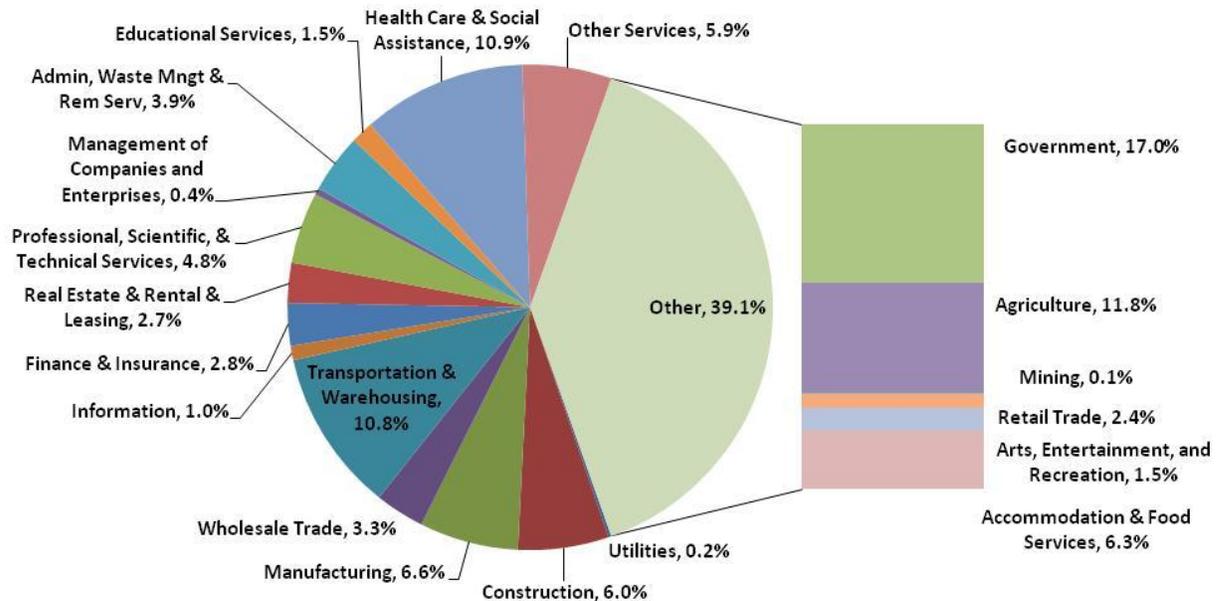


## Summary of BLM’s Economic Contributions within the Spokane Field Office

In order to accurately portray the relationship of current BLM management and the community, the economic scope of analysis must be defined. The economic effects from changes on BLM lands feasibly extend beyond the immediate vicinity of their location. A multidimensional approach is thus appropriate examining both the role of BLM lands at a broad planning area scale and a smaller county level scale where data is available.

### Economic Specialization and Employment

Employment within the planning area is distributed amongst industry sectors and displayed below in Figure 1 (IMPLAN 2008). The Interior Columbia Basin Ecosystem Management Project identified communities that were specialized with respect to employment. Their method used the ratio of the percent employment in each industry in the region of interest (counties within the planning area) to an average percent of employment in that industry for a larger area (the reference region; Washington State). For a given industry, when the percent employment in the analysis region is greater than in the reference region, local employment specialization exists in that industry (USDA Forest Service, 1998). Using this criterion applied with 2008 data, counties within the planning area can be characterized as specialized with respect to Agriculture, Health Care & Social Assistance and the Government sectors (shares of total employment in these sectors are respectively, 8.5, 1.7 and 0.9 percent greater than shares in the state) (IMPLAN 2008). Of particular interest are counties where specialization occurs within industries related to BLM management.



