hidalgo	NM0009	NM 9, Location TBD	2011	10,000,000	Pavement Preservation
Hidalgo	US0070	Arizona State Line to Lordsburg	2008	5,000,000	Overlay
Sierra	I25	I-25, MP 75 to MP 88	2011	7,000,000	Pavement Preservation
Sierra	I25	Truth or Consequences Interchange Structures	2008	2,500,000	Bridge Rehabilitation
Sierra	I25	Cuchillo Interchange- North	2009	1,800,000	Bridge Replacement
Sierra	I25	Cuchillo Interchange- North	2009	400,000	Bridge Rehabilitation
Sierra	I25	Cuchillo Interchange- North	2009	2,000,000	Pavement Rehabilitation
Sierra	I25	Cuchillo Interchange- North	2009	1,800,000	Reconstruction
Sierra	I25	Cuchillo Interchange- North	2009	70,000	Right-of-Way Acquisition
Sierra	I25	Montichello Canyon	2008	4,000,000	Reconstruction
Sierra	I25	Milepost 92 to Milepost 102	2007	1,750,000	Pavement Preservation
Sierra	L00011	Williamsburg Business Loop	2007	150,000	Pedestrian Facilities
Sierra	NM0051	Within T or C	2006	220,500	Pedestrian Facilities
Sierra	NM0051	Various Locations	2011	2,000,000	Pavement Preservation
Sierra	NM0051	Cuchillo Creek/Rio Grande Bridges	2007	3,200,000	Bridge Replacement

**Table A.2: Trails on the Gila NF**

<b>Name</b>	<b>Trail Type</b>	<b>Designed Use</b>
TURKEY CIENEGA	STANDARD/TERRA TRAIL	
SQUAW CREEK	STANDARD/TERRA TRAIL	
ROCKY POINT	STANDARD/TERRA TRAIL	
MIMBRES	STANDARD/TERRA TRAIL	
STOVE PIPE	STANDARD/TERRA TRAIL	
IRON	STANDARD/TERRA TRAIL	
CCC	STANDARD/TERRA TRAIL	
CCC	STANDARD/TERRA TRAIL	
PURGATORY	STANDARD/TERRA TRAIL	
MIDDLE FORK MIMBRES	STANDARD/TERRA TRAIL	
HELLS HOLE BYPASS	STANDARD/TERRA TRAIL	
ALUM CAMP	STANDARD/TERRA TRAIL	
LITTLE CREEK CUTOFF	STANDARD/TERRA TRAIL	
CREST TRAIL	STANDARD/TERRA TRAIL	
CLIFF DWELLER TRAIL	STANDARD/TERRA TRAIL	
SOUTH FORK MIMBRES	STANDARD/TERRA TRAIL	
PICTOGRAPH N.T.	STANDARD/TERRA TRAIL	
LAKE ROBERTS	STANDARD/TERRA TRAIL	
CAVES	STANDARD/TERRA TRAIL	
ADOBE SPRINGS	STANDARD/TERRA TRAIL	
BYER'S RUN	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
BYER'S RUN	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
POWDERHORN RIDGE	STANDARD/TERRA TRAIL	
QUAKING ASPEN	STANDARD/TERRA TRAIL	
MCKNIGHT CABIN	STANDARD/TERRA TRAIL	
EAST CANYON	STANDARD/TERRA TRAIL	
LOWER BLACK CANYON	STANDARD/TERRA TRAIL	
BIG TIMBER	STANDARD/TERRA TRAIL	
RAILROAD CANYON	STANDARD/TERRA TRAIL	
GILA FLAT	STANDARD/TERRA TRAIL	
JAN	STANDARD/TERRA TRAIL	
HORSE SPRINGS	STANDARD/TERRA TRAIL	
ME OWN	STANDARD/TERRA TRAIL	
GOBBLER CANYON	STANDARD/TERRA TRAIL	
MAIL	STANDARD/TERRA TRAIL	
ANIMAS CREEK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SID'S PRONG	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
PRETTY CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
WATER CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
EAST RAILROAD	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
NORTH FORK PALOMAS	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
WILLOW SPRING	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
ROUND MTN. RIDGE	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
ROUND MTN.	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
LODGE TRAIL	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
BLACK HAWK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SPRUCE SPRING	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SILVER CREEK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SECO	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
CIRCLE SEVEN	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
RATTLESNAKE	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
FRANKS	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
LAKE TRAIL	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
SPUD PATCH	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
EAST CURTIS	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
ANIMAS DIVIDE	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
LADRON CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
LADRON CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
KINGSTON BARENDO	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
LOOKOUT MINE	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SEVEN BROTHERS	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
VIC'S PARK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
HERMOSA TRAIL	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
HERMOSA TRAIL	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
HERMOSA TRAIL	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
NEGRO BILL	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
HILLSBORO BYPASS	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
WOLF HOLLOW	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
WOLF HOLLOW	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
HOYT CREEK	STANDARD/TERRA TRAIL	
MURPHY	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
SCENIC TRAIL	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
CHRISTIE TRAIL	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE

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CHRISTIE TRAIL	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
WILD COW	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
WEST FORK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
WEST FORK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
GRANNY MOUNTAIN TRA	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
GRANNY MOUNTAIN TRA	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
GRANNY MOUNTAIN TRA	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
SYCAMORE	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
SYCAMORE	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
APSEN MOUNTAIN	STANDARD/TERRA TRAIL	
ALLIE CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
ALLIE CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
TIGE CANYON TRAIL	STANDARD/TERRA TRAIL	
TIGE RIM	STANDARD/TERRA TRAIL	
DANGEROUS PARK	STANDARD/TERRA TRAIL	
COTTONWOOD	STANDARD/TERRA TRAIL	
KELLY CAMP TRAIL	STANDARD/TERRA TRAIL	
W.S. MOUNTAIN	STANDARD/TERRA TRAIL	
CAMP CANYON	STANDARD/TERRA TRAIL	
BONANZA BILL	STANDARD/TERRA TRAIL	
SALIZ	STANDARD/TERRA TRAIL	
FLYING T SPRING	STANDARD/TERRA TRAIL	
FRISCO DEVIL'S PARK	STANDARD/TERRA TRAIL	
POWERHOUSE	STANDARD/TERRA TRAIL	
LOG CANYON	STANDARD/TERRA TRAIL	
S.FORK MINERAL CREE	STANDARD/TERRA TRAIL	
GROUSE MOUNTAIN	STANDARD/TERRA TRAIL	
SPRING MOUNTAIN	STANDARD/TERRA TRAIL	
PUEBLO INTERPERTIVE	STANDARD/TERRA TRAIL	
WATER CANYON	STANDARD/TERRA TRAIL	
FRYING PAN	STANDARD/TERRA TRAIL	
BALKE	STANDARD/TERRA TRAIL	
LONG CANYON	STANDARD/TERRA TRAIL	
GOLD DUST	STANDARD/TERRA TRAIL	
JOHNSON'S CABIN	STANDARD/TERRA TRAIL	
NORTH FORK BIG DRY	STANDARD/TERRA TRAIL	
WEST FORK	STANDARD/TERRA TRAIL	
WEST FORK MOGOLLON	STANDARD/TERRA TRAIL	
WINDY GAP	STANDARD/TERRA TRAIL	
SPIDER CREEK	STANDARD/TERRA TRAIL	
GOLDEN LINK	STANDARD/TERRA TRAIL	
HOLT GULCH	STANDARD/TERRA TRAIL	
STRAIGHT UP	STANDARD/TERRA TRAIL	
LITTLE WHITEWATER T	STANDARD/TERRA TRAIL	
EAST FORK WHITEWATE	STANDARD/TERRA TRAIL	
SOUTH FORK WHITEWAT	STANDARD/TERRA TRAIL	
WHITEWATER	STANDARD/TERRA TRAIL	
CATWALK	STANDARD/TERRA TRAIL	
REDSTONE	STANDARD/TERRA TRAIL	
BURSUM	STANDARD/TERRA TRAIL	
WHITETAIL CANYON	STANDARD/TERRA TRAIL	
MINERAL CREEK	STANDARD/TERRA TRAIL	
RED CANYON	STANDARD/TERRA TRAIL	
LITTLE DEEP CREEK	STANDARD/TERRA TRAIL	
DEADMAN	STANDARD/TERRA TRAIL	
B.S. TRAIL	STANDARD/TERRA TRAIL	
STUB	STANDARD/TERRA TRAIL	
DEEP CREEK	STANDARD/TERRA TRAIL	
BEARWALLOW CREEK	STANDARD/TERRA TRAIL	
PITT RANCH	STANDARD/TERRA TRAIL	
CREST	STANDARD/TERRA TRAIL	
HOLT-APACHE TRAIL	STANDARD/TERRA TRAIL	
LITTLE DRY	STANDARD/TERRA TRAIL	
DELOCHE	STANDARD/TERRA TRAIL	
MOGOLLON	STANDARD/TERRA TRAIL	
BEAD SPRINGS	STANDARD/TERRA TRAIL	
JIM SMITH	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
UPPER COTTONWOOD	STANDARD/TERRA TRAIL	
SAND FLAT	STANDARD/TERRA TRAIL	
ESCONDIDO	STANDARD/TERRA TRAIL	
JEWETT ARAGON	STANDARD/TERRA TRAIL	
WILLIE STEEL	STANDARD/TERRA TRAIL	
APACHE	STANDARD/TERRA TRAIL	
FRISCO BOX	STANDARD/TERRA TRAIL	

TROUT	STANDARD/TERRA TRAIL	
FREEMAN MOUNTAIN	STANDARD/TERRA TRAIL	
DILLION MOUNTAIN	STANDARD/TERRA TRAIL	
BLANCO	STANDARD/TERRA TRAIL	
LESLIE SPRINGS LOOP	STANDARD/TERRA TRAIL	
QUEMADO LAKE FISHIN	STANDARD/TERRA TRAIL	
LARGO CANYON TRAIL	STANDARD/TERRA TRAIL	
SAWMILL CANYON	STANDARD/TERRA TRAIL	
FRIEBORN CANYON	STANDARD/TERRA TRAIL	
FRISCO DIVIDE	STANDARD/TERRA TRAIL	
OLD SPUR	STANDARD/TERRA TRAIL	
OLD SPUR	STANDARD/TERRA TRAIL	
CDNST	STANDARD/TERRA TRAIL	
CDNST	STANDARD/TERRA TRAIL	
CDNST	STANDARD/TERRA TRAIL	
SPRUCE CREEK CANYON	STANDARD/TERRA TRAIL	
GLENWOOD BRUSHY MT.	STANDARD/TERRA TRAIL	
GOAT CORRALL	STANDARD/TERRA TRAIL	
HOLT MOUNTAIN	STANDARD/TERRA TRAIL	
SNARE CANYON TRAIL	STANDARD/TERRA TRAIL	
CORNER MOUNTAIN TRA	STANDARD/TERRA TRAIL	
SILVER DRIP TRAIL	STANDARD/TERRA TRAIL	
LONE PINE	STANDARD/TERRA TRAIL	
COFFEE GULCH	STANDARD/TERRA TRAIL	
MINER CLIMB	STANDARD/TERRA TRAIL	
RAIN CREEK	STANDARD/TERRA TRAIL	
ASPEN CANYON	STANDARD/TERRA TRAIL	
BEAR CANYON	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
DORSEY CANYON	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
GALLINAS CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
GALLINAS CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
GOOSE LAKE	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
GRANDVIEW	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
LITTLE CHERRY	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
SAWMILL WAGON ROAD	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
SHEEP CORAL CANYON	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SHEEP CORAL CANYON	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SNOW CREEK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
SPRING CANYON	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SPRING CANYON	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
SYCAMORE CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
TADPOLE RIDGE	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
MONUMENT RIDGE	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
MONUMENT RIDGE	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
A FOUR	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
WOOD HAUL WAGON ROA	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
WOOD HAUL WAGON ROA	STANDARD/TERRA TRAIL	
IRON CREEK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
GILA RIVER	STANDARD/TERRA TRAIL	
PACK SADDLE	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
PACK SADDLE	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
COW CREEK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
RAILROAD CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
RAILROAD CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
CONTINENTAL DIVIDE	STANDARD/TERRA TRAIL	
SIGNAL PEAK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
RABB PARK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
BLACK RANGE CREST	STANDARD/TERRA TRAIL	
BLACK RANGE CREST	STANDARD/TERRA TRAIL	
GALLINAS	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
DONAHUE	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
CONTINENTAL DIVIDE	STANDARD/TERRA TRAIL	
WOODLAND PARK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
HOMESTEAD	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
TURKEYFEATHER	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
COOPER	STANDARD/TERRA TRAIL	

