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# Evaluating the Economic Contribution Of the National Forests of Arizona: Supplement to the 2005 Socio-Economic Assessments

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# **Economic Contribution Analysis For the National Forests of Arizona: Supplement to the 2005 Socio-Economic Assessments**

## **Overview**

In 2005, socioeconomic assessments of the National Forests of Arizona were prepared in order to provide Agency decision makers with critical baseline information as the forests headed into the plan revision process. The Assessments are “based on analysis of secondary data to inform forest staff, stakeholders, and communities of trends in seven topics: 1) demographic patterns and trends, 2) economic characteristics and vitality, 3) access and travel patterns, 4) land use, 5) forest users and uses, 6) designated areas and special places, and 7) community relationships.”<sup>1</sup> The statistics that can be found in the Assessments, such as jobs and income, are “direct” economic effects. Direct economic effects information, while an invaluable foundation, may not be a complete picture of a regional economy. The dynamics of a regional economy can be more fully understood by looking at the complex linkages and interdependencies among businesses, consumers, and the natural resources on which economic activity depends. Accomplishing this requires the use of regional economic methodologies such as input-output and multiplier analysis. The purpose of this paper is to provide further economic information to supplement and compliment the Assessments by providing information on the direct plus indirect<sup>2</sup> contribution of the national forests to local economies.<sup>3</sup> This study is not intended to stand on its own. For the complete socio-economic background and context, please see the Socio-Economic Assessment for each forest (see footnote 1).

For a brief overview of the history and utility of regional economics, please see [Appendix 1](#).

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<sup>1</sup> DeSteiger et al., 2005, *Apache-Sitgreaves Socio-Economic Assessment – Draft Report*  
[http://fsweb.r3.fs.fed.us/eap/human\\_dimensions/index.shtml](http://fsweb.r3.fs.fed.us/eap/human_dimensions/index.shtml)

<sup>2</sup> Indirect effects include economic “ripple effects” – stimulus to firms and services supporting the directly affected sectors, as well as the economic stimulus caused by local spending of the disposable income earned in the direct and indirect sectors (induced effect). For simplicity, the indirect and induced effects are lumped together in this paper as “indirect effects”.

<sup>3</sup> This approach is similar to two other studies completed by the EMC Planning Analysis Group in the Region; [Economic Effects of the Four Corners Sustainability Partnership Demonstration Projects](#) and [The Southwestern Region's Forest-Based Community Economic Development Grant Program: Economic Effects](#)

# Steps for Creating Economic Contribution Reports

## Methodology

For a complete and detailed explanation of the methods used in this analysis, please see “[Evaluating the Economic Significance of the USDA Forest Service Strategic Plan \(2000 Revision: Methods and Results for Programmatic Evaluations\)](#)”. Models of the regional economies influenced by activity on the National Forests were estimated with “[IMPLAN](#)”, a regional economic impact analysis system. The most recent IMPLAN data set available is for 2002. The study areas followed the same sets of counties chosen for the Socio-Economic Assessments to maintain comparable data sets in the reports.

The IMPLAN models were used to estimate “response coefficients”, **rates** of economic activity for the following national forest-related activities:

- Recreation
  - Local economic activity generated per million dollars of visitor expenditures while visiting the national forest.
- Wildlife and Fish
  - Local economic activity generated per million dollars of visitor expenditures for hunting, fishing, and wildlife viewing while visiting the national forest.
- Grazing
  - Economic activity per million dollars of value added to the sales price of cattle grazed on Forest Service allotments.
- Timber
  - Economic activity per thousand cubic feet of stumpage flowing through logging companies, sawmills, post and pole operations, and firewood sales.
- Minerals
  - Though mineral extraction, particularly oil and gas, is an important sector in the Arizona economy, data were not received in time to include minerals in this analysis.
- Payments to States
  - Returns to counties under the “Secure Rural Schools Act” can foster significant economic activity at the local level. This response coefficient is a prediction of local economic activity per million dollars returned to the counties.
- Forest Service salary and non-salary expenditures
  - Economic activity per million dollars of wages (disposable income) spent locally by Forest Service employees, and
  - Economic activity per million dollars spent locally on materials, contracts, and services by the Forest Service.

These response coefficients, as well as baseline economic data, were exported from the IMPLAN models and read into “[FEAST](#)”, a spreadsheet designed to pair IMPLAN response coefficients with resource data to generate economic contribution reports. A report was generated for each Arizona forest.

*Data Sources used in FEAST to generate “Economic Contribution” reports:*

- 1) Recreation and Wildlife and Fish:
  - a. Annual local and non-local visitor use numbers came from the NVUM survey report for each forest:  
<http://www.fs.fed.us/recreation/programs/nvum/>.
  - b. Expenditure profiles for different types of recreation/wildlife were also derived from the NVUM survey and processed for use with IMPLAN (documentation: [NV4Year.pdf](#)).
  - c. A spreadsheet was used to process visitor numbers into numbers compatible with the IMPLAN expenditure profiles ([Adjusting NVUM visits for FEAST.zip](#)).
- 2) Range: (documentation): ["Finding data on the web for FEAST Range Analysis"](#).
  - a. Inventory, marketings and income data came from the Arizona Agricultural Statistics Bulletin.
  - b. National Forest permitted AUMs came from a spreadsheet provided by Region 3.
  - c. Conversion from AUMs to Headmonths came from the Rangeland management website.
- 3) Timber:
  - a. Volume (ccf) cut information came from Region 3 Cut and Sold Reports for each forest for FY2004.
  - b. Direct effects response coefficients came from Timber Mill Survey from Chuck Keegan at the University of Montana (Direct jobs and income per thousand cubic feet of stumpage harvested).
  - c. Indirect and induced employment and income effects come from the IMPLAN model.
- 4) Forest Service salary and non-salary expenditures:
  - a. Budget expenditure data came from the NFC.
  - b. The data were split into salary and non-salary expenditures.
    - i. Non-salary information was bridged to IMPLAN economic sectors.
    - ii. Salary expenditures were converted to disposable income.
    - iii. Employment levels came from Region 3 personnel data.

- 5) Restoration and Stewardship projects
  - a. The budget expenditure data contain expenditures for contracting services, i.e. for thinning operations, and for force account expenditures related to these projects.
  - b. FEAST models the economic impact of these expenditures in the local economy.
  - c. Budget data are available for FY02, FY03, FY04, and a 3-year average. For this study, FY04 data were used as they reflect the increasing emphasis (expenditure) on restoration and stewardship projects.

The choice to match the study areas for this analysis with the study areas defined in the socioeconomic Assessments had a clear influence on the results displayed in the contribution reports. In short, because of the very large geographic areas defined as “local”, the economic contribution of the Forest Service appears to be relatively small. This is due to the fact that several large cities, some of which are quite distant from the National Forest, were included in the “local” economies analyzed. This was viewed as preferable to choosing different study areas from those used in the socioeconomic assessments, maintaining comparability of data scale. For a more complete discussion of the repercussions of study area size, please see [Appendix 2](#).

## **Description of Contribution Tables**

For each National Forest in Arizona, IMPLAN and FEAST were used to produce a series of tables describing the contribution of forest-based activities to local economic activity. The “Current” column represents the *contribution* of economic activity related to that resource to the total economic activity in the study area. Employment (“jobs”) in these tables is defined as average annual employment and includes any part-time, seasonal, or full time job in the given category. Labor income in these tables includes employee compensation (wages and benefits) and income from sole proprietorships and is also in terms of annual totals.

The resource categories are as follows:

- 1) Recreation: Includes economic activity associated with recreational visits to the National Forest. Activity related to total, local resident, and non-local visitors is reported. It is customary to break these out since local spending is already reflected in the base year data, while non-locals bring in new money from outside the study area.
- 2) Wildlife and Fish: Includes economic activity associated with hunting, fishing, and wildlife viewing-based visits to the National Forest. Activity related to total, local resident, and non-local visitors is reported. It is customary to break these out since local spending is already reflected

in the base year data, while non-locals bring in new money from outside the study area.

- 3) Grazing: Includes economic activity associated with cattle grazed on National Forest lands.
- 4) Timber: Includes economic activity associated with non-Forest Service operations of logging, sawmills, post and pole operations, and firewood sales from National Forest lands.
- 5) Minerals: Not included in this analysis due to lack of data.
- 6) Payments to States: Includes economic activity associated with returns to counties under the "Secure Rural Schools Act".
- 7) Forest Service Expenditures: Includes economic activity associated with Forest Service operational budget expenditures and wages of employees spent locally.