**Figure 1. Planning area industry employment distribution 2006 (Source: IMPLAN 2008)**

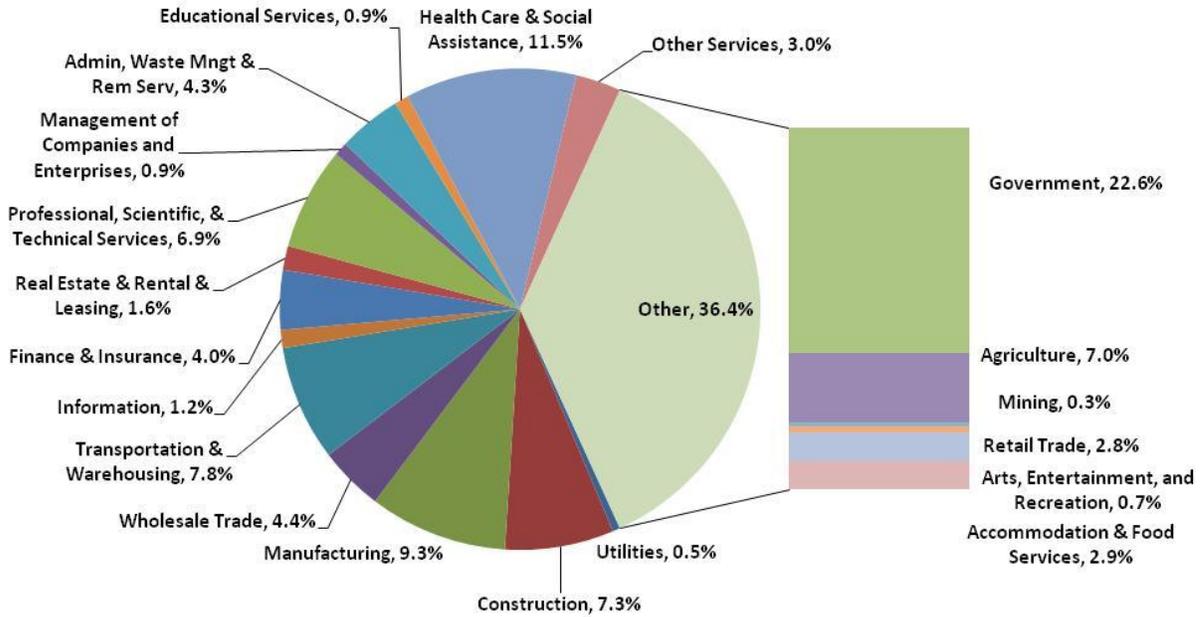
### **Components of Personal Income**

Further examining trends within personal income provides insight to the area economy and its connection to the lands administered by the BLM. There are three major sources of personal income: (1) labor earnings or income from the workplace, (2) investment income, or income received by individuals in the form of rent, dividends, or interest earnings, and (3) transfer payment income or income received as Social Security, retirement and disability income or Medicare and Medicaid payments.

Labor earnings were the largest source of income in the planning area accounting for 64 percent of all income in 2006. The Government and Manufacturing sectors were the largest components of labor income in 2008 for the planning area

(

Figure 2 below). It should be noted that the contributions from the BLM represent only a portion of the economic activity reflected in industry sectors seen in Figure 2.



**Figure 2. Planning area labor income distribution (IMPLAN 2008)**

While labor earning’s share of TPI has decreased from 1970 to 2006 (from 73 to 64 percent), the share of non-labor income has risen (from 27 to 36 percent). As a share of TPI, investment income and transfer payments rose from 15 to 16 and 12 to 20 percent, respectively, over this 37-year time period. The increase in transfer payments are not entirely due to increases in welfare or unemployment related payments. Data shows the share of transfer payments from unemployment payments decreased from 9 to 2 percent and the share from income maintenance benefit payments, or “welfare” decreased from 15 to 10 percent. In 2006 the largest component of transfer payments were the age related payments (classified as Old Age, Survivors, and Disability Insurance and Medicare Benefits) accounting for 52 percent of total transfer payments (US Department of Commerce 2006).

These patterns reflect the importance of the aging population noted above, who are more likely to have investment earnings than younger adults. As the population of the area continues to age, the share of income from these non-labor sources should continue to rise as long as residents continue to stay in the area after retirement or new retirees move in. Rural county population change, the development of rural recreation and retirement-destination areas are all related to natural amenities (Knapp and Graves 1989, Clark and Hunter 1992; Treyz et al. 1993, Mueser and Graves 1995, McGranahan 1999, Lewis et al. 2002). Many of the natural amenities in the area are managed by the BLM and thus, indirectly contribute to area labor and non-labor income.