Appendices

LOCO MTN	STANDARD/TERRA TRAIL	
GRANITE PEAK	STANDARD/TERRA TRAIL	
CONTINENTAL DIVIDE	STANDARD/TERRA TRAIL	
MOGOLLON BALDY	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
MOGOLLON CREEK	STANDARD/TERRA TRAIL	
MOGOLLON CREEK	STANDARD/TERRA TRAIL	
TURKEYCREEK	STANDARD/TERRA TRAIL	
TURKEYCREEK	STANDARD/TERRA TRAIL	
PRIOR CREEK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
MIDDLE FORK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
MIDDLE FORK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
MIDDLE FORK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
MILLER SPRINGS	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
LITTLE CREEK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
LITTLE CREEK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
RING CANYON	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
LILLEY PARK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
CLEAR CREEK	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
TRAIL CANYON	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
IRON CREEK MESA	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
WHITewater BALDY	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
CLAYTON MESA	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
CIENEGA (UPPER MOGO	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
CIENEGA (UPPER MOGO	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
CIENEGA (UPPER MOGO	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
CIENEGA (UPPER MOGO	STANDARD/TERRA TRAIL	PACK - PACK AND SADDLE
JORDAN CANYON	STANDARD/TERRA TRAIL	
SAM MARTIN	STANDARD/TERRA TRAIL	
NORTH MESA	STANDARD/TERRA TRAIL	
CASSIDY	STANDARD/TERRA TRAIL	
GREEN FLY	STANDARD/TERRA TRAIL	
HELLS HOLE	STANDARD/TERRA TRAIL	
WHITE ROCKS	STANDARD/TERRA TRAIL	
BIG BEAR	STANDARD/TERRA TRAIL	
CHICKEN COOP	STANDARD/TERRA TRAIL	
TROTTER	STANDARD/TERRA TRAIL	
KEMP	STANDARD/TERRA TRAIL	
LANGSTROTH	STANDARD/TERRA TRAIL	
TURKEYPARK	STANDARD/TERRA TRAIL	
CANYON CREEK	STANDARD/TERRA TRAIL	
DIAMOND CREEK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
DIAMOND CREEK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
DIAMOND CREEK	STANDARD/TERRA TRAIL	HIKE - HIKER/PEDESTRIAN
BRUSHY MTN	STANDARD/TERRA TRAIL	
SHEEP CREEK	STANDARD/TERRA TRAIL	
MEADOW	STANDARD/TERRA TRAIL	
SPRING MTN	STANDARD/TERRA TRAIL	
SOUTH DIAMOND	STANDARD/TERRA TRAIL	
BURNT CANYON	STANDARD/TERRA TRAIL	
BRANNON PARK	STANDARD/TERRA TRAIL	
AEROPLANE MESA	STANDARD/TERRA TRAIL	
FLYING V	STANDARD/TERRA TRAIL	
TOM MOORE	STANDARD/TERRA TRAIL	
TOM MOORE	STANDARD/TERRA TRAIL	
MILITARY ROAD	STANDARD/TERRA TRAIL	
LINK	STANDARD/TERRA TRAIL	
MIDDLE MESA	STANDARD/TERRA TRAIL	
BLACK CANYON	STANDARD/TERRA TRAIL	
GILA RIVER	STANDARD/TERRA TRAIL	
LITTLE BEAR	STANDARD/TERRA TRAIL	
FALLS CANYON	STANDARD/TERRA TRAIL	
COOP MESA	STANDARD/TERRA TRAIL	

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

Species	License/Permit Type	Hunt Dates/Season	Special Weapons	Units/Counties/Zones
Elk	LOS	Varies per unit from 10/8-12/31	Any legal sporting arm	Units 9, 10, 36, 37, 16A, 16B, 16C, 16D, 21A, 21B; 24
Elk	LOS	Varies per unit from 9/1-9/22	Bow only	Units 6A, 16A, 16B, 16C, 16D, 16E, 17, 21A, 21B, 24, 7, 9, 10, 11
Elk	LOS	Varies per unit from 10/1-11/15	Mobility Impaired	Units 16A, 16D, 9
Elk	LOS	Varies per unit from 10/1-12/3	Muzzleloader	Units (9, 10, 36, 37, 7, 16E, 17, 24)
Elk	DL	Varies per unit from 10/1-12/14	Any legal sporting arm	Units 6A, 7, 9, 10, 16A, 16B, 16C, 16D, 16E, 21A, 21B, 24, 36, 37
Elk	DL	Varies per unit from 9/1-9/22	Bow only	Units 5, 6A, 7, 9, 10, 13, 15, 16A, 16B, 16C, 16D, 16E, 17, 18, 21
Elk	DL	Varies per unit from 10/8-11/9	Mobility Impaired	Units 9, 16A, 16D
Elk	DI	Varies per unit from 10/1-12/15	Muzzleloader	Units 6A, 7, 9, 10, 15, 16E, 17, 24, 36, 37
Antelope	DL	Varies per unit from 9/1-10/9	Any legal sporting arm	Units 3, 5, 6, 9-13, 18, 20, 34, 36-39
Antelope	DL	8/20-8/28	Bow only	Units 5, 6, 8-10, 13, 17, 20, 34, 36-38
Antelope	DL	Varies per unit from 8/6-9/10	Mobility Impaired	Units 3, 5, 6, 9, 10, 13, 19-20, 34, 36-39
Antelope	LOS	9/17-9/18 or 9/24-9/25	Any legal sporting arm	Units 3, 5, 8, 10
Deer	DL	11/1-11/15, 10/28-11/1, 11/4-11/6, 9/1-9/22, 1/1-1/15	Any legal sporting arm	Units 6A, 8, 16, 17, 18, 20, 21, 24
Deer	DL	10/28-11/21	Muzzleloader	Units 6A, 7, 8, 10, 14, 15, 16, 17, 18, 20, 21, 24, 36, 37, 38
Deer	DL	9/1-9/22, 1/1-1/15	Bow only	Units 6A, 7, 8, 10, 14, 15, 16, 17, 18, 20, 21, 24, 36, 37, 38
Bear	OTC	Varies per zone from 8/16-11/15	Bow Only	Zones 1, 3, 4, 5, 6
Cougar	OTC	10/1-3/31	Any legal sporting arm	Zones A, B, E, F, G, H, I, J, K, M, O
Turkey	OTC	4/15-4/30	Any legal sporting arm	Unit 2
Barbary Sheep	OTC	4/1/05-3/31/06	Any legal sporting arm	Units 9, 13, 19, 20, 21, 36, 37
Javelina & Barbary Shhep	DL	1/15-3/15	any legal sporting arm	Units 12, 13, 17, 20, 21
Furbearers	OTC	Varies per furbearer from 4/1/05-3/31/06	Dogs, firearms, bows, traps/snares	Specific closed areas
<b>Small Game and Waterfowl Hunting</b>				
Species	License/Permit Type	Hunt Dates/Season	Special Weapons	Units/Counties/Zones
Quail	OTC	11/1-5-2/15	Any legal sporting arm	Statewide
Pheasant	OTC	12/8-12/11	Any legal sporting arm	Statewide except Valencia County
Pheasant	OTC	12/1/0	Any legal sporting arm	Valencia North & South Public Hunts
Dove	OTC	9/1-10/30	Any legal sporting arm	North zone (McKinley, Sandoval, Cibola, Bernalillo)
Dove	OTC	9/1-9/30, 12/1-12/30	Any legal sporting arm	South Zone (Catron, Socorro, Cibola, Bernalillo, Valencia)
Band Tailed Pigeon	OTC	10/1-10/20	Any legal sporting arm	Southwest (Socorro, Catron, Sierra)
Band Tailed Pigeon	OTC	9/1-10/30	Any legal sporting arm	Remainder of state
Squirrel	OTC	9/1-10/31	Any legal sporting arm	GS-1, S-4
Squirrel	OTC	10/1-11/20	Any legal sporting arm	GS-2
Blue Grouse	OTC	9/1-10/15	Any legal sporting arm	GS-1
Blue Grouse	OTC	10/1-10/31	Any legal sporting arm	GS-2
Sandhill Crane	OTC	11/5-11/6	Any legal sporting arm	Estancia Valley Hunt (SCRO 101)
Sandhill Crane	OTC	Varies per Hunt Area from 10/31/06-1/31/06	Any legal sporting arm	Middle Rio Grande Valley Hunt
Sandhill Crane	OTC	Varies per Hunt Area from 10/31/06-1/31/06	Any legal sporting arm	Southwest Hunt
Waterfowl	OTC	Varies across state from 12/31-1/23	Any legal sporting arm	Statewide
<p><b>License abbreviations:</b>                      DL - Draw License                      LOS - Land-Owned Sign-up Issued Permit</p> <p><b>Harvest Limit abbreviations:</b>                      MB - male bull                      A - antlerless elk                      APRE - an elk with 5 or more points on a least one antler                      ES - any on elk                      APRD - a deer with 3 or more points on at least one antler</p> <p><b>Hunt Code:</b>                      GS -Both Grouse and Squirrel hunt; S - squirrel only</p> <p><b>Sources;</b>                      New Mexico Department of Game and Fish, <i>Big Game and Furbearer Rules and Information, 2005-2006</i>. <a href="http://www.wildlife.state.nm.us/recreation/hunting/index.htm">http://www.wildlife.state.nm.us/recreation/hunting/index.htm</a>, accessed July 5, 2005.                      New Mexico Department of Game and Fish, <i>Small Game and Waterfowl Rules and Information, 2004-2005</i>. <a href="http://www.wildlife.state.nm.us/recreation/hunting/index.htm">http://www.wildlife.state.nm.us/recreation/hunting/index.htm</a>, accessed July 5, 2005.</p>				