### Description of "Economic Contribution" reports produced by FEAST:

#### Table A.

This table presents Forest Service-related direct and indirect employment that is generated in the economy for each resource category. Employment in this table is defined as any part-time, seasonal, or full time job in the given category. This table provides insight into the forest's current economic niche. The resource categories that provide the most employment in the region are likely to be associated with the forest's niche.

#### Table B.

This table represents Forest Service-related direct and indirect labor income associated with each resource category. This table provides insight into the forest's current economic niche. The resource categories that provide the most income to the region are likely to be associated with the forest's niche.

#### Table C.

This table reports the same data as Table A, but provides a picture of the Forest Service's direct and indirect contribution to the employment situation in the region by sector. It is important to know what sectors in the economy are most influenced by Forest Service activities to help gauge where the economy is and what sectors are important to the region. Employment in this table is defined as any part-time, seasonal, or full time job in the given category.

#### Table D.

This table reports the same data as Table B, but represents Forest Service-related direct and indirect labor income generated in the various sectors of the local economy. Income in this table includes all forms of employee compensation (including wages and benefits) and proprietor's income.

Table E.

This table compares the economic stimulus or national forest – based activities with the regional economy as a whole. Dividing Forest Service-related employment and labor income by the total labor income and employment in the respective sectors gives a percentage of the total that is generated by the Forest Service. Things to look for in this table include:

- 1) The largest employer and income-generating sector in the region. Getting a picture of the current major employers and income generating industries gives an idea of what the economy of the local area looks like and what industries are important to the continued health of the regional economy.
- 2) Divide the Forest Service related jobs in each industry by the total employment in that industry. This gives a measure of the dependence of each industry on Forest Service activity
- 3) Look at the total percent of employment and income in the region that is Forest Service related. This gives an indication of the overall dependence of the region on Forest Service activities.



## Apache-Sitgreaves National Forest Example:

Table A. Employment by Resource (Average Annual Part- and Full-time Jobs):

Apache-Sitgreaves NF Resource	Total Annual Jobs Contributed		
	Current Contr	Local Rec	Non-Local
<b>Recreation</b>	1,927	161	1,766
<b>Wildlife and Fish</b>	512	43	469
<b>Grazing</b>	27		
<b>Timber</b>	177		
<b>Payments to States/Counties</b>	177		
<b>Forest Service Expenditures</b>	522		
<b>Total Forest Management</b>	3,341		

Outdoor recreation on the Apache-Sitgreaves National Forest contributes more direct and indirect jobs to the local economy than any other forest-based activity. Of the roughly 1,927 jobs that the Forest Service is responsible for generating in the outdoor recreation sector in the region, about 91% (1,766 jobs) are generated from expenditures by non-local visitors, bringing in new money to the area. Forest Service operations themselves are the second largest generator of Forest Service related jobs at around 522 economy-wide. Hunting, fishing and wildlife viewing activities on the National Forest also generate around 512 jobs economy-wide, roughly 469 of which are non-local based. The numbers here point to a forest that is dominated by recreation and visitor use values.

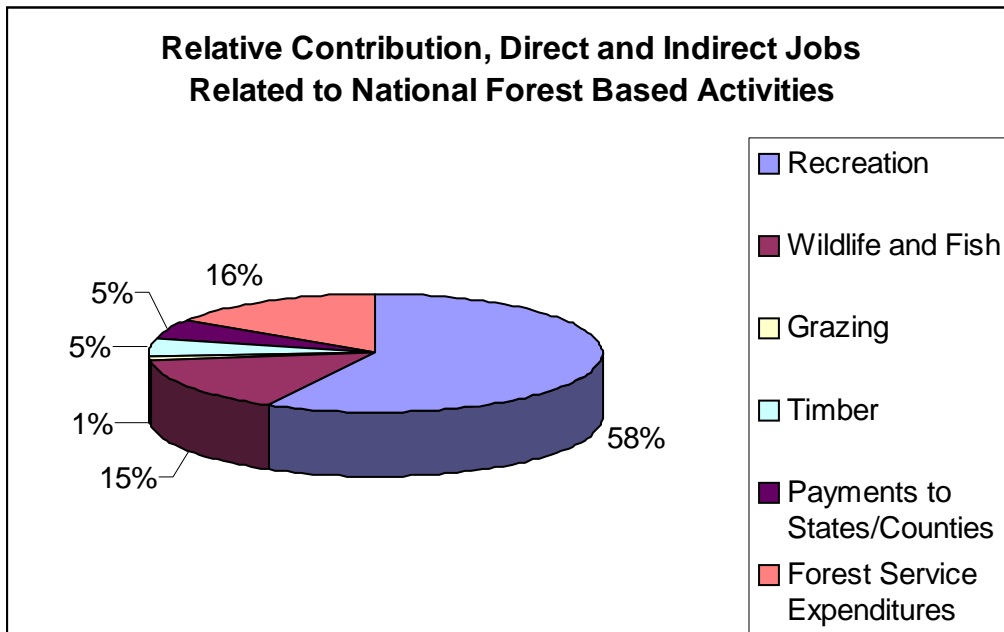


Table B. Labor Income by Resource

(Wages, Benefits, and Sole Proprietors' Income)

<i>Apache-Sitgreaves NF</i>	<i>Thousands of 2005 dollars (annual)</i>		
<b>Resource</b>	<b>Total Current Contribution</b>	<b>Local Rec</b>	<b>Nonlocal</b>
<b>Recreation</b>	\$47,920.20	\$4,334.50	\$43,585.70
<b>Wildlife and Fish</b>	\$12,738.30	\$1,152.20	\$11,586.10
<b>Grazing</b>	\$275.80		
<b>Timber</b>	\$3,728.70		
<b>Payments to States/Counties</b>	\$6,175.90		
<b>Forest Service Expenditures</b>	\$26,740.30		
<b>Total Forest Management</b>	\$97,579.10		

Similar results are found for this table as for table A. The Forest Service lands are responsible for generating the most labor income in outdoor recreation related sectors. Of the estimated \$47.9 million generated, around 91% (\$43.5 million) was non-locally based income, bringing new money into the economy. Labor income for direct Forest Service operations accounted for about 27% of the total economic contribution of the Forest Service in the region, the second highest mount of any forest-based activity.

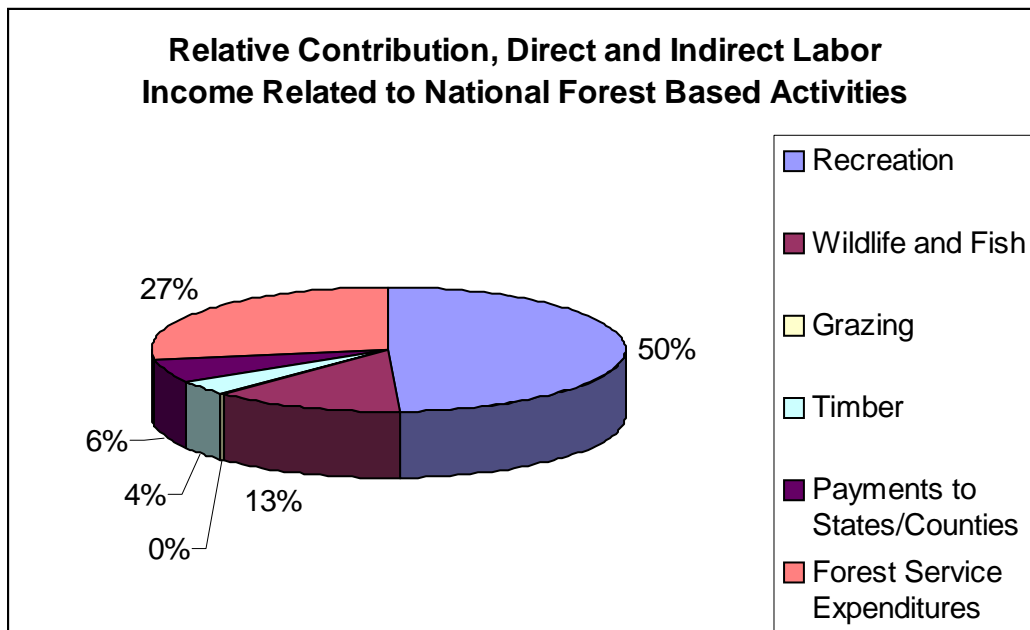


Table C. Employment by Major Industry

(Average Annual Part- and Full-time Jobs)