### ***Contributions to the Area from BLM Management***

BLM administered lands in the planning area contributes to the livelihoods of area residents through subsistence uses as well as through market-based economic production

and income generation. Public lands provide products of value to households at no or low cost (permit fees) such as fuelwood, wood posts, and livestock grazing. Additional products with subsistence value may include fish, game, plants, berries, and seeds. Use of these products is often part of traditions that sustain local culture.

Contributions to the area economy through market based production can be measured using the IMPLAN input-output model. Input-output models describe commodity flows from producers to intermediate and final consumers. The total industry purchases are equal to the value of the commodities produced. Industries producing goods and services for final demand purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services continues until leakages from the region stop the cycle. The resulting sets of multipliers describe the change of output for regional industries caused by a change in final demand in an industry. The IMPLAN database describes the economy in 440 sectors using federal data from 2008<sup>1</sup>. These sectors are further aggregated below to better identify areas relevant to BLM management activities.

Using the most recent data available, IMPLAN response coefficients<sup>2</sup> were applied to BLM outputs and expenditures to estimate the economic contribution of the BLM within the planning area. While the discussion above examines the current situation and historical context, this analysis examines the linkages and interdependencies among businesses, consumers, and the planning area resources on which some area economic activity depends. IMPLAN allows a more complete examination of these linkages.

IMPLAN not only examines the direct contributions from the planning area but also indirect and induced contributions. Indirect employment and labor income contributions occur when a sector purchases supplies and services from other industries in order to produce their product. Induced contributions are the employment and labor income generated as a result of spending new household income generated by direct and indirect employment. The employment estimated is defined as any part-time, seasonal, or full-time job. In the following tables direct, indirect and induced contributions are included in the estimated BLM contributions.

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<sup>1</sup> IMPLAN data is derived from a variety of sources included the Bureau of Economic Analysis, Regional Economic Information System, Bureau of Labor Statistics, U.S. Census, etc.

<sup>2</sup> Rates of change in employment and labor income as final demand changes.

**Table 1. Estimated annual employment and labor income contributions**

Resource Program	Jobs (Full and Part-time)	Labor Income (Thousands \$)
	Number	Number
Recreation <sup>3</sup>	64	\$2,126
Grazing	3	\$46
Timber	11	\$654
Minerals	9	\$499
Ecosystem Restoration	1	\$22
Payments to Counties	22	\$1,057
BLM Expenditures	153	\$7,162
<b>Total BLM Management<sup>4</sup></b>	<b>263</b>	<b>\$11,565</b>

(Source: IMPLAN 2008)

### Tourism and Recreation

BLM land within the planning area provides a variety of recreational opportunities. Field office staff estimate that there were 144,000 recreational visits to the planning area on an average annual basis between October 2005 and September 2009. On their way to the planning area, and once they arrive, these visitors spend money on goods and services they would spend elsewhere if these opportunities did not exist. In this manner the opportunities on BLM contribute to the local economy by attracting these visitors.

Analyses of expenditures reported by national forest visitors show the primary factor determining the amount spent by a visitor was the type of trip taken and not the specific activity or forest visited (Stynes and White 2005). Since expenditure information for the type of trip taken on BLM is not yet available, National Visitor Use Monitoring (NVUM) data from adjacent national forests will serve as a proxy. These six trip type segments are defined below;

- Visitors who reside greater than 30 miles from visited BLM:
  1. Non-local residents on day trips
  2. Non-local residents staying overnight on BLM
  3. Non-local residents staying overnight off BLM
- Visitors who live within 30 miles of the visited BLM:
  4. Local residents on day trips
  5. Local residents staying overnight on BLM
  6. Local residents staying overnight off BLM

<sup>3</sup> Expenditures by local residents for recreation on BLM do not introduce “new” money into the economy. If local residents could not recreate on BLM, they would likely find other forms of recreation in the area and continue to spend their recreation dollars in the local economy. Therefore, these portions of employment (and labor income below) are not necessarily dependent on the existence of the opportunities provided by BLM.