**Table A.4: Violations on the Gila NF, 2005**

Offense Code	Incidents	Detailed Code	Code Category
36CFR26110A	11	Constructing, placing, or maintaining any kind of road, trail, or structure	Occupancy and use
36CFR26110B	7	Taking possession of, occupying, or otherwise using NFS lands for residential purposes	Occupancy and use
36CFR26110C	1	Selling or offering for sale any merchandise or conducting work related activity not FS authorized	Occupancy and use
36CFR26110D	7	Discharging a firearm or any other implement capable of taking human life	Occupancy and use
36CFR26110E	62	Abandoning any personal property	Occupancy and use
36CFR26110L	8	Violating any term or condition of a special-use authorization	Occupancy and use
36CFR26110O	1	Discharging or igniting a firecracker, rocket or other firework	Occupancy and use
36CFR26111B	376	Possessing or leaving refuse, debris, or litter in an exposed condition	Sanitation
36CFR26111D	52	Failing to dispose of all garbage	Sanitation
36CFR26111E	50	Dumping of any refuse, debris, trash or litter brought from private property	Sanitation
36CFR26112C	6	Damaging and leaving in a damaged condition any such road, trail, or segment	NFS roads and trails.
36CFR26112D	6	Blocking, restricting, or otherwise interfering with the use of road, trail, or gate	NFS roads and trails.
36CFR26115H	26	Admission, recreation use and special recreation permit fees	Recreation use and special permit fees
36CFR26115I	1	Admission, recreation use and special recreation permit fees	Recreation use and special permit fees
36CFR26116B	2	Possessing or using a hang glider or bicycle	National Forest Wilderness
36CFR26116J	2	National Forest Wilderness	National Forest Wilderness
36CFR26116M	2	National Forest Wilderness	National Forest Wilderness
36CFR26116O	1	National Forest Wilderness	National Forest Wilderness
36CFR26116P	1	National Forest Wilderness	National Forest Wilderness
36CFR26118A	2	Pacific Crest National Scenic Trail	Pacific Crest National Scenic Trail
36CFR2613A	2	Interfering with a Forest Officer, volunteer, or human resource	Interfering with a Forest Officer
36CFR2614A	1	Engaging in fighting	Disorderly conduct
36CFR2614C	1	statements or other actions directed toward inciting imminent lawless actions	Disorderly conduct
36CFR2614D	1	Causing public inconvenience, annoyance, or alarm by making unreasonably loud noise	Disorderly conduct
36CFR26152A	2	Building, maintaining, attending or using a fire, campfire, or stove fire	Fire
36CFR26152F	3	Possessing, discharging or using any kind of firework	Fire
36CFR26154A	7	Using any type of vehicle prohibited by the order	Forest development roads
36CFR26154D	1	Operating a vehicle in violation of the speed, load, weight, height, or other specifications	Forest development roads
36CFR26154F	2	Operating a vehicle carelessly, recklessly, or without regard for the rights or safety of others	Forest development roads
36CFR26156	36	Use of vehicles off National Forest System roads	Use of vehicles on NFS roads
36CFR26158A	1	Camping for a period longer than allowed by the order	Occupancy and use
36CFR26158BB	2	Entering or using a developed recreation site or portion thereof	Occupancy and use
36CFR26158E	1	Camping	Occupancy and use
36CFR26158T	2	Possessing, storing, or transporting any part of a tree or other plant	Occupancy and use
36CFR2615A	12	Carelessly or negligently throwing or placing any ignited substance that may fire	Recreation use and special permit fees
36CFR2615C	13	Causing timber, trees, slash, brush or grass to burn except as authorized by permit	Recreation use and special permit fees
36CFR2615D	96	Leaving a fire without completely extinguishing it	Recreation use and special permit fees
36CFR2615E	10	Allowing a fire to escape from control	Recreation use and special permit fees
36CFR2615F	13	Building, attending, maintaining, or using a campfire without removal of flammable material from campfire area	Recreation use and special permit fees
36CFR2616A	137	Cutting or otherwise damaging any timber, tree, or other forest tree product	Timber and other forest products
36CFR2616C	29	Removing any timber or other forest product cut under permit or timber sale contract without permit	Timber and other forest products
36CFR2616E	62	Loading, removing or hauling timber or other forest product not identified in special permit	Timber and other forest products
36CFR2616H	43	Removing any timber, tree or other forest product, except as authorized by special use permit	Timber and other forest products
36CFR2617A	7	Placing or allowing unauthorized livestock to enter or be in National Forest service land	Livestock
36CFR2617C	5	Failing to recluse any gate or other entry	Livestock
36CFR2619A	172	Damaging any natural feature or other property of the US	Property
36CFR2619B	11	Removing any natural feature or other property of the US	Property
36CFR2619E	1	Entering any building, structure, or enclosed area owned or controlled by the US	Property