<i>Apache-Sitgreaves NF</i>	<i>Direct and Indirect Jobs Contributed</i>
<b>Industry</b>	<b>Current</b>
<i>Agriculture</i>	142
<i>Mining</i>	0
<i>Utilities</i>	3
<i>Construction</i>	45
<i>Manufacturing</i>	83
<i>Wholesale Trade</i>	87
<i>Transportation &amp; Warehousing</i>	80
<i>Retail Trade</i>	393
<i>Information</i>	26
<i>Finance &amp; Insurance</i>	24
<i>Real Estate &amp; Rental &amp; Leasing</i>	74
<i>Prof, Scientific, &amp; Tech Services</i>	61
<i>Mngt of Companies</i>	6
<i>Admin, Waste Mngt &amp; Rem Serv</i>	50
<i>Educational Services</i>	19
<i>Health Care &amp; Social Assistance</i>	120
<i>Arts, Entertainment, and Rec</i>	123
<i>Accommodation &amp; Food Services</i>	1237
<i>Other Services</i>	100
<i>Government</i>	669
<b>Total Forest Management</b>	<b>3,341</b>

This table provides a picture of the Forest Service's contribution to the employment situation in the region by sector. Activities associated with the Forest Service generated the most jobs in the accommodations and food sector (around 1237), government sector (roughly 669), and retail trade sector (about 393). These numbers are consistent with National Forest lands that are primarily utilized for recreation and wildlife viewing. Agriculture and manufacturing, which include grazing, logging and sawmills, are still important contributors to the local economy at around 225 jobs – sectors that have traditionally been supported by National Forest-based activities.

Table D. Labor Income (Wages, Benefits, and Sole Proprietors)  
by Major Industry

<i>Apache-Sitgreaves NF</i>	<i>Thousands of 2005 dollars</i>
<b>Industry</b>	<b>Direct and Indirect Labor Income Contribution</b>
<i>Agriculture</i>	\$2,320.60
<i>Mining</i>	\$24.90
<i>Utilities</i>	\$197.50
<i>Construction</i>	\$1,719.00
<i>Manufacturing</i>	\$2,402.70
<i>Wholesale Trade</i>	\$3,608.00
<i>Transportation &amp; Warehousing</i>	\$3,530.20
<i>Retail Trade</i>	\$9,571.80
<i>Information</i>	\$1,191.30
<i>Finance &amp; Insurance</i>	\$986.80
<i>Real Estate &amp; Rental &amp; Leasing</i>	\$1,137.40
<i>Prof, Scientific, &amp; Tech Services</i>	\$2,036.30
<i>Mngt of Companies</i>	\$284.20
<i>Admin, Waste Mngt &amp; Rem Serv</i>	\$902.70
<i>Educational Services</i>	\$378.60
<i>Health Care &amp; Social Assistance</i>	\$4,700.80
<i>Arts, Entertainment, and Rec</i>	\$2,702.00
<i>Accommodation &amp; Food Services</i>	\$19,787.90
<i>Other Services</i>	\$2,307.20
<i>Government</i>	\$37,789.10
<b>Total Forest Management</b>	<b>\$97,579.10</b>

Labor income data associated with Forest Service activities tell a slightly different story than do the employment numbers. Forest Service related labor income generated in the government sector dwarfs the income from other sectors. This indicates that, although the Forest Service was responsible for generating more jobs in other sectors (accommodations and food services), the relative quality of the jobs created in the government sector is much higher. In fact, the relative income per job in the government sector is twice as high as in the accommodations and food services sectors. Forest Service activities also provide a sizable amount of income in the retail trade sector, again indicating that tourist and recreation spending is important to the region.

**Table E. Current Forest Service-Related Contributions to the Area Economy**

<i>Apache-Sitgreaves NF</i>	<i>Employment (jobs)</i>		<i>Labor Income (\$ Thousands 2005)</i>	
<b>Industry</b>	Area Totals	FS-Related	Area Totals	FS-Related
<b>Agriculture</b>	2,153	142	\$19,197.80	\$2,320.60
<b>Mining</b>	3,191	0	\$255,399.40	\$24.90
<b>Utilities</b>	319	3	\$18,581.00	\$197.50
<b>Construction</b>	7,185	45	\$260,508.60	\$1,719.00
<b>Manufacturing</b>	3,712	83	\$212,675.50	\$2,402.70
<b>Wholesale Trade</b>	1,182	87	\$47,106.90	\$3,608.00
<b>Transportation &amp; Warehousing</b>	3,810	80	\$199,595.30	\$3,530.20
<b>Retail Trade</b>	13,846	393	\$327,161.50	\$9,571.80
<b>Information</b>	1,334	26	\$60,514.40	\$1,191.30
<b>Finance &amp; Insurance</b>	1,519	24	\$54,577.10	\$986.80
<b>Real Estate &amp; Rental &amp; Leasing</b>	3,689	74	\$51,264.20	\$1,137.40
<b>Prof, Scientific, &amp; Tech Services</b>	2,532	61	\$107,570.20	\$2,036.30
<b>Mngt of Companies</b>	277	6	\$13,953.60	\$284.20
<b>Admin, Waste Mngt &amp; Rem Serv</b>	2,327	50	\$46,217.60	\$902.70
<b>Educational Services</b>	2,266	19	\$43,723.60	\$378.60
<b>Health Care &amp; Social Assistance</b>	10,015	120	\$379,571.80	\$4,700.80
<b>Arts, Entertainment, and Rec</b>	2,324	123	\$48,833.70	\$2,702.00
<b>Accommodation &amp; Food Services</b>	14,260	1237	\$217,371.10	\$19,787.90
<b>Other Services</b>	5,848	100	\$129,739.10	\$2,307.20
<b>Government</b>	32,302	669	\$1,480,218.70	\$37,789.10
<b>Total</b>	<b>114,093</b>	<b>3,341</b>	<b>\$3,973,781.10</b>	<b>\$97,579.10</b>
<b>Percent of Total</b>	<b>100.00%</b>	<b>2.90%</b>	<b>100.00%</b>	<b>2.50%</b>

This table compares National Forest based economic activity to the region's economy as a whole. Currently, the largest single industry in the region by employment is the government sector (around 28%) a sector that includes public education and civil servants, followed closely by the retail trade and accommodation and food services sectors (roughly 12% each). The government sector also provides a much higher proportion of the region's labor income (37% versus 10% and 8%), indicating that the government sector provides much higher quality jobs than do the retail trade, accommodations, or food services sectors. The third largest employer in the region is the construction sector (6%), indicating that the region is likely growing.

Forest Service activities, however, are estimated to be responsible for a very small proportion of the total government sector employment (around 3%) and income (about 2.5%). The sector that most depends on National Forest - based activities for jobs is the accommodation and food services sector (1%), but the government sector receives the most benefit in terms of labor income.

The small overall contribution of National Forest – based activities to the regional economy is likely due to the fact that the study region is rather large and encompasses a wide region with a large and diverse economy. If the study area had concentrated on the small communities around the Forest, the percentages would almost certainly have been larger. For a thorough discussion of this issue, please see [Appendix 2](#). For the Contribution Tables for other National Forests in Arizona, please see [Appendix 3](#).

## Appendix 1 : Introduction to Regional Economic Analysis

When conducting a regional economic analysis, regional scientists and economists generally look at three types of effects associated with economic activity. An industry, logging for example, generates revenues from the sale of logs. These sales represent the 'direct effects' that are associated with this industry. The economic activity that is generated by an industry, however, does not end simply at the direct economic contribution of a given industry.

In 1973, Wassily Leontief was awarded the Nobel Prize in economics for developing the input-output method of regional economic analysis. The great insight and contribution of Dr. Leontief was that industries in a regional economy are interrelated and the structure of an economy is more than simply the sum of its 'direct' parts. In his Nobel Prize lecture, Dr. Leontief introduced the concept as follows:

*(An economy) can be visualized as a system of interdependent processes. Each process, be it the manufacture of steel, the education of youth or the running of a family household, generates certain outputs and absorbs a specific combination of inputs. Direct interdependence between two processes arises whenever the output of one becomes an input of the other: coal, the output of the coal mining industry, is an input of the electric power generating sector. The chemical industry uses coal not only directly as a raw material but also indirectly in the form of electrical power. A network of such links constitutes a system of elements which depend upon each other directly, indirectly or both.*

Since Dr. Leontief first formally described this interdependence of industries, economists have used the concept to fully analyze a regional economy as a system of interrelated producers and consumers who affect and depend on one another. Any analysis on a regional economy would be incomplete if it only took into account the direct effects of an industry. There are also 'indirect effects', which occur when the output of one industry is dependent on another industry, and 'induced effects', which occur when income generated by one industry is spent on goods or services in another industry. Multipliers for regional economies are generated from the relationship between these direct, indirect, and induced effects.

