INTRODUCTION

The economic consequences of managing the San Juan Public Lands stretch across Colorado, New Mexico, Arizona, and Utah. A 5-county area in Colorado – Archuleta, Dolores, La Plata, Montezuma, and San Juan Counties – is recognized as the most affected (impacted) by the management of public lands, and will serve as the focus of the economic analysis.

Comprehensive economic data are generally unavailable at the community-level. However, interpretations of larger-scale analyses can sometimes be made, and can offer insights into particular communities. These are presented, where possible.

LEGAL AND ADMINISTRATIVE FRAMEWORK

LAWS

- ***The National Environmental Policy Act (NEPA)***: This act requires that consequences to the human environment be analyzed and disclosed. The extent to which these environmental factors are analyzed and discussed is related to the nature of public comments received during the public involvement process, from scoping through preparation of the DEIS.
- ***The National Forest Management Act (NFMA)***: This act requires examination of local economic impacts as well as economic cost-efficiency considerations when preparing or revising land management plans.

AFFECTED ENVIRONMENT

Employment and Income

Current distribution of employment by industry, trends in employment, and average earnings per job are important measures of an area's economic health. Employment is reported by the U.S. Bureau of Economic Analysis and by the Colorado Department of Local Affairs on an "annual monthly average" basis. (This means that 12 monthly employment estimates are averaged for the given year, 2004, in this case.) For sectors that are highly seasonal (with high employment during several months and low employment during the remainder of the year), the estimates may seem low; they are, however, correct.

The following table shows that service industries are the leading employer in the San Juan area. Trade, accommodations, food service, and recreation-based firms provide over one-quarter of all jobs. Professional, administrative, and personal service firms provide just under one-quarter of total jobs. Construction, finance, insurance, and real estate account for another 17%. The smallest sectors are mining, transportation, and manufacturing.

Table 3.25.1 - Employment by Major Industry, 2004

INDUSTRY	TOTAL JOBS
Agriculture and Natural Resources	1,971
Mining	687
Construction and Utilities	5,907
Manufacturing	1,376
Transportation and Warehousing	1,274
Wholesale and Retail Trade	6,622
Finance, Insurance, and Real Estate	3,128
Professional and Administrative Services	4,270
Education, Health, and Social Services	4,838
Arts, Entertainment, and Recreation	1,413
Accommodations and Food Service	5,201
Information and Other Services	3,668
Government	8,991
Total	49,345

Source: Colorado Dept of Local Affairs, State Demography Office

Table 3.25.2 shows labor income for the area. Labor income includes all wages and salaries, plus benefits, for employees as well as for the self-employed. This table follows the same pattern shown above for employment, with some notable exceptions.

Table 3.25.2 - Labor Earnings by Major Industry, 2004

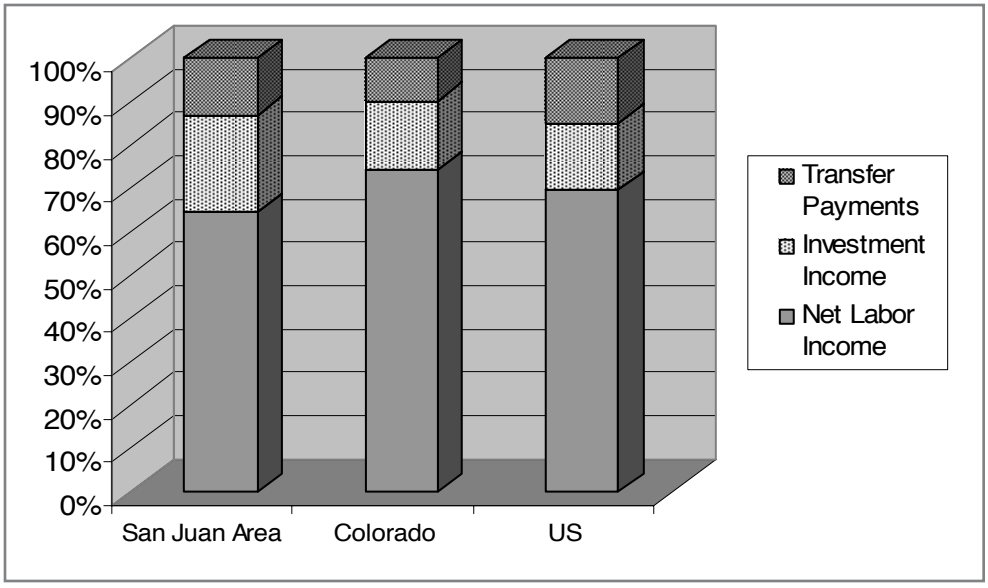
INDUSTRY	$1,000,000	$ per job
Agriculture and Natural Resources	21.0	10,662
Mining	60.1	87,471
Construction and Utilities	261.5	44,273
Manufacturing	45.1	32,803
Transportation and Warehousing	54.0	42,408
Wholesale and Retail Trade	166.2	25,104
Finance, Insurance, and Real Estate	131.1	41,922
Professional and Administrative Services	154.0	36,061
Education, Health, and Social Services	180.7	37,359
Arts, Entertainment, and Recreation	29.5	20,879
Accommodations and Food Service	79.8	15,338
Information and Other Services	90.4	24,647
Government	439.9	48,924
Total	1,713.4	34,723