**Table A.5: Designated Areas of the Gila NF**

Managing Org	Site Name	Site Type	Development Status	Development Scale	Operational Status	Operator
<b>Black Range 02</b>						
30602	KINGSTON CAMPGROUND	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30602	WALL LAKE	CAMPGROUND	DISPOSED	3	OPEN	FOREST SERVICE
30602	CONTINENTAL DIVIDE NORTH-CDNST	CUA TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30602	DIVIDE-CDNST	CUA TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30602	EMORY PASS-TRAIL #79	CUA TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30602	LADRON-TRAIL#127	CUA TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30602	LOOKOUT MOUNTAIN-CDNST	CUA TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30602	MONUMENT PARK	CUA TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30602	UPPER CALEDONIA-TRAIL#42	CUA TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30602	BLACK RANGE DISTRICT OFFICE	INTERPRETIVE SITE (ADMIN)	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30602	EMORY PASS OBSERVATION	INTERPRETIVE SITE (MINOR)	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30602	FOREST BOUNDARY KIOSK	INTERPRETIVE SITE (MINOR)	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30602	TURKEY RUN TRAILHEAD CDNST	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30602	WOLF HOLLOW-TRAIL #773	TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
<b>Quemado 03</b>						
30603	QUEMADO BOAT LAUNCH	BOATING SITE	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30603	HEAD OF DITCH CAMPGROUND	CAMPGROUND	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30603	ARMIJO SPRINGS	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30603	COVE	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30603	HEAD OF DITCH	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30603	QUEMADO LAKE - EL CASO CG	CAMPGROUND	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
30603	QUEMADO LAKE - JUNIPER CG	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30603	QUEMADO LAKE - PINON CG	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30603	QUEMADO LAKE - FISHING	FISHING SITE	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30603	VALLE TIO VINCES PUBLIC CORRALS	HORSE CAMP	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30603	LUNA WORK SITE	INTERPRETIVE SITE (ADMIN)	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30603	QUEMADO OFFICE	INTERPRETIVE SITE (ADMIN)	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30603	CONTINENTAL DIVIDE-CDNST	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30603	LARGO-TRAIL#14	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30603	UPPER FRISCO HOT SPRINGS	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
<b>Glenwood 04</b>						
30604	BIG HORN CAMPGROUND	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30604	BURSUM	CAMPGROUND	EXISTING - ABANDONED	.	OPEN	FOREST SERVICE
30604	COTTONWOOD CANYON	CAMPGROUND	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	PUEBLO PARK	CAMPGROUND	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	GLENWOOD OFFICE	INTERPRETIVE SITE (ADMIN)	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30604	CATWALK	INTERPRETIVE SITE (MINOR)	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30604	ALDO LEOPOLD VISTA	OBSERVATION SITE	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30604	WHITEWATER PICNIC AREA	PICNIC SITE	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30604	ASPEN MOUNTAIN-TRAIL#814	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30604	COTTONWOOD TRAILHEAD - TRAIL # 44	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30604	HINKLE PARK TRAILHEAD - TRAIL #36	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30604	74 MOUNTAIN-TRAIL#153	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	CATWALK-TRAIL#207	TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30604	CREST-TRAIL#182	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	DELOCHE-TRAIL#179	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	GOLD DUST-TRAIL#41	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	HOLT GULCH-TRAIL#217	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	LITTLE DRY-TRAIL#180	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	LITTLE WHITEWATER-TRAIL#214	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	LOG CANYON TH #808	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	MINERAL CREEK-TRAIL#201	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	N. FORK MINERAL CREEK TH #201	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	POWERHOUSE TH #810	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	PUEBLO PARK-TRAIL#515	TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30604	RAIN CREEK-TRAIL#189	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	REDSTONE-TRAIL#206	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	S. FORK MINERAL CR. #798	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	SAN FRANCISCO HOT SPRINGS TRAIL HE	TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30604	SHERIDAN CORRAL-TRAIL#181	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	WHITEWATER CANYON-TRAIL#202	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30604	WHITEWATER TH #207	TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30604	WS-TRAIL#43	TRAILHEAD	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE

# Appendices

Managing Org	Site Name	Site Type	Development Status	Development Scale	Operational Status	Operator
<b>Wilderness 05</b>						
30605	LAKE ROBERTS BOAT LAUNCH	BOATING SITE	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
30605	FORKS	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	GRAPEVINE	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	LOWER BLACK CANYON	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	MESA	CAMPGROUND	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
30605	ROCKY CANYON	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	SAPILLO	CAMPGROUND	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30605	SCORPION	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	UPPER BLACK CANYON	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	UPPER END	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	MIMBRES OFFICE	INTERPRETIVE SITE (ADMIN)	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	GILA CLIFF DWELLINGS	INTERPRETIVE SITE (MAJOR)	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
30605	GILA VISITOR CENTER	INTERPRETIVE SITE (MAJOR)	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
30605	TJ RUIN	INTERPRETIVE SITE (MINOR)	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	TRAIL TO THE PAST	INTERPRETIVE SITE (MINOR)	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	CONTACT STATION	INTERPRETIVE SITE (MINOR)	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
30605	VISTA VILLAGE	INTERPRETIVE SITE (MINOR)	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
30605	ADOBE CANYON	OBSERVATION SITE	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	AUSTIN ROBERTS	OBSERVATION SITE	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	SEN. C.P. ANDERSON WILDERNESS OVE	OBSERVATION SITE	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
30605	LAKE ROBERTS	PICNIC SITE	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	ALUM CAMP-TRAIL#788	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	BOARD GATE SADDLE-TRAIL#79	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	CANYON CREEK-TRAIL#770	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	CONTINENTAL DIVIDE-TRAIL #24	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	DIAMOND CREEK-TRAIL#40	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	EAST CANYON-TRAIL#93	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	GILA RIVER-TRAIL#724	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	LOWER BLACK CANYON-TRAIL#94	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	LOWER MILITARY TRAIL#96	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	LOWER ROCKY-TRAIL#700	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	MCKNIGHT-TRAIL#79	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	MEOWN-TRAIL#707	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	MIDDLE MESEN-TRAIL#716	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	PICTOGRAPH CANYON	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	POWDERHORN-TRAIL#92	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	PRETTY CANYON-TRAIL#121	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	PURGATORY CHASM	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	ROCKY POINT-TRAIL#76	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	SOUTH DIAMOND-TRAIL#40	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	TOM MOORE CANYON-TRAIL#708	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	TRAILS END - TRAIL #804	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	UPPER BLACK CANYON-TRAIL#72	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	WOODY'S CORRAL-TRAIL#160	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30605	MIDDLE FORK-TRAIL#157	TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	MILITARY ROAD-TRAIL#97	TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	TJ CORRAL - TRAIL #729	TRAILHEAD	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30605	WEST FORK TRAILHEAD-TRAIL#151	TRAILHEAD	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
<b>Reserve 06</b>						
30606	SNOW LAKE	BOATING SITE	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	SOUTH FORK NEGRITO	CAMPGROUND	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	BEN LILLY	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30606	DIPPING VAT	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30606	GILITA	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30606	WILLOW CREEK	CAMPGROUND	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30606	SNOW LAKE	FISHING SITE	EXISTING - OPERATIONAL	3	OPEN	FOREST SERVICE
30606	APACHE CREEK	GROUP CAMPGROUND	EXISTING - OPERATIONAL	2	OPEN	FOREST SERVICE
30606	RESERVE LOBBY	INTERPRETIVE SITE (ADMIN)	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	PINE LAWN	PICNIC SITE	EXISTING - OPERATIONAL	4	OPEN	FOREST SERVICE
		PLAYGROUND PARK				
30606	PUBLIC SHOOTING RANGE	SPECIALIZED SPORT	EXISTING - OPERATIONAL	.	OPEN	COUNTY
30606	INDIAN CREEK	RECREATION RESIDENCE	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	AEROPLANE MESA-TRAIL#705	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	EAGLE PEAK-TRAIL#15	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	FRISCO BOX-TRAIL#762	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	GILITA-TRAIL#157	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	LOCO MTN-TRAIL#143	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	LOWER BEAD SPRINGS-TRAIL#135	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	LOWER TURKEY CIENEGA-TRAIL#137	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	LOWER WILLOW SPRINGS MTN-TRL#113	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE
30606	NEGRITO CREEK-TRAIL#131	TRAILHEAD	EXISTING - OPERATIONAL	.	OPEN	FOREST SERVICE