For example, if an analyst were to study the economy of a rural farming region and add up all of the direct impacts of each sector in the economy, they would get a vastly skewed picture of that region. Farming is not only responsible for generating direct revenues, it also is responsible for demanding fertilizer and seed from the local farm supply store, veterinary services from the local veterinarian and tractors from the local dealer (indirect effects). The farmers

also spend their income at the local diner and provide tax revenues to the local school district (induced effects). The total contribution of farming in this economy is more than simply their direct contribution to the economy. If agriculture were to decline in this region, simply subtracting their direct effects from the economy would vastly underestimate the impact because it would assume that the farm supply store and the local restaurants would not be affected by the decline in agriculture. This would rarely be the case. A one dollar decline (or increase) in revenue would have a greater than one dollar effect on the regional economy because of these linkages. This is the fundamental rationale behind looking at indirect and induced effects as well as direct effects when conducting regional economic contribution analysis.

Additionally, every industry relates to the regional economy differently. Some industries, because of their structure, have more local linkages than do other industries. Additionally some regional economies, because of their structure, are able to capture more secondary effects. The formal study of this is a pillar of regional economics and is done through input-output analysis, which analyzes the direct, indirect and induced effects and the subsequent multipliers associated with each industry in a given region.



## **Appendix 2 : Consequences of the Study Area Size**

The choice of study area size will affect the results of an economic contribution analysis in two fundamental ways: by changing the size of the multiplier and by affecting the total economic activity associated with the study area, thereby altering the relative size of the contribution of any specific industry.

### **Multipliers**

Multipliers are a function of the structure of the local economy and the size of the multiplier depends directly on the ability of the local economy to keep revenues generated locally in the region. If a study area has a large, broad and diverse local economy it is likely that it will hold on to revenues by purchasing goods and services from local suppliers. If a local economy is not very broad or diverse, it will likely not have the structural capabilities to recycle revenues through the economy. Small regions generally do not have very diverse economies and must import a great many of their goods and services. The necessity to import goods and services causes leakages of money from the economy and serves to lower a region's economic multiplier.

Choosing a very large analysis area will increase the economic multiplier by including an increased and more diverse set of industries. Large regions (especially if they include a large city) include a great many suppliers of goods and services, which then allows for more of these to be purchased from within the study area itself.

### **Relative Importance of Industries**

Choice of study area size will also influence the relative importance of various industries in the region. Choosing a very small study area will make whatever industries are in that small region look very important in a relative sense. Choosing a very large study area will dilute the effects of locally important industries and make all individual industries look smaller in relation to the larger industry as a whole. Choosing a very large study, although it will increase the multiplier, may also serve to diminish an individual sectors relative importance in a region.

### **Example**

To see these issues played out, imagine a small town that is heavily dependent on logging for employment and income and which exists 60 miles outside of a large city. If the study area just included this small town the economic multiplier for virtually every sector would be low because firms and households would need to import almost all of their inputs, goods, and services

from outside this small town. Logging, however, would show up as relatively very important in this study area as it generates a large proportion of the revenues and income in the region. Conversely, if the study area included both the small town and the large city, the economic multipliers would likely be much higher for virtually every sector because this large city is likely to provide a large proportion of the goods and services demanded by the people living there. However, the economic activity generated by logging, which is very important in that small town, would be dwarfed by the economic activity of the large city.

### Analysis

In deciding how large or small to make a study area, it is important to keep in mind the purpose of the analysis. In our example above, if we are interested in knowing the full extent of the economic activity associated with a region then a larger/broader study area should be selected. There are, no doubt, a great deal of economic linkages between the logging industry in a small town and the processing and retail sectors associated with the nearby large city. If a description of the broader regional economy with all its linkages is the goal of the analysis, then the study area should be large enough to capture the broader economic activity. This would generally be a central regional economic center (large city) and the surrounding satellite communities (small towns). With this type of analysis it must be understood that relative importance or impacts of specific industries in specific areas cannot be inferred. It will, however, show the multiplier effects of an industry like logging. The logging sector in the small town will supply inputs to the lumber mill in a neighboring town, which will supply inputs to the furniture manufacturing sector in the large city which in turn will supply furniture to households in the entire region and beyond. In order to capture all of these linkages, the study area must be sufficiently large and include the large city and the surrounding small towns.

If, on the other hand, the goal of the analysis is to analyze the relative importance of a given industry on a specific local area or to determine the economic impacts of changes in a given industry on the local area, then a smaller study area might be preferred. The smaller study area will not include the economic linkages that exist between the large city and the outlying communities (and will therefore have a smaller multiplier), but it will demonstrate the importance of a specific industry to a local community. The importance of a specific industry in a small town will not be swallowed up by the larger economic activity of the region if the study area is specific enough to target that community.

In summary, having a large study area increases the multipliers of the industries in the region, but it makes potentially important industries to specific communities look relatively small in the context of the larger regional economy. Choosing a study area that is small will make a specific industry that is important to that smaller community seem large, but it will not pick up the economic linkages that exist between the small towns and the larger regional economic

center. If logging is a major source of income for a small town but a minor industry in a broader regional economy, then the choice of study area size will depend on what the analysis is trying to describe. If the question at hand involves how the output from the logging industry in the small town ripples through the regional economy, then a large study area is appropriate. On the other hand, if the relevant question involves the impacts of specific sectors on local communities then a smaller study area is appropriate.

### *Specific Issue with Arizona National Forests*

Keeping in mind the issues associated with choosing large versus small study areas, this analysis was completed using a broader study area in order to match the data with Socio-Economic Assessments previously completed for National Forests in Arizona.

## Appendix 3 : Economic Contribution Tables

### APACHE-SITGREAVES NATIONAL FOREST

Table A. Employment by Resource (Average Annual Part- and Full-time Jobs):

Apache-Sitgreaves NF	Total Annual Jobs Contributed		
Resource	Current Contr	Local Rec	Non-Local
Recreation	1,927	161	1,766
Wildlife and Fish	512	43	469
Grazing	27		
Timber	177		
Payments to States/Counties	177		
Forest Service Expenditures	522		
<b>Total Forest Management</b>	<b>3,341</b>		

Table B. Labor Income by Resource (Wages, Benefits, and Sole Proprietors' Income)

Apache-Sitgreaves NF	Thousands of 2005 dollars (annual)		
Resource	Total Current Contribution	Local Rec	Nonlocal
Recreation	\$47,920.20	\$4,334.50	\$43,585.70
Wildlife and Fish	\$12,738.30	\$1,152.20	\$11,586.10
Grazing	\$275.80		
Timber	\$3,728.70		
Payments to States/Counties	\$6,175.90		
Forest Service Expenditures	\$26,740.30		
<b>Total Forest Management</b>	<b>\$97,579.10</b>		

Table C. Employment by Major Industry (Average Annual Part- and Full-time Jobs)

Apache-Sitgreaves NF	Direct and Indirect Jobs Contributed
Industry	Current
Agriculture	142
Mining	0
Utilities	3
Construction	45
Manufacturing	83
Wholesale Trade	87
Transportation & Warehousing	80
Retail Trade	393
Information	26
Finance & Insurance	24
Real Estate & Rental & Leasing	74
Prof, Scientific, & Tech Services	61
Mngt of Companies	6
Admin, Waste Mngt & Rem Serv	50
Educational Services	19
Health Care & Social Assistance	120
Arts, Entertainment, and Rec	123
Accommodation & Food Services	1237
Other Services	100
Government	669
<b>Total Forest Management</b>	<b>3,341</b>

Table D. Labor Income by Major Industry (Wages, Benefits, and Sole Proprietors' Income)

<i>Apache-Sitgreaves NF</i>	<i>Thousands of 2005 dollars</i>
<b>Industry</b>	<b>Direct and Indirect Labor Income Contribution</b>
<i>Agriculture</i>	\$2,320.60
<i>Mining</i>	\$24.90
<i>Utilities</i>	\$197.50
<i>Construction</i>	\$1,719.00
<i>Manufacturing</i>	\$2,402.70
<i>Wholesale Trade</i>	\$3,608.00
<i>Transportation &amp; Warehousing</i>	\$3,530.20
<i>Retail Trade</i>	\$9,571.80
<i>Information</i>	\$1,191.30
<i>Finance &amp; Insurance</i>	\$986.80
<i>Real Estate &amp; Rental &amp; Leasing</i>	\$1,137.40
<i>Prof, Scientific, &amp; Tech Services</i>	\$2,036.30
<i>Mngt of Companies</i>	\$284.20
<i>Admin, Waste Mngt &amp; Rem Serv</i>	\$902.70
<i>Educational Services</i>	\$378.60
<i>Health Care &amp; Social Assistance</i>	\$4,700.80
<i>Arts, Entertainment, and Rec</i>	\$2,702.00
<i>Accommodation &amp; Food Services</i>	\$19,787.90
<i>Other Services</i>	\$2,307.20
<i>Government</i>	\$37,789.10
<b>Total Forest Management</b>	<b>\$97,579.10</b>