Source: IMPLAN, as benchmarked with Colorado DOLA, SDO data.

Another important aspect of a county's economy is the sources of personal income for workers and residents. Personal income, as shown in Figures 3.25.1 and 3.25.2, is composed of three parts: 1) labor earnings that represent wages, salaries, and proprietor (i.e. self-employed) income; 2) investment income that represents property income from dividends, interest, and rent; and 3) transfer payments, which are primarily government payments to individuals (including Social Security, Medicare, and Medicaid).

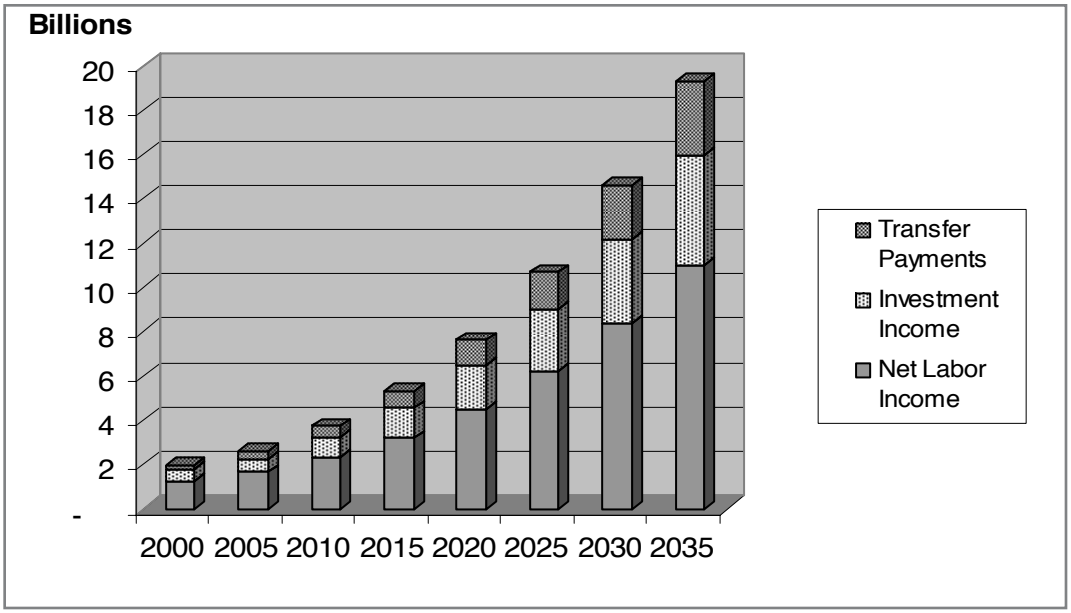
Labor earnings are considered to be "earned income" Transfer payments and investment income are considered to be "non-earned income." As an established destination for retirees and those in their mid- or late-career stage, non-earned income is becoming increasingly important in southwestern Colorado. The San Juan area exceeds the State, as well as the national, share of non-earned income. Counties with a high percentage of non-earned sources of income would be less vulnerable to local economic shocks, but may be more vulnerable to national economic shocks. Those counties with a higher percentage of dividends, interest, and rental income would have more exposure to fluctuations in the national economy. Conversely, because transfer payments largely consist of Social Security payments, counties with a high proportion of transfer payments would experience less variation (since transfer payments are more stable).