<sup>4</sup> Totals may not add due to rounding.

A seventh category of trip types was not included, non-primary visits, since we are only interested in visitors who's primary activities are on BLM lands. An average of the visitation proportions for a national forest closest to the planning area (Colville, Okanagun and Wenatchee National Forests - Stynes and White 2005 pg 23-25) was adjusted by BLM planning staff to fit BLM recreation use in the planning area. Generalizing from the NVUM data also indicates approximately 15percent of all visits to the BLM were wildlife related. The largest trip-type segment was non-wildlife related local day trips which numbered 49,700.

While providing recreation opportunities to local residents is an important contribution, the recreation expenditures of locals do not represent new money introduced into the economy. If BLM related opportunities were not present, residents would likely participate in other locally based activities and their money would still be spent in the local economy. After separating the contributions made from local residents, Recreation contributes 65 jobs and \$2.13 million in labor income to the planning area (Table 1).

### **Livestock production**

Within the planning area, agriculture plays an important economic and social role; area residents identify with the tradition, land-use and history (James Kent Associates 2010). The most recent US Department of Agriculture's Census of Agriculture (2007) reports Yakima and Grant counties were Washington's largest cattle producers containing 20 and 15 percent of the total state cattle inventory. Within the planning area there were 35,940 farms and ranches and of these, 4.7 percent (1,682 operators) were cattle producers with sales in 2007. While the number of total farms rose between 2002 and 2007 (from 32,885 to 35,940), the share of operations with cattle sales has remained stable over this period (USDA 2007).

On BLM land approximately 266 permittees operate in the planning area with the most in Okanagan (73), Douglas (43) and Lincoln (31) counties (2.8, 3.0 and 2.4 percent, respectively of total county operations) (USDA 2007). The established preference limit for AUMs in the planning area is currently 32,700 AUMs. This is the maximum number of AUMs that could be offered under ideal forage conditions. However authorized use of AUMs has ranged between 53 and 65 percent (in 2000 and 2006, respectively – see Table 2 below) of the preference limit in the last ten years due to factors such as drought, financial limitations on operators, market conditions and implementation of grazing practices to improve range conditions. Grazing on a majority of the planning area allotments starts in early spring and continues through the fall. Some allotments are grazed during the spring growing period and livestock are moved off the BLM lands to irrigated pasture or higher elevation ranges managed by other landowners or agencies.

Table 2 below, provides authorized use numbers between 2000 and 2009. Authorized use of AUMs has remained relatively stable, and has increased relative to use in the year 2000 (Table 2). The 2007 authorized use level provided approximately 0.6 percent of the forage required for the 782,000 cattle inventoried within the planning in the most recent agricultural census (DOI 2010 and USDA 2007).

**Table 1. Annual AUM authorizations in the Rio Puerco Field Office**

Year	Authorized	Preference	Authorized share of preference
2009	28,556	47,233	60%
2008	29,292	47,233	62%
2007	30,159	47,233	64%
2006	30,758	47,233	65%
2005	28,480	47,233	60%
2004	28,618	47,233	61%
2003	27,394	47,233	58%
2002	27,394	47,233	58%
2001	25,594	47,233	54%
2000	25,056	47,233	53%

(Source: BLM Rangeland Administration System 2010)

A thin profit margin often separates these livestock producers from negative net earnings. Often, employment outside the ranch augments livestock producer income. Federal grazing land is particularly valuable because of the low grazing fees charged for use of this land. Fees charged by BLM for grazing are calculated using the formula required under BLM grazing regulations found at 43 CFR 4130.81(a)(1) and are considerably less than those charged for private grazing land. In 2009 the statewide average AUM price for private land was \$11 (US Department of Agriculture 2008). The BLM formula yielded a fee of \$1.35 per AUM in 2009 which is down from \$1.56 in 2006. This federal land is the least expensive grazing land available, hence use and access is coveted by area ranchers even though additional costs are usually incurred to use these lands. It is estimated that in 2009 the benefit of low cost BLM AUMs used in the planning area was \$262,500 to area ranchers. The active use levels of grazing on BLM currently support approximately 3 jobs and \$46,000 in labor income on an average annual basis (Table 1). While these numbers appear small, it must be remembered that BLM allotments provide an important complement to ranching operations that also occur on national forest and privately leased land.