Table E. Current Role of Forest Service-Related Contributions  
to the Area Economy

<i>Apache-Sitgreaves NF</i>	<i>Employment (jobs)</i>		<i>Labor Income (\$ Thousands 2005)</i>	
<b>Industry</b>	<b>Area Totals</b>	<b>FS-Related</b>	<b>Area Totals</b>	<b>FS-Related</b>
<b>Agriculture</b>	2,153	142	\$19,197.80	\$2,320.60
<b>Mining</b>	3,191	0	\$255,399.40	\$24.90
<b>Utilities</b>	319	3	\$18,581.00	\$197.50
<b>Construction</b>	7,185	45	\$260,508.60	\$1,719.00
<b>Manufacturing</b>	3,712	83	\$212,675.50	\$2,402.70
<b>Wholesale Trade</b>	1,182	87	\$47,106.90	\$3,608.00
<b>Transportation &amp; Warehousing</b>	3,810	80	\$199,595.30	\$3,530.20
<b>Retail Trade</b>	13,846	393	\$327,161.50	\$9,571.80
<b>Information</b>	1,334	26	\$60,514.40	\$1,191.30
<b>Finance &amp; Insurance</b>	1,519	24	\$54,577.10	\$986.80
<b>Real Estate &amp; Rental &amp; Leasing</b>	3,689	74	\$51,264.20	\$1,137.40
<b>Prof, Scientific, &amp; Tech Services</b>	2,532	61	\$107,570.20	\$2,036.30
<b>Mngt of Companies</b>	277	6	\$13,953.60	\$284.20
<b>Admin, Waste Mngt &amp; Rem Serv</b>	2,327	50	\$46,217.60	\$902.70
<b>Educational Services</b>	2,266	19	\$43,723.60	\$378.60
<b>Health Care &amp; Social Assistance</b>	10,015	120	\$379,571.80	\$4,700.80
<b>Arts, Entertainment, and Rec</b>	2,324	123	\$48,833.70	\$2,702.00
<b>Accommodation &amp; Food Services</b>	14,260	1237	\$217,371.10	\$19,787.90
<b>Other Services</b>	5,848	100	\$129,739.10	\$2,307.20
<b>Government</b>	32,302	669	\$1,480,218.70	\$37,789.10
<b>Total</b>	<b>114,093</b>	<b>3,341</b>	<b>\$3,973,781.10</b>	<b>\$97,579.10</b>
<b>Percent of Total</b>	<b>100.00%</b>	<b>2.90%</b>	<b>100.00%</b>	<b>2.50%</b>

## COCONINO NATIONAL FOREST

*Table A. Employment by Resource (Average Annual Part- and Full-time Jobs):*

<i>Coconino National Forest</i>	<i>Total Annual Jobs Contributed</i>		
<b>Resource</b>	Current	Local Rec	Non-Local
<b>Recreation</b>	1,278	231	1,047
<b>Wildlife and Fish</b>	126	23	103
<b>Grazing</b>	49		
<b>Timber</b>	41		
<b>Payments to States/Counties</b>	244		
<b>Forest Service Expenditures</b>	479		
<b>Total Forest Management</b>	2,218		

*Table B. Labor Income by Resource (Wages, Benefits, and Sole Proprietors' Income)*

<i>Coconino National Forest</i>	<i>Thousands of 2005 dollars (annual)</i>		
<b>Resource</b>	Total Current Contribution	Local Rec	Nonlocal
<b>Recreation</b>	\$31,323.00	\$6,165.70	\$25,157.30
<b>Wildlife and Fish</b>	\$3,097.90	\$609.80	\$2,488.10
<b>Grazing</b>	\$511.40		
<b>Timber</b>	\$808.80		
<b>Payments to States/Counties</b>	\$8,591.20		
<b>Forest Service Expenditures</b>	\$22,836.30		
<b>Total Forest Management</b>	\$67,168.50		

*Table C. Employment by Major Industry (Average Annual Part- and Full-time Jobs)*

<i>Coconino National Forest</i>	<i>Direct and Indirect Jobs Contributed</i>
<b>Industry</b>	Current
<b>Agriculture</b>	67
<b>Mining</b>	0
<b>Utilities</b>	3
<b>Construction</b>	51
<b>Manufacturing</b>	32
<b>Wholesale Trade</b>	61
<b>Transportation &amp; Warehousing</b>	45
<b>Retail Trade</b>	236
<b>Information</b>	14
<b>Finance &amp; Insurance</b>	19
<b>Real Estate &amp; Rental &amp; Leasing</b>	90
<b>Prof, Scientific, &amp; Tech Services</b>	41
<b>Mngt of Companies</b>	2
<b>Admin, Waste Mngt &amp; Rem Serv</b>	44
<b>Educational Services</b>	13
<b>Health Care &amp; Social Assistance</b>	98
<b>Arts, Entertainment, and Rec</b>	78
<b>Accommodation &amp; Food Services</b>	737
<b>Other Services</b>	70
<b>Government</b>	518
<b>Total Forest Management</b>	2,217

Table D. Labor Income by Major Industry (Wages, Benefits, and Sole Proprietors' Income)

<i>Coconino National Forest</i>	<i>Thousands of 2005 dollars</i>
<b>Industry</b>	<b>Direct and Indirect Labor Income Contribution</b>
<i>Agriculture</i>	\$758.30
<i>Mining</i>	\$5.50
<i>Utilities</i>	\$142.90
<i>Construction</i>	\$1,971.20
<i>Manufacturing</i>	\$890.90
<i>Wholesale Trade</i>	\$2,734.10
<i>Transportation &amp; Warehousing</i>	\$1,942.00
<i>Retail Trade</i>	\$5,984.30
<i>Information</i>	\$505.90
<i>Finance &amp; Insurance</i>	\$765.20
<i>Real Estate &amp; Rental &amp; Leasing</i>	\$1,335.20
<i>Prof, Scientific, &amp; Tech Services</i>	\$1,761.30
<i>Mngt of Companies</i>	\$73.40
<i>Admin, Waste Mngt &amp; Rem Serv</i>	\$796.70
<i>Educational Services</i>	\$289.30
<i>Health Care &amp; Social Assistance</i>	\$3,811.80
<i>Arts, Entertainment, and Rec</i>	\$1,591.50
<i>Accommodation &amp; Food Services</i>	\$11,698.30
<i>Other Services</i>	\$1,642.00
<i>Government</i>	\$28,435.20
<b>Total Forest Management</b>	<b>\$67,135.10</b>



Table E. Current Role of Forest Service-Related Contributions  
to the Area Economy

<i>Coconino National Forest</i>	<i>Employment (jobs)</i>		<i>Labor Income (\$ Thousands 2005)</i>	
<b>Industry</b>	<b>Area Totals</b>	<b>FS-Related</b>	<b>Area Totals</b>	<b>FS-Related</b>
<b>Agriculture</b>	1,451	67	\$14,679.90	\$758.30
<b>Mining</b>	1,865	0	\$86,975.60	\$5.50
<b>Utilities</b>	372	3	\$19,729.60	\$142.90
<b>Construction</b>	12,672	51	\$464,683.50	\$1,971.20
<b>Manufacturing</b>	6,881	32	\$324,771.20	\$890.90
<b>Wholesale Trade</b>	3,182	61	\$138,308.40	\$2,734.10
<b>Transportation &amp; Warehousing</b>	3,901	45	\$171,182.00	\$1,942.00
<b>Retail Trade</b>	18,169	236	\$449,761.40	\$5,984.30
<b>Information</b>	1,341	14	\$50,607.40	\$505.90
<b>Finance &amp; Insurance</b>	2,516	19	\$88,524.70	\$765.20
<b>Real Estate &amp; Rental &amp; Leasing</b>	5,540	90	\$86,672.40	\$1,335.20
<b>Prof, Scientific, &amp; Tech Services</b>	4,309	41	\$189,027.50	\$1,761.30
<b>Mngt of Companies</b>	171	2	\$7,695.50	\$73.40
<b>Admin, Waste Mngt &amp; Rem Serv</b>	5,107	44	\$96,783.10	\$796.70
<b>Educational Services</b>	2,344	13	\$50,011.20	\$289.30
<b>Health Care &amp; Social Assistance</b>	15,318	98	\$551,495.50	\$3,811.80
<b>Arts, Entertainment, and Rec</b>	3,048	78	\$58,487.10	\$1,591.50
<b>Accommodation &amp; Food Services</b>	18,122	737	\$257,842.50	\$11,698.30
<b>Other Services</b>	8,035	70	\$178,756.00	\$1,642.00
<b>Government</b>	26,141	518	\$1,173,217.20	\$28,435.20
<b>Total</b>	<b>140,487</b>	<b>2,217</b>	<b>\$4,459,211.70</b>	<b>\$67,135.10</b>
<b>Percent of Total</b>	<b>100.00%</b>	<b>1.60%</b>	<b>100.00%</b>	<b>1.50%</b>