Figure 3.25.1 - Personal Income by Source by Region, 2005 (percent)



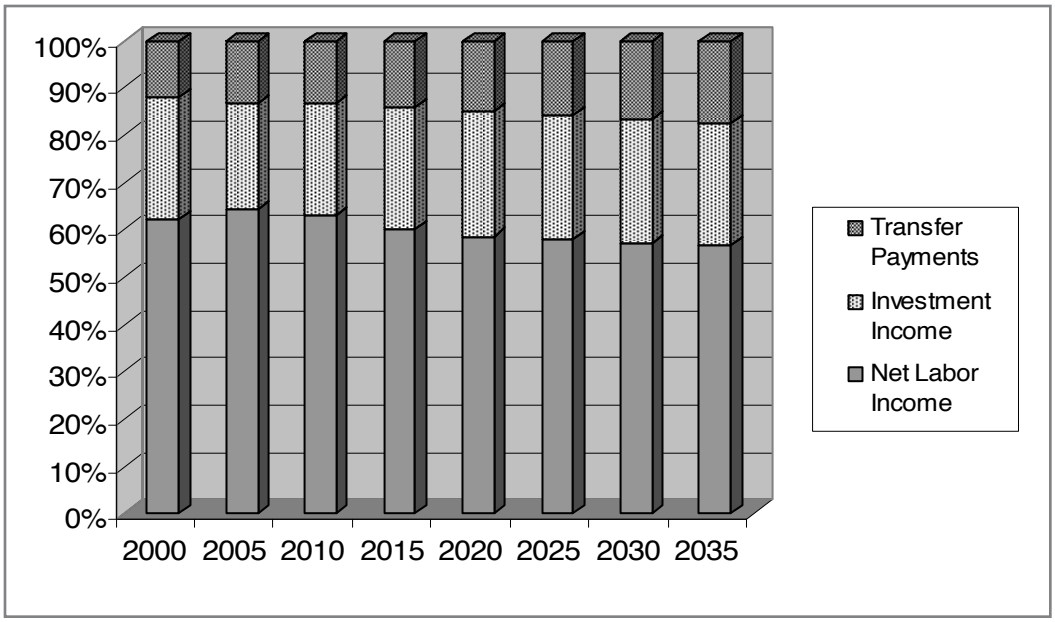
Source: US Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, 2005

Figure 3.25.2 - Personal Income Forecast by Source for San Juan Area, 2000-2035 (dollars)



Source: Colorado Department of Local Affairs, State Demography Office, 2007

Figure 3.25.3 - Personal Income Forecast by Source for San Juan Area, 2000-2035 (percent)



Source: Colorado Department of Local Affairs, State Demography Office, 2007

As a population ages, dividends, interest, and rent and transfer payments may be expected to increase as a percentage of total personal income. A relatively high level of investment income in southwestern Colorado is an indicator of an aging population. It also indicates a substantial retirement component within the economy.

MAJOR COMMUNITIES IN THE PLANNING AREA

Archuleta County

Pagosa Springs is the only incorporated town on the east side of the area, and is a service center for the surrounding area. Ample sources of developed water, as well as large areas of developable and desirable private land, have made the Pagosa Springs area a favorite spot for residential development. The tourism market is active throughout the year, with a range of recreation opportunities in the summertime, and with downhill skiing (at Wolf Creek Ski Area) and other snow-related activities in the winter.