### Forest Products

Sectors such as Forestry & Logging, Agriculture & Forestry Services and Wood Products Manufacturing contributed approximately 3,300 jobs in the planning area in 2008 which made up less than one percent of total area employment. While relatively small, counties within the planning area are more dependent on these sources of employment and income.

BLM contributes only a portion of material used in the planning area. Between 2004 and 2009 BLM contributed an average of 1,400 thousand board feet (MBF) of sawtimber, 1,900 tons of softwood pulp and 20 cords of fuelwood on an annual basis. Some of this volume was made available through stewardship treatments. While BLM is a small contributor of forest products to the area, it provides an important resource when other sources are scarce. Timber from BLM in the planning area provides approximately 11 jobs and \$654,000 in labor income on an average annual basis. Additional small

diameter material has been made available for chip mills in the area and for electricity generation.

## **Mining**

From 1977 to 2000, estimated mining employment as a share of total employment never exceeded 0.5 percent in the planning area (US Department of Commerce 2000). Given the small number of firms in the area within the industry, data are not available from the US Department of Commerce however, similar data depicted in Figures 4 and 6 show that mining made up 0.1 percent of impact area employment and 0.3 percent of labor income in 2006 (IMPLAN 2008).

Mostly saleable mineral materials, such as sand and gravel, crushed stone and dimensional stone are removed from BLM in the planning area. Speculative oil and gas leasing also in the planning area however, no development has been proposed or is anticipated. The minerals program on BLM public lands in the planning area supports approximately 9 jobs and \$500,000 in labor income on an average annual basis (Table 1). A portion of the revenues received by BLM from the sale of materials and the lease of land is distributed back to counties in the planning the area. The contributions to area employment and income from these payments are discussed below under revenue sharing.

## **Externally Funded Ecosystem Restoration**

A portion of the management activities occurring on BLM in the area are performed with funds not accounted for under general BLM expenditures discussed below. These funds often come from external sources such as stewardship grants. Examples within the planning area include the purchase and installation of traffic counters for recreation monitoring and trail work funded by “Take It Outside” for Youth corps engagement trail work. These externally funded ecosystem restoration projects support less than one job and \$4,000 in labor income in the planning area economy on an average annual basis (Table 1).

## **Revenue Sharing**

In 1976, Congress passed legislation to provide funding to counties through Payments in Lieu of Taxes (PILT) in order to compensate for tax revenues not received from Federal lands. These taxes would typically fund various services that are provided by counties (road maintenance, emergency services, and law enforcement). The PILT payments are determined using a formula which accounts for the county acreage of federal land, county population and the previous year’s revenue sharing from resource uses on federal land (timber, range, mining etc.). In November of 2008 additional payments were authorized by the Emergency Economic Stabilization Act of 2008 (Public Law 110-343). The law authorized counties to receive their full entitlement level payment from 2008 through 2012.

In addition to PILT, counties receive a share of range revenues under the 1934 Taylor Grazing Act. Together, contributions to counties from PILT payments and range revenues provide 13 jobs and \$635,000 in labor income on an average annual basis

within the planning area. Receipts from mineral material removal and revenues from leased land are also shared with counties under the 1920 Mineral Lands Leasing Act and the 1902 Reclamation Act. These payments support approximately 13 jobs and \$635,000 in labor income on an average annual basis (Table 1).

## BLM Expenditures and Employment

BLM management in the planning area provides a direct contribution to the area economy by employing people who reside in the area and by spending dollars on project related goods and services throughout the planning area (Table 2 below). In addition to Full time employees (FTE), seasonal staff work and live in the area (other than permanent – OTP). While FTE's have remained relatively stable, total expenditures and OTP's have decreased recently.