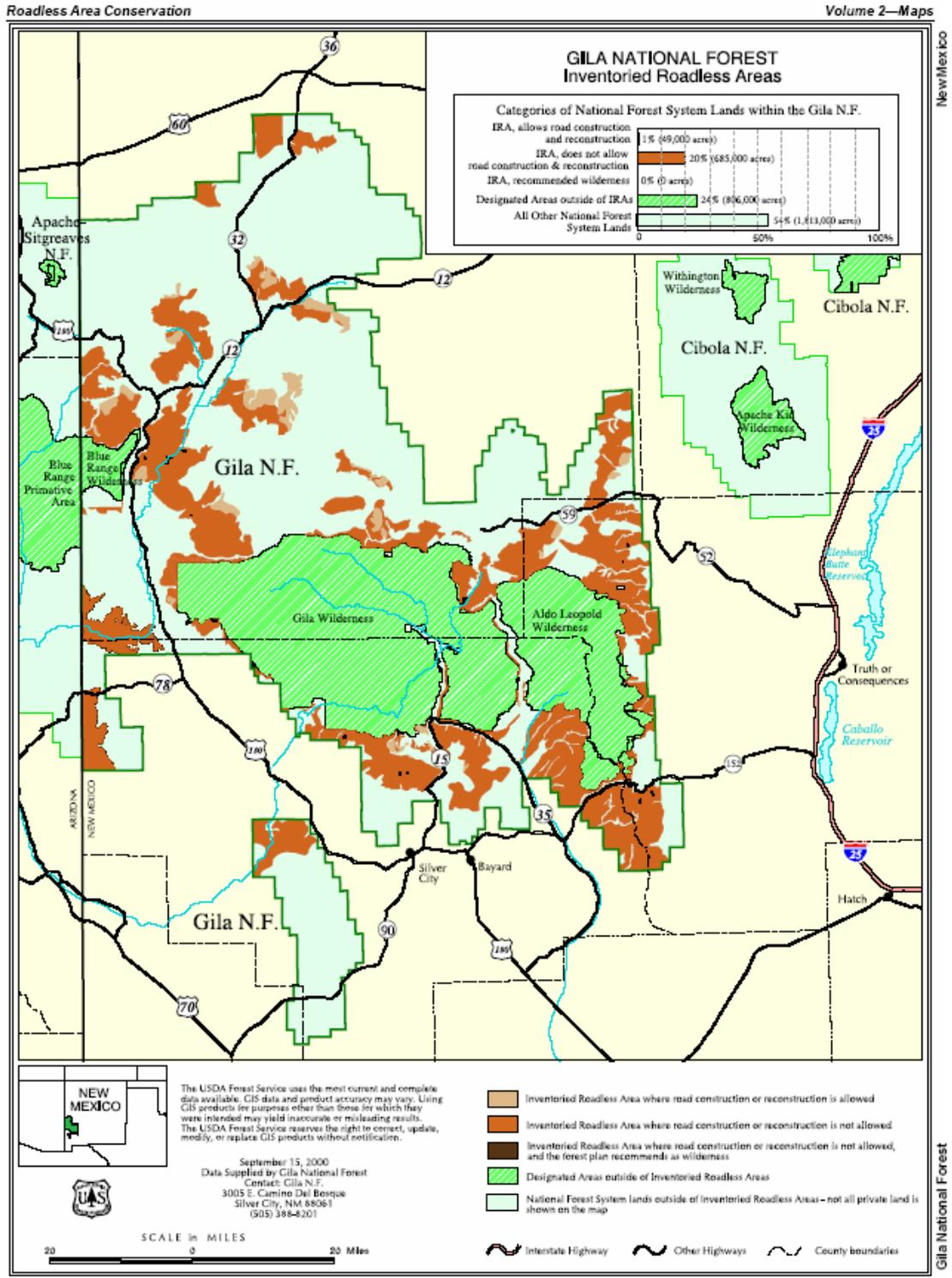


Figure A.1: Roadless Areas Map for the Gila NF

**Table A.6: Grants and Agreements Contracts for the Gila 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-11030600-011	\$7,200.00	\$0.00	\$7,200.00	\$0.00	\$0.00	\$0.00	\$7,200.00
	Cooperator/ Contributors: NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT						
02-CO-11030600-018	\$10,000.00	\$0.00	\$10,000.00	\$0.00	\$0.00	\$0.00	\$10,000.00
	Cooperator/ Contributors: ROCKY MOUNTAIN ELK FOUNDATION						
03-CS-11030600-027	\$0.00	\$0.00	\$0.00	\$0.00	\$2,000.00	\$2,000.00	\$2,000.00
	Cooperator/ Contributors: TURNER RANCH PROPERTIES, L.P.						
03-DG-11030600-008	\$0.00	\$0.00	\$0.00	\$360,000.00	\$0.00	\$360,000.00	\$360,000.00
	Cooperator/ Contributors: ALTERNATIVE FORESTRY UNLIMITED, MICHAEL DEUBEL						
03-DG-11030600-023	\$0.00	\$90,150.00	\$90,150.00	\$357,400.00	\$0.00	\$357,400.00	\$447,550.00
	Cooperator/ Contributors: SANTA CLARA WOODWORKS						
03-LE-11030600-010	\$0.00	\$0.00	\$0.00	\$15,000.00	\$0.00	\$15,000.00	\$15,000.00
	Cooperator/ Contributors: HIDALGO COUNTY SHERIFF'S DEPARTMENT, HIDALGO COUNTY SHERIFFS						
03-LE-11030600-011	\$0.00	\$0.00	\$0.00	\$30,000.00	\$0.00	\$30,000.00	\$30,000.00
	Cooperator/ Contributors: SIERRA COUNTY SHERIFF'S, SIERRA COUNTY SHERIFF'S DEPARTMENT						
03-LE-11030600-012	\$0.00	\$0.00	\$0.00	\$45,000.00	\$0.00	\$45,000.00	\$45,000.00
	Cooperator/ Contributors: GRANT COUNTY SHERIFF'S DEPARTMENT, GRANT COUNTY SHERIFFS DEPT						
03-MU-11030600-017	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: HUNT MANGAS RANCH						
03-PA-11030600-022	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: CATRON COUNTY CITIZENS GROUP						
04-CO-11030600-007	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Cooperator/ Contributors: NEW MEXICO DEPARTMENT OF GAME AND FISH						
04-CO-11030600-011	\$13,000.00	\$0.00	\$13,000.00	\$0.00	\$0.00	\$0.00	\$13,000.00
	Cooperator/ Contributors: GRANT SOIL AND WATER CONSERVATION DISTRICT						
04-CS-11030600-003	\$0.00	\$153,282.00	\$153,282.00	\$51,094.00	\$0.00	\$51,094.00	\$204,376.00
	Cooperator/ Contributors: MONTANA NATURAL HERITAGE						
04-DG-11030600-016	\$0.00	\$0.00	\$0.00	\$360,000.00	\$0.00	\$360,000.00	\$360,000.00
	Cooperator/ Contributors: GILA WOODNET						
04-DG-11030600-017	\$0.00	\$0.00	\$0.00	\$360,000.00	\$0.00	\$360,000.00	\$360,000.00
	Cooperator/ Contributors: KELLAR LOGGING, INC, KELLAR LOGGING, INC.						

Grant & Agreement Number	Cooperator Cash Contribution	Cooperator Other Contribution	Cooperator Total Contribution	FS Cash Contribution	FS Other Contribution	Total Contribution	FS	Total G&A Amount
04-DG-11030600-018	\$0.00	\$0.00	\$0.00	\$120,000.00	\$0.00	\$120,000.00		\$120,000.00
	Cooperator/ Contributors: FORESTRY ASSOCIATION, INC., TFA, INC							
04-DG-11030600-019	\$0.00	\$0.00	\$0.00	\$284,360.00	\$0.00	\$284,360.00		\$284,360.00
	Cooperator/ Contributors: SIERRA SOIL & WATER CONSV., SIERRA SOIL AND WATER CONSERVATION DISTRICT							
04-LE-11030600-006	\$0.00	\$0.00	\$0.00	\$32,000.00	\$0.00	\$32,000.00		\$32,000.00
	Cooperator/ Contributors: CATRON COUNTY SHERIFF'S DEPARTMENT, CATRON COUNTY SHERIFF'S OF							
04-MU-11030600-001	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
	Cooperator/ Contributors: WOOD, TOM							
05-CO-11030600-001	\$130,129.60	\$0.00	\$130,129.60	\$0.00	\$0.00	\$0.00		\$130,129.60
	Cooperator/ Contributors: NEW MEXICO DEPARTMENT OF GAME AND FISH							
05-CO-11030600-004	\$12,722.40	\$0.00	\$12,722.40	\$0.00	\$0.00	\$0.00		\$12,722.40
	Cooperator/ Contributors: TUCSON ELECTRIC POWER COMPANY							
05-DG-11030600-008	\$0.00	\$0.00	\$0.00	\$120,000.00	\$0.00	\$120,000.00		\$120,000.00
	Cooperator/ Contributors: LOWER FRISCO WOOD PRODUCTS							
05-DG-11030600-014	\$0.00	\$0.00	\$0.00	\$359,009.00	\$0.00	\$359,009.00		\$359,009.00
	Cooperator/ Contributors: GILA TREE THINNERS							
05-PA-11030600-013	\$0.00	\$0.00	\$0.00	\$22,000.00	\$0.00	\$22,000.00		\$22,000.00
	Cooperator/ Contributors: SOUTHWEST YOUTH CORPS							
03-MU-11030602-013	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
	Cooperator/ Contributors: DIAMOND RANCH							
05-CO-11030602-015	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
	Cooperator/ Contributors: NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT							
05-CO-11030602-016	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
	Cooperator/ Contributors: NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT							
04-IA-11030605-002	\$40,000.00	\$0.00	\$40,000.00	\$0.00	\$43,120.00	\$43,120.00		\$83,120.00
	Cooperator/ Contributors: USDI, NATIONAL PARK SERVICE							
04-MU-11030605-023	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
	Cooperator/ Contributors: STEWART COMPANY							
02-DG-11030606-004	\$0.00	\$0.00	\$0.00	\$356,400.00	\$0.00	\$356,400.00		\$356,400.00
	Cooperator/ Contributors: CATRON COUNTY CITIZENS GROUP, CATRON COUNTY CITIZENS GRP							



Grant & Agreement Number	Cooperator Cash Contribution	Cooperator Other Contribution	Cooperator Total Contribution	FS Cash Contribution	FS Other Contribution	Total Contribution	FS	Total G&A Amount
01-PA-11030607-021	\$0.00	\$0.00	\$0.00	\$35,000.00	\$0.00	\$35,000.00		\$35,000.00
	Cooperator/ Contributors: NEW MEXICO DEPARTMENT OF CULTURAL AFFAIRS, NM STATE FORESTRY DIV							
02-DG-11030607-005	\$0.00	\$0.00	\$0.00	\$356,400.00	\$0.00	\$356,400.00		\$356,400.00
	Cooperator/ Contributors: GILA WOODNET							
04-MU-11030607-010	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
	Cooperator/ Contributors: PACIFIC WESTERN LAND COMPANY, TOM MCCAULEY AND SON, INC., U BAR RANCH							
<b>Grand Totals:</b>	<b>\$213,052.00</b>	<b>\$243,432.00</b>	<b>\$456,484.00</b>	<b>\$3,263,663.00</b>	<b>\$45,120.00</b>	<b>\$3,308,783.00</b>		<b>\$3,765,267.00</b>
<b>G&amp;A Count:</b>	<b>33</b>							