## CORONADO NATIONAL FOREST

*Table A. Employment by Resource (Average Annual Part- and Full-time Jobs):*

<i>Coronado National Forest</i>	<i>Total Annual Jobs Contributed</i>		
<b>Resource</b>	Current	Local Rec	Non-Local
<i>Recreation</i>	1,108	562	546
<i>Wildlife and Fish</i>	123	62	61
<i>Grazing</i>	79		
<i>Timber</i>	0		
<i>Payments to States/Counties</i>	10		
<i>Forest Service Expenditures</i>	535		
<b>Total Forest Management</b>	1,856		

*Table B. Labor Income by Resource (Wages, Benefits, and Sole Proprietors' Income)*

<i>Coronado National Forest</i>	<i>Thousands of 2005 dollars (annual)</i>		
<b>Resource</b>	Total Current Contribution	Local Rec	Nonlocal
<i>Recreation</i>	\$29,816.30	\$15,823.30	\$13,993.00
<i>Wildlife and Fish</i>	\$3,312.90	\$1,758.20	\$1,554.70
<i>Grazing</i>	\$1,332.60		
<i>Timber</i>	\$3.40		
<i>Payments to States/Counties</i>	\$369.70		
<i>Forest Service Expenditures</i>	\$24,752.80		
<b>Total Forest Management</b>	\$59,587.80		

*Table C. Employment by Major Industry (Average Annual Part- and Full-time Jobs)*

<i>Coronado National Forest</i>	<i>Direct and Indirect Jobs Contributed</i>
<b>Industry</b>	Current
<i>Agriculture</i>	64
<i>Mining</i>	0
<i>Utilities</i>	3
<i>Construction</i>	16
<i>Manufacturing</i>	41
<i>Wholesale Trade</i>	60
<i>Transportation &amp; Warehousing</i>	42
<i>Retail Trade</i>	240
<i>Information</i>	14
<i>Finance &amp; Insurance</i>	21
<i>Real Estate &amp; Rental &amp; Leasing</i>	56
<i>Prof, Scientific, &amp; Tech Services</i>	101
<i>Mngt of Companies</i>	6
<i>Admin, Waste Mngt &amp; Rem Serv</i>	42
<i>Educational Services</i>	7
<i>Health Care &amp; Social Assistance</i>	85
<i>Arts, Entertainment, and Rec</i>	79
<i>Accommodation &amp; Food Services</i>	535
<i>Other Services</i>	68
<i>Government</i>	375
<b>Total Forest Management</b>	1,856

Table D. Labor Income by Major Industry (Wages, Benefits, and Sole Proprietors' Income)

<i>Coronado National Forest</i>	<i>Thousands of 2005 dollars</i>
<b>Industry</b>	<b>Direct and Indirect Labor Income Contribution</b>
<i>Agriculture</i>	\$824.60
<i>Mining</i>	\$2.40
<i>Utilities</i>	\$251.20
<i>Construction</i>	\$618.30
<i>Manufacturing</i>	\$2,313.50
<i>Wholesale Trade</i>	\$2,768.80
<i>Transportation &amp; Warehousing</i>	\$1,821.50
<i>Retail Trade</i>	\$5,699.80
<i>Information</i>	\$623.50
<i>Finance &amp; Insurance</i>	\$1,040.50
<i>Real Estate &amp; Rental &amp; Leasing</i>	\$977.60
<i>Prof, Scientific, &amp; Tech Services</i>	\$2,769.40
<i>Mngt of Companies</i>	\$224.70
<i>Admin, Waste Mngt &amp; Rem Serv</i>	\$1,051.20
<i>Educational Services</i>	\$160.20
<i>Health Care &amp; Social Assistance</i>	\$3,332.70
<i>Arts, Entertainment, and Rec</i>	\$1,410.70
<i>Accommodation &amp; Food Services</i>	\$8,703.70
<i>Other Services</i>	\$1,424.60
<i>Government</i>	\$23,568.90
<b>Total Forest Management</b>	<b>\$59,587.80</b>

Table E. Current Role of Forest Service-Related Contributions  
to the Area Economy

<i>Coronado National Forest</i>	<i>Employment (jobs)</i>		<i>Labor Income (\$ Thousands 2005)</i>	
<b>Industry</b>	<b>Area Totals</b>	<b>FS-Related</b>	<b>Area Totals</b>	<b>FS-Related</b>
<b>Agriculture</b>	7,811	64	\$208,170.70	\$824.60
<b>Mining</b>	2,957	0	\$156,613.60	\$2.40
<b>Utilities</b>	2,274	3	\$171,991.70	\$251.20
<b>Construction</b>	37,935	16	\$1,389,247.00	\$618.30
<b>Manufacturing</b>	36,712	41	\$2,376,129.20	\$2,313.50
<b>Wholesale Trade</b>	11,175	60	\$496,577.60	\$2,768.80
<b>Transportation &amp; Warehousing</b>	13,113	42	\$627,229.70	\$1,821.50
<b>Retail Trade</b>	62,895	240	\$1,526,464.00	\$5,699.80
<b>Information</b>	9,684	14	\$482,843.30	\$623.50
<b>Finance &amp; Insurance</b>	12,282	21	\$559,439.60	\$1,040.50
<b>Real Estate &amp; Rental &amp; Leasing</b>	25,681	56	\$420,329.90	\$977.60
<b>Prof, Scientific, &amp; Tech Services</b>	28,292	101	\$1,304,295.00	\$2,769.40
<b>Mngt of Companies</b>	2,851	6	\$99,285.20	\$224.70
<b>Admin, Waste Mngt &amp; Rem Serv</b>	34,468	42	\$839,518.60	\$1,051.20
<b>Educational Services</b>	4,798	7	\$98,695.50	\$160.20
<b>Health Care &amp; Social Assistance</b>	55,647	85	\$2,004,145.00	\$3,332.70
<b>Arts, Entertainment, and Rec</b>	11,272	79	\$148,525.80	\$1,410.70
<b>Accommodation &amp; Food Services</b>	43,928	535	\$656,729.80	\$8,703.70
<b>Other Services</b>	36,904	68	\$717,880.60	\$1,424.60
<b>Government</b>	117,429	375	\$5,511,017.60	\$23,568.90
<b>Total</b>	<b>558,106</b>	<b>1,856</b>	<b>\$19,795,129.50</b>	<b>\$59,587.80</b>
<b>Percent of Total</b>	<b>100.00%</b>	<b>0.30%</b>	<b>100.00%</b>	<b>0.30%</b>

## KAIBAB NATIONAL FOREST

*Table A. Employment by Resource (Average Annual Part- and Full-time Jobs):*

<i>Kaibab National Forest</i>	<i>Total Annual Jobs Contributed</i>		
<b>Resource</b>	Current	Local Rec	Non-Local
<i>Recreation</i>	35	6	29
<i>Wildlife and Fish</i>	7	1	6
<i>Grazing</i>	18		
<i>Timber</i>	80		
<i>Payments to States/Counties</i>	5		
<i>Forest Service Expenditures</i>	337		
<b>Total Forest Management</b>	482		

*Table B. Labor Income by Resource (Wages, Benefits, and Sole Proprietors' Income)*

<i>Kaibab National Forest</i>	<i>Thousands of 2005 dollars (annual)</i>		
<b>Resource</b>	Total Current Contribution	Local Rec	Nonlocal
<i>Recreation</i>	\$851.00	\$145.40	\$705.60
<i>Wildlife and Fish</i>	\$177.80	\$28.50	\$149.30
<i>Grazing</i>	\$200.70		
<i>Timber</i>	\$1,764.70		
<i>Payments to States/Counties</i>	\$147.50		
<i>Forest Service Expenditures</i>	\$14,999.90		
<b>Total Forest Management</b>	\$18,141.70		