**Table 2. Field Office expenditures and employment**

	<b>Total Expenditures</b>	<b>FTE's</b>	<b>OTP's</b>
<b>2004</b>	\$7,044,790	48	59
<b>2005</b>	\$7,895,619	50	43
<b>2006</b>	\$7,621,368	47	43
<b>2007</b>	\$7,513,401	46	34
<b>2008</b>	\$6,846,632	47	33

(Source: Field Office Staff, 2010)

Project related expenditures are attributable to project work for all BLM program areas listed in Table 1. The contributions from the specific resource programs listed in each respective row of Table 1 do not also include these BLM expenditures. Thus, these contributions accrue to the area in addition to other program specific contributions. On an average annual basis, planning area expenditures and employment support 153 jobs and \$7.16 million in labor income (Table 1).

## Renewable Energy Development

Wind generation is becoming a larger part of the Washington landscape and economy. The landscape has always been subject to strong winds which are now being harnessed by wind farms. Local businesses and counties are benefiting from the influx of resources and tax revenue from these projects. However, it remains to be seen whether BLM land can contribute to the planning area economy and community well-being through provision of energy leases.

Small Community/Cooperative Projects sell power through Power Purchase Agreements with regulated utilities. These projects are attractive because they can become community revenue generators, involve schools and local interests, and help supplement future power growth. Large Commercial Projects are sited in areas of strong winds, transmission access, and market demand. As suitable windy land becomes more saturated with development, the availability of leases on federal land may play a larger role in the industry.

Installed wind power capacity in Washington State has increased from 180 megawatts (MW) of power in 2001 to 1849 MWs as of December 31<sup>st</sup> 2009 (US DOE 2010). It is ranked 5<sup>th</sup> in the nation in installed wind power capacity and additional facilities are under construction off BLM in the planning area (AWEA 2010). Currently no BLM land in the planning area is being leased for alternative energy. Wind monitoring on BLM is currently being conducted in the Horse heaven Hills area however, if an application for developed is received it won't be for 2 to 3 years (personal communication with Field Office Staff). If wind energy development were to occur on BLM in the planning area, employment and labor contributions would result. Per 1.5 MW turbine 10 Full time equivalent (FTE) jobs and \$501,000 in labor income would result during construction and less than one FTE and \$16,00 labor income would be provided during normal operation on an average annual basis (DOE 2010b).

Biomass from BLM in the planning area has been utilized for electricity generation in the past and projects are planned in the future. About 10,000 tons of biomass will be removed from two projects: Lambert Creek project is a one year project and the Huckleberry Mountains project is a 6-year project. The biomass from both projects will go to Avista's CoGeneration plant in Kettle Falls (personal communication with Field Office Staff).

### ***Spokane Field Office Contributions by Industry***

Table 7 shows the estimated employment and labor income generated by activities on BLM within the planning area. The planning area related employment and labor income contributions listed here exclude those made from local resident recreation. In total, management activities of the planning area account for 0.05 percent of jobs and 0.05 percent labor income in the planning area (Table 3).

The two largest employment and labor income contributions would occur in the Government and Accommodation & Food Services sectors. The industry sector with the highest level of dependence on BLM planning area contributions is the Mining sector relying on BLM for less than half of one percent of employment and income. Employment and income generated by activities on BLM account for less than a fifth of a percent of planning area totals in all other industry sectors (Table 3).