## Table A.7: National LandCover Data (NLCD) Definitions

National Land Cover Data  
Version 09-10-2000

This land cover data set was produced as part of a cooperative project between the U.S. Geological Survey (USGS) and the U.S. Environmental Protection Agency (USEPA) to produce a consistent, land cover data layer for the conterminous U.S. based on 30-meter Landsat thematic mapper (TM) data. National Land Cover Data (NLCD) was developed from TM data acquired by the Multi-resolution Land Characterization (MRLC) Consortium. The MRLC Consortium is a partnership of federal agencies that produce or use land cover data. Partners include the USGS (National Mapping, Biological Resources, and Water Resources Divisions), USEPA, the U.S. Forest Service, and the National Oceanic and Atmospheric Administration.

NEW MEXICO Version 09-10-2000

The New Mexico NLCD set was produced as part of a project area encompassing portions of Federal Regions 6. This data set was produced under the direction of the MRLC Regional Land Cover Characterization Project of the USGS EROS Data Center (EDC), Sioux Falls, SD. Questions about the data set can be directed to the MRLC Regional Team at (605) 594-6114 or [mrlc@edcmail.cr.usgs.gov](mailto:mrlc@edcmail.cr.usgs.gov).

### NLCD Land Cover Classification System Land Cover Class Definitions

**Water** - All areas of open water or permanent ice/snow cover.

11. Open Water - All areas of open water; typically 25 percent or greater cover of water (per pixel).

**Developed - Areas** characterized by a high percentage (30 percent or greater) of constructed materials (e.g. asphalt, concrete, buildings, etc).

21. Low Intensity Residential - Includes areas with a mixture of constructed materials and vegetation. Constructed materials account for 30-80 percent of the cover. Vegetation may account for 20 to 70 percent of the cover. These areas most commonly include single-family housing units. Population densities will be lower than in high intensity residential areas.
22. High Intensity Residential - Includes highly developed areas where people reside in high numbers. Examples include apartment complexes and row houses. Vegetation accounts for less than 20 percent of the cover. Constructed materials account for 80 to 100 percent of the cover.
23. Commercial/Industrial/Transportation - Includes infrastructure (e.g. roads, railroads, etc.) and all highly developed areas not classified as High Intensity Residential.

**Barren** - Areas characterized by bare rock, gravel, sand, silt, clay, or other earthen material, with little or no "green" vegetation present regardless of its inherent ability to support life. Vegetation, if present, is more widely spaced and scrubby than that in the "green" vegetated categories; lichen cover may be extensive.

31. Bare Rock/Sand/Clay - Perennially barren areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, beaches, and other accumulations of earthen material.

32. Quarries/Strip Mines/Gravel Pits - Areas of extractive mining activities with significant surface expression.

33. Transitional - Areas of sparse vegetative cover (less than 25 percent of cover) that are dynamically changing from one land cover to another, often because of land use activities. Examples include forest clearcuts, a transition phase between forest and agricultural land, the temporary clearing of vegetation, and changes due to natural causes (e.g. fire, flood, etc.).

**Forested Upland** - Areas characterized by tree cover (natural or semi-natural woody vegetation, generally greater than 6 meters tall); tree canopy accounts for 25-100 percent of the cover.

41. Deciduous Forest - Areas dominated by trees where 75 percent or more of the tree species shed foliage simultaneously in response to seasonal change.

42. Evergreen Forest - Areas dominated by trees where 75 percent or more of the tree species maintain their leaves all year. Canopy is never without green foliage.

43. Mixed Forest - Areas dominated by trees where neither deciduous nor evergreen species represent more than 75 percent of the cover present.

**Shrubland** - Areas characterized by natural or semi-natural woody vegetation with aerial stems, generally less than 6 meters tall, with individuals or clumps not touching to interlocking. Both evergreen and deciduous species of true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions are included.

51. Shrubland - Areas dominated by shrubs; shrub canopy accounts for 25-100 percent of the cover. Shrub cover is generally greater than 25 percent when tree cover is less than 25 percent. Shrub cover may be less than 25 percent in cases when the cover of other life forms (e.g. herbaceous or tree) is less than 25 percent and shrubs cover exceeds the cover of the other life forms.

**Non-natural Woody** - Areas dominated by non-natural woody vegetation; non-natural woody vegetative canopy accounts for 25-100 percent of the cover. The non-natural woody classification is subject to the availability of sufficient ancillary data to differentiate non-natural woody vegetation from natural woody vegetation.

61. Orchards/Vineyards/Other - Orchards, vineyards, and other areas planted or maintained for the production of fruits, nuts, berries, or ornamentals.

**Herbaceous Upland** - Upland areas characterized by natural or semi-natural herbaceous vegetation; herbaceous vegetation accounts for 75-100 percent of the cover.

71. Grasslands/Herbaceous - Areas dominated by upland grasses and forbs. In rare cases, herbaceous cover is less than 25 percent, but exceeds the combined cover of the woody species present. These areas are not subject to intensive management, but they are often utilized for grazing.

**Planted/Cultivated** - Areas characterized by herbaceous vegetation that has been planted or is intensively managed for the production of food, feed, or fiber; or is maintained in developed settings for specific purposes. Herbaceous vegetation accounts for 75-100 percent of the cover.

81. Pasture/Hay - Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops.

82. Row Crops - Areas used for the production of crops, such as corn, soybeans, vegetables, tobacco, and cotton.

83. Small Grains - Areas used for the production of graminoid crops such as wheat, barley, oats, and rice.

84. Fallow - Areas used for the production of crops that are temporarily barren or with sparse vegetative cover as a result of being tilled in a management practice that incorporates prescribed alternation between cropping and tillage.

85. Urban/Recreational Grasses - Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Examples include parks, lawns, golf courses, airport grasses, and industrial site grasses.

**Wetlands** - Areas where the soil or substrate is periodically saturated with or covered with water as defined by Cowardin et al.

91. Woody Wetlands - Areas where forest or shrubland vegetation accounts for 25-100 percent of the cover and the soil or substrate is periodically saturated with or covered with water.

92. Emergent Herbaceous Wetlands - Areas where perennial herbaceous vegetation accounts for 75-100 percent of the cover and the soil or substrate is periodically saturated with or covered with water.