La Plata County

Durango, located at the junction of U.S. 160 and U.S. 550, is the seat of La Plata County, and is the hub of the San Juan area. Long established as the professional services and retail center, and the tourism hotspot, of southwestern Colorado, Durango has a strong and diverse economy. With a ski resort and a long list of summertime, wintertime, and shoulder-season recreational opportunities, tourism remains the largest employer (and source of income). However, education (including Fort Lewis College) and government also play important roles. Amenity-driven migration and retirement bring non-labor income into residents' mailboxes, creating additional economic activity. As in most of the San Juan region, real estate development, sales, and financing are important sectors. In terms of employment opportunities, the oil and gas industry is relatively small; however the jobs that they do provide pay very well and are an important economic asset that often spurs local business investment (for example, a new carwash in Ignacio catering to gas-field vehicles).

The other towns in La Plata County (Bayfield and Ignacio) are, for the most part, economically tied to Durango. They are, however, increasingly developing their own economic momentum. Native American tribal investments have increasingly spurred economic activity.

Montezuma County

Cortez serves as a service-and-supply center for the Montezuma Valley and the west end of the SJPL. Continued efforts by community leaders to promote Mesa Verde National Park, as well as other attractions, and business investments in lodging, restaurants, and entertainment, make Cortez a major player in the regional tourist market. Native American tribal investments have also spurred economic activity. Although the real estate development is different in character and occurs at a slower pace, Montezuma County is experiencing a significant amount of activity in the real estate market.

Growth in the Town of Mancos, and in the Mancos Valley, is driven, in part, by its commuting proximity to both Durango and Cortez. The productive agricultural lands south of Highway 160 (adjacent to BLM, NPS, and Native American tribal lands) have remained primarily in agricultural use. Ownership, however, is beginning to move from traditional ranching families to affluent buyers who pursue ranching or horse-breeding/training as an amenity lifestyle. A major attraction in the northern part of the Mancos Valley is the area's proximity to the boundary of the San Juan National Forest.

Dolores Valley/Dolores: The narrowness of the Dolores River Valley (upriver and to the east of Dolores), its scenic appeal, and its location (along the Highway 145 corridor connecting Dolores to Telluride) has resulted in the escalation of land values in the Valley. The construction of McPhee Reservoir has limited the expansion of the Town of Dolores down-river and to the west.

Dolores County

The western, or Dove Creek, side of Dolores County was settled around dry-land farming (which has been supplemented by the availability of irrigation water from the Dolores Project). Historically, farmers and rural residents outside of Dove Creek had to haul water in for domestic use. Beginning in the 1990s, rural domestic water supplied by Montezuma Water Company was extended into rural Dolores County. This prompted increasing non-agricultural settlement, much of it in the form of 35-acre parcels. A primary appeal of western Dolores County is its wide-open vistas.

The eastern, or Rico/West Fork, side of Dolores County is characterized by a forested, mountainous landscape (which is the watershed into the west fork and main stem of the Dolores River). For the most part, limited private land is confined to the river valley floor (with the upland watershed predominately under USFS-administration). Property in the West Fork has become high value, with both seasonal and year-round homes being developed. Once mining phased out, Rico began to regain population largely as a home to commuters working in Telluride. In recent years, Rico has an increasing seasonal and retiree population.