**Table 3. Current Role of Field Office contributions in the planning area economy**

Industry	Employment (jobs)			Labor Income (Thousands of 2009 Dollars)		
	Area Totals	BLM Related	% of Total	Area Totals	BLM Related	% of Total
<b>Agriculture</b>	92,784	5	0.01%	\$2,319,276	\$111	0.00%
<b>Mining</b>	1,108	5	0.48%	\$105,454	\$336	0.32%
<b>Utilities</b>	1,514	0	0.02%	\$166,292	\$32	0.02%
<b>Construction</b>	47,559	3	0.01%	\$2,420,874	\$198	0.01%
<b>Manufacturing</b>	51,953	8	0.02%	\$3,077,405	\$516	0.02%

<b>Wholesale Trade</b>	25,905	7	0.03%	\$1,440,310	\$396	0.03%
<b>Transportation &amp; Warehousing</b>	85,113	4	0.00%	\$2,564,543	\$197	0.01%
<b>Retail Trade</b>	18,666	23	0.12%	\$941,416	\$680	0.07%
<b>Information</b>	7,619	2	0.03%	\$400,932	\$102	0.03%
<b>Finance &amp; Insurance</b>	22,249	4	0.02%	\$1,325,463	\$257	0.02%
<b>Real Estate &amp; Rental &amp; Leasing</b>	21,002	5	0.02%	\$532,721	\$117	0.02%
<b>Prof. Scientific, &amp; Tech. Services</b>	37,473	10	0.03%	\$2,284,692	\$455	0.02%
<b>Mgmt. of Companies</b>	3,431	1	0.02%	\$299,666	\$53	0.02%
<b>Admin., Waste Mgmt. &amp; Rem.</b>	30,909	6	0.02%	\$1,416,787	\$177	0.01%
<b>Educational Services</b>	11,720	3	0.02%	\$308,584	\$71	0.02%
<b>Health Care &amp; Social Assistance</b>	86,132	15	0.02%	\$3,810,708	\$697	0.02%
<b>Arts, Entertainment, and Rec.</b>	11,946	5	0.04%	\$221,569	\$97	0.04%
<b>Accommodation &amp; Food Services</b>	49,746	35	0.07%	\$956,592	\$759	0.08%
<b>Other Services</b>	46,727	9	0.02%	\$1,005,936	\$220	0.02%
<b>Government</b>	134,121	113	0.08%	\$7,485,747	\$6,096	0.08%
<b>Total</b>	<b>787,679</b>	<b>263</b>	<b>0.03%</b>	<b>\$33,084,967</b>	<b>\$11,565</b>	<b>0.03%</b>

(Source: IMPLAN 2008)

While data was not available to examine contributions by county or community, the labor income and employment generated from activities on BLM in the planning area may be more important to smaller communities within the planning area. For example, specialization in the Government, Health Care & Social Services and Agriculture sectors was noted above. Contributions to these sectors make up 43, 6 and 2 percent of the total contribution from BLM and are likely higher at smaller scales within the planning area. Thus individual counties may be more susceptible to changes within the planning area given their specialization in sectors connected to BLM.

### ***Non-market Economic Value***

The value of resource goods traded in a market can be obtained from information on the quantity sold and market price however; markets do not exist for some resources, such as recreational opportunities and environmental services. Measuring their value is important, since without estimates, these resources may be implicitly undervalued and decisions regarding their use may not accurately reflect their true value to society. Because these recreational and environmental values are not traded in markets, they can be characterized as non-market values.

Non-market values can be broken down into two categories; use and non-use values. The use-value of a non-market good is the value to society from the direct use of the asset; within the planning area this occurs through activities such as recreational fishing, hunting and bird watching. The use of non-market goods often requires consumption of associated market goods; such as lodging, gas, and fishing equipment.

Non-use values of a non-market good reflect the value of an asset beyond any use. These can be described as existence, option and bequest values. Existence values are the amount society is willing to pay to guarantee that an asset simply exists. An existence value of BLM lands within the planning area might be the value of knowing that undisturbed areas of cultural importance to pueblos exist on BLM. Other non-use values are thought to originate in society's willingness to pay to preserve the option for future use; these are

referred to as option values and bequest values. Option values exist for something that has not yet been discovered; such as the future value of a plant as medicine. In the planning area bequest and option values might exist for numerous plant species.

Non-market use and non-use values can be distinguished by the methods used to estimate them. Use values are often estimated using revealed preference methods or stated preference methods while non-use values can only be estimated using hypothetical methods. While use and non-use values exist for the planning area, evaluation is not always feasible during the planning process. However this does not preclude their consideration in the planning process.

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