*Table C. Employment by Major Industry (Average Annual Part- and Full-time Jobs)*

<i>Kaibab National Forest</i>	<i>Direct and Indirect Jobs Contributed</i>
<b>Industry</b>	Current
<i>Agriculture</i>	53
<i>Mining</i>	0
<i>Utilities</i>	1
<i>Construction</i>	5
<i>Manufacturing</i>	21
<i>Wholesale Trade</i>	8
<i>Transportation &amp; Warehousing</i>	9
<i>Retail Trade</i>	40
<i>Information</i>	3
<i>Finance &amp; Insurance</i>	6
<i>Real Estate &amp; Rental &amp; Leasing</i>	13
<i>Prof, Scientific, &amp; Tech Services</i>	52
<i>Mngt of Companies</i>	0
<i>Admin, Waste Mngt &amp; Rem Serv</i>	9
<i>Educational Services</i>	3
<i>Health Care &amp; Social Assistance</i>	28
<i>Arts, Entertainment, and Rec</i>	6
<i>Accommodation &amp; Food Services</i>	44
<i>Other Services</i>	18
<i>Government</i>	163
<b>Total Forest Management</b>	482

Table D. Labor Income by Major Industry (Wages, Benefits, and Sole Proprietors' Income)

<i>Kaibab National Forest</i>	<i>Thousands of 2005 dollars</i>
<b>Industry</b>	<b>Direct and Indirect Labor Income Contribution</b>
<i>Agriculture</i>	\$878.30
<i>Mining</i>	\$6.90
<i>Utilities</i>	\$48.90
<i>Construction</i>	\$170.20
<i>Manufacturing</i>	\$523.50
<i>Wholesale Trade</i>	\$301.40
<i>Transportation &amp; Warehousing</i>	\$401.10
<i>Retail Trade</i>	\$969.80
<i>Information</i>	\$111.40
<i>Finance &amp; Insurance</i>	\$233.30
<i>Real Estate &amp; Rental &amp; Leasing</i>	\$205.00
<i>Prof, Scientific, &amp; Tech Services</i>	\$785.60
<i>Mngt of Companies</i>	\$18.00
<i>Admin, Waste Mngt &amp; Rem Serv</i>	\$168.60
<i>Educational Services</i>	\$56.30
<i>Health Care &amp; Social Assistance</i>	\$1,052.30
<i>Arts, Entertainment, and Rec</i>	\$106.30
<i>Accommodation &amp; Food Services</i>	\$650.50
<i>Other Services</i>	\$417.20
<i>Government</i>	\$11,037.20
<b>Total Forest Management</b>	<b>\$18,141.70</b>

Table E. Current Role of Forest Service-Related Contributions  
to the Area Economy

<i>Kaibab National Forest</i>	<i>Employment (jobs)</i>		<i>Labor Income (\$ Thousands 2005)</i>	
<b>Industry</b>	Area Totals	FS-Related	Area Totals	FS-Related
<b>Agriculture</b>	2,235	53	\$20,970.20	\$878.30
<b>Mining</b>	1,404	0	\$43,330.20	\$6.90
<b>Utilities</b>	718	1	\$43,600.70	\$48.90
<b>Construction</b>	25,593	5	\$883,156.00	\$170.20
<b>Manufacturing</b>	11,319	21	\$475,525.70	\$523.50
<b>Wholesale Trade</b>	4,579	8	\$183,887.60	\$301.40
<b>Transportation &amp; Warehousing</b>	7,495	9	\$334,035.10	\$401.10
<b>Retail Trade</b>	33,350	40	\$810,365.00	\$969.80
<b>Information</b>	2,978	3	\$106,030.10	\$111.40
<b>Finance &amp; Insurance</b>	5,007	6	\$174,259.90	\$233.30
<b>Real Estate &amp; Rental &amp; Leasing</b>	9,369	13	\$154,557.60	\$205.00
<b>Prof, Scientific, &amp; Tech Services</b>	7,897	52	\$332,073.40	\$785.60
<b>Mngt of Companies</b>	437	0	\$16,401.10	\$18.00
<b>Admin, Waste Mngt &amp; Rem Serv</b>	8,569	9	\$176,130.20	\$168.60
<b>Educational Services</b>	2,919	3	\$59,663.90	\$56.30
<b>Health Care &amp; Social Assistance</b>	24,568	28	\$875,406.40	\$1,052.30
<b>Arts, Entertainment, and Rec</b>	4,799	6	\$88,555.80	\$106.30
<b>Accommodation &amp; Food Services</b>	26,495	44	\$374,790.30	\$650.50
<b>Other Services</b>	15,169	18	\$321,027.60	\$417.20
<b>Government</b>	33,131	163	\$1,450,911.50	\$11,037.20
<b>Total</b>	228,033	482	\$6,924,678.20	\$18,141.70
<b>Percent of Total</b>	100.00%	0.20%	100.00%	0.30%

## PRESCOTT NATIONAL FOREST

*Table A. Employment by Resource (Average Annual Part- and Full-time Jobs):*

<i>Prescott National Forest</i>		<i>Total Annual Jobs Contributed</i>		
Resource		Current	Local Rec	Non-Local
<b>Recreation</b>		357	142	215
<b>Wildlife and Fish</b>		63	25	38
<b>Grazing</b>		39		
<b>Timber</b>		25		
<b>Payments to States/Counties</b>		156		
<b>Forest Service Expenditures</b>		283		
<b>Total Forest Management</b>		923		

*Table B. Labor Income by Resource (Wages, Benefits, and Sole Proprietors' Income)*

<i>Prescott National Forest</i>		<i>Thousands of 2005 dollars (annual)</i>		
Resource		Total Current Contribution	Local Rec	Nonlocal
<b>Recreation</b>		\$9,114.20	\$3,790.80	\$5,323.40
<b>Wildlife and Fish</b>		\$1,608.40	\$669.00	\$939.40
<b>Grazing</b>		\$399.10		
<b>Timber</b>		\$525.20		
<b>Payments to States/Counties</b>		\$4,877.30		
<b>Forest Service Expenditures</b>		\$14,017.30		
<b>Total Forest Management</b>		\$30,541.60		

*Table C. Employment by Major Industry (Average Annual Part- and Full-time Jobs)*

<i>Prescott National Forest</i>		<i>Direct and Indirect Jobs Contributed</i>
Industry		Current
<b>Agriculture</b>		81
<b>Mining</b>		0
<b>Utilities</b>		1
<b>Construction</b>		28
<b>Manufacturing</b>		11
<b>Wholesale Trade</b>		27
<b>Transportation &amp; Warehousing</b>		21
<b>Retail Trade</b>		100
<b>Information</b>		6
<b>Finance &amp; Insurance</b>		9
<b>Real Estate &amp; Rental &amp; Leasing</b>		26
<b>Prof, Scientific, &amp; Tech Services</b>		22
<b>Mngt of Companies</b>		1
<b>Admin, Waste Mngt &amp; Rem Serv</b>		18
<b>Educational Services</b>		6
<b>Health Care &amp; Social Assistance</b>		44
<b>Arts, Entertainment, and Rec</b>		27
<b>Accommodation &amp; Food Services</b>		212
<b>Other Services</b>		31
<b>Government</b>		244
<b>Total Forest Management</b>		914



Table D. Labor Income by Major Industry (Wages, Benefits, and Sole Proprietors' Income)

<i>Prescott National Forest</i>	<i>Thousands of 2005 dollars</i>
<b>Industry</b>	<b>Direct and Indirect Labor Income Contribution</b>
<i>Agriculture</i>	\$1,169.40
<i>Mining</i>	\$3.50
<i>Utilities</i>	\$61.40
<i>Construction</i>	\$1,064.70
<i>Manufacturing</i>	\$328.00
<i>Wholesale Trade</i>	\$1,209.60
<i>Transportation &amp; Warehousing</i>	\$923.30
<i>Retail Trade</i>	\$2,558.50
<i>Information</i>	\$211.70
<i>Finance &amp; Insurance</i>	\$351.10
<i>Real Estate &amp; Rental &amp; Leasing</i>	\$395.00
<i>Prof, Scientific, &amp; Tech Services</i>	\$1,002.40
<i>Mngt of Companies</i>	\$26.80
<i>Admin, Waste Mngt &amp; Rem Serv</i>	\$320.10
<i>Educational Services</i>	\$139.10
<i>Health Care &amp; Social Assistance</i>	\$1,731.70
<i>Arts, Entertainment, and Rec</i>	\$532.20
<i>Accommodation &amp; Food Services</i>	\$3,201.10
<i>Other Services</i>	\$719.90
<i>Government</i>	\$14,380.90
<b>Total Forest Management</b>	<b>\$30,330.40</b>

Table E. Current Role of Forest Service-Related Contributions  
to the Area Economy

<i>Prescott National Forest</i>	<i>Employment (jobs)</i>		<i>Labor Income (\$ Thousands 2005)</i>	
<b>Industry</b>	<b>Area Totals</b>	<b>FS-Related</b>	<b>Area Totals</b>	<b>FS-Related</b>
<b>Agriculture</b>	1,165	81	\$12,051.70	\$1,169.40
<b>Mining</b>	1,087	0	\$34,727.40	\$3.50
<b>Utilities</b>	307	1	\$16,015.00	\$61.40
<b>Construction</b>	11,369	28	\$412,354.20	\$1,064.70
<b>Manufacturing</b>	5,833	11	\$264,214.80	\$328.00
<b>Wholesale Trade</b>	2,897	27	\$126,340.30	\$1,209.60
<b>Transportation &amp; Warehousing</b>	3,678	21	\$158,362.10	\$923.30
<b>Retail Trade</b>	16,157	100	\$400,966.70	\$2,558.50
<b>Information</b>	1,218	6	\$46,393.00	\$211.70
<b>Finance &amp; Insurance</b>	2,291	9	\$81,003.70	\$351.10
<b>Real Estate &amp; Rental &amp; Leasing</b>	5,086	26	\$70,741.40	\$395.00
<b>Prof, Scientific, &amp; Tech Services</b>	3,971	22	\$176,901.10	\$1,002.40
<b>Mngt of Companies</b>	138	1	\$6,132.50	\$26.80
<b>Admin, Waste Mngt &amp; Rem Serv</b>	4,803	18	\$89,621.60	\$320.10
<b>Educational Services</b>	2,222	6	\$47,950.80	\$139.10
<b>Health Care &amp; Social Assistance</b>	13,539	44	\$494,542.00	\$1,731.70
<b>Arts, Entertainment, and Rec</b>	2,764	27	\$51,884.20	\$532.20
<b>Accommodation &amp; Food Services</b>	16,642	212	\$240,509.10	\$3,201.10
<b>Other Services</b>	7,459	31	\$162,845.90	\$719.90
<b>Government</b>	22,031	244	\$991,246.60	\$14,380.90
<b>Total</b>	<b>124,655</b>	<b>914</b>	<b>\$3,884,804.00</b>	<b>\$30,330.40</b>
<b>Percent of Total</b>	<b>100.00%</b>	<b>0.70%</b>	<b>100.00%</b>	<b>0.80%</b>

## TONTO NATIONAL FOREST

Table A. Employment by Resource (Average Annual Part- and Full-time Jobs):

<i>Tonto National Forest</i>	<i>Total Number of Jobs Contributed</i>		
Resource	Total Current Contribution	Local	Nonlocal
Recreation	2,085	1,635	450
Wildlife and Fish	623	488	135
Grazing	57		
Timber	59		
Payments to States/Counties	149		
Forest Service Expenditures	664		
Total Forest Management	3,636		

Table B. Labor Income by Resource (Wages, Benefits, and Sole Proprietors' Income)

<i>Tonto National Forest</i>	<i>Thousands of 2005 dollars (annual)</i>		
Resource	Total Current Contribution	Local	Nonlocal
Recreation	\$66,608.80	\$52,823.10	\$13,785.70
Wildlife and Fish	\$19,896.10	\$15,778.30	\$4,117.80
Grazing	\$1,005.90		
Timber	\$1,253.00		
Payments to States/Counties	\$5,290.50		
Forest Service Expenditures	\$37,762.40		
Total Forest Management	\$131,816.60		

Table C. Employment by Major Industry (Average Annual Part- and Full-time Jobs)

<i>TONTO National Forest</i>	<i>Direct and Indirect Jobs Contributed</i>
Industry	Current
Agriculture	125
Mining	34
Utilities	6
Construction	37
Manufacturing	110
Wholesale Trade	140
Transportation & Warehousing	102
Retail Trade	508
Information	30
Finance & Insurance	70
Real Estate & Rental & Leasing	60
Prof, Scientific, & Tech Services	126
Mngt of Companies	19
Admin, Waste Mngt & Rem Serv	73
Educational Services	22
Health Care & Social Assistance	159
Arts, Entertainment, and Rec	138
Accommodation & Food Services	950
Other Services	144
Government	784
Total Forest Management	3,636

Table D. Labor Income by Major Industry (Wages, Benefits, and Sole Proprietors' Income)

<i>Tonto National Forest</i>	<i>Thousands of 2005 dollars</i>
<b>Industry</b>	<b>Direct and Indirect Labor Income Contribution</b>
<i>Agriculture</i>	\$2,377.40
<i>Mining</i>	\$789.90
<i>Utilities</i>	\$547.00
<i>Construction</i>	\$1,774.50
<i>Manufacturing</i>	\$4,397.30
<i>Wholesale Trade</i>	\$8,509.80
<i>Transportation &amp; Warehousing</i>	\$4,834.20
<i>Retail Trade</i>	\$14,192.90
<i>Information</i>	\$1,409.70
<i>Finance &amp; Insurance</i>	\$3,348.30
<i>Real Estate &amp; Rental &amp; Leasing</i>	\$1,856.40
<i>Prof, Scientific, &amp; Tech Services</i>	\$5,681.50
<i>Mngt of Companies</i>	\$1,254.70
<i>Admin, Waste Mngt &amp; Rem Serv</i>	\$2,073.00
<i>Educational Services</i>	\$596.60
<i>Health Care &amp; Social Assistance</i>	\$6,821.50
<i>Arts, Entertainment, and Rec</i>	\$3,339.90
<i>Accommodation &amp; Food Services</i>	\$17,150.30
<i>Other Services</i>	\$3,321.60
<i>Government</i>	\$47,540.10
<b>Total Forest Management</b>	<b>\$131,816.60</b>

Table E. Current Role of Forest Service-Related Contributions  
to the Area Economy

<i>Tonto National Forest</i>	<i>Employment (jobs)</i>		<i>Labor Income (\$ Thousands 2005)</i>	
<b>Industry</b>	Area Totals	FS-Related	Area Totals	FS-Related
<b>Agriculture</b>	13,669	125	\$411,451.80	\$2,377.40
<b>Mining</b>	6,035	34	\$241,216.00	\$789.90
<b>Utilities</b>	7,650	6	\$742,691.00	\$547.00
<b>Construction</b>	185,891	37	\$8,532,355.80	\$1,774.50
<b>Manufacturing</b>	144,986	110	\$9,094,896.30	\$4,397.30
<b>Wholesale Trade</b>	85,562	140	\$5,016,265.60	\$8,509.80
<b>Transportation &amp; Warehousing</b>	73,250	102	\$3,336,145.20	\$4,834.20
<b>Retail Trade</b>	237,426	508	\$6,730,989.20	\$14,192.90
<b>Information</b>	43,238	30	\$2,269,453.70	\$1,409.70
<b>Finance &amp; Insurance</b>	129,919	70	\$6,129,469.10	\$3,348.30
<b>Real Estate &amp; Rental &amp; Leasing</b>	107,634	60	\$3,210,364.90	\$1,856.40
<b>Prof, Scientific, &amp; Tech Services</b>	137,511	126	\$7,225,625.10	\$5,681.50
<b>Mngt of Companies</b>	18,576	19	\$1,176,374.30	\$1,254.70
<b>Admin, Waste Mngt &amp; Rem Serv</b>	184,841	73	\$4,868,322.60	\$2,073.00
<b>Educational Services</b>	24,967	22	\$665,894.50	\$596.60
<b>Health Care &amp; Social Assistance</b>	162,199	159	\$6,863,140.00	\$6,821.50
<b>Arts, Entertainment, and Rec</b>	41,820	138	\$1,082,649.20	\$3,339.90
<b>Accommodation &amp; Food Services</b>	154,707	950	\$2,682,314.20	\$17,150.30
<b>Other Services</b>	141,999	144	\$3,214,230.00	\$3,321.60
<b>Government</b>	236,683	784	\$10,257,433.60	\$47,540.10
<b>Total</b>	2,138,562	3,636	\$83,751,281.90	\$131,816.60
<b>Percent of Total</b>	100.00%	0.20%	100.00%	0.20%