San Juan County

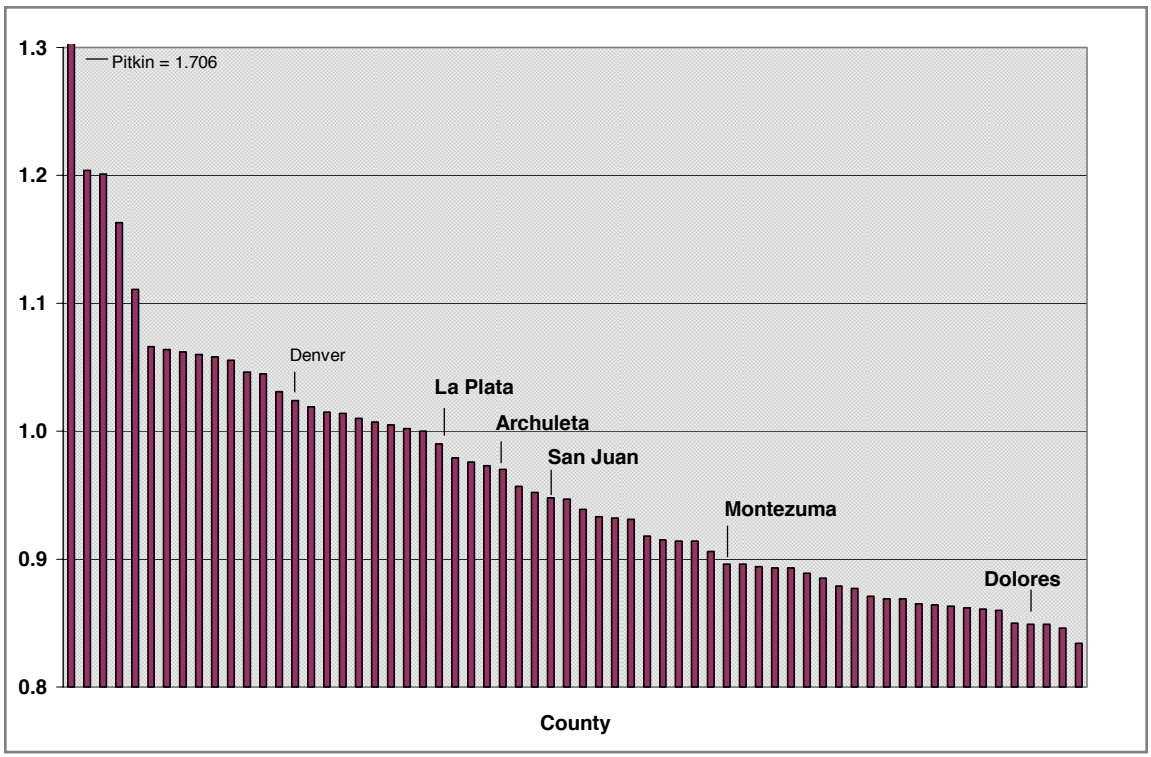
The intensity of high-altitude winters, coupled with the seasonal nature of tourism generated by the Durango to Silverton Narrow-Gauge Railroad and people driving the "Million Dollar Highway" has resulted in a significant number of seasonal residents. In recent years, Silverton has been discovered by people interested in seasonal homes (so they can more easily enjoy the pleasant summer weather and recreational opportunities). Property values have been rising steadily, based on these trends.

San Juan County now contains the newly developed Silverton Mountain Ski Area. There have been concerted attempts to make Silverton more of a winter destination, and smooth out some of the seasonal economic fluctuations. The ski area is the most significant move towards accomplishing this.

Cost of Living

The cost of living in the Rocky Mountain West can be somewhat higher than it is in parts of the country, especially the Midwest and the South. A recent study by Colorado State University indicates that the cost of living across Colorado, and in the San Juan area, varies greatly.

Figure 3.25.4 Cost of living index for Colorado Counties, 2001



Source: Cost of Living Differentials in Colorado: 2002. 2003. Garner, Elizabeth and Jerry Eckert. CSU Extension Service Paper XCM-211

Figure 3.25.4 shows where the San Juan counties place, with respect to other parts of the State. La Plata, Archuleta, and San Juan Counties are in the mid-range of Colorado counties, while Montezuma and Dolores Counties are among the most affordable. Housing costs are highly influential in the overall cost of living; therefore, the index is also a good indicator of real estate values.

Economic Dependency

Every economy has one or more "engines" that ultimately provide residents with jobs and income. In a real sense, area jobs and income depend upon the size and vitality of these engines.

The economic dependency of the planning area can be discerned by breaking down employment into three components: basic industries, indirect basic industries, and local resident service (sometimes called induced) industries. Basic industries are those that bring money in from outside of the area. This is done by exporting goods and services, or by selling them to non-residents. Tourism is an example of an export industry in the planning area. Other export industries include livestock and manufacturing. Indirect basic industries are those that support the basic industries. These commonly include local suppliers of goods and services to basic industries. Wholesale trade and trucking would be examples of indirect basic industries. The third component is local resident services. These industries provide local residents with services, including grocery stores and medical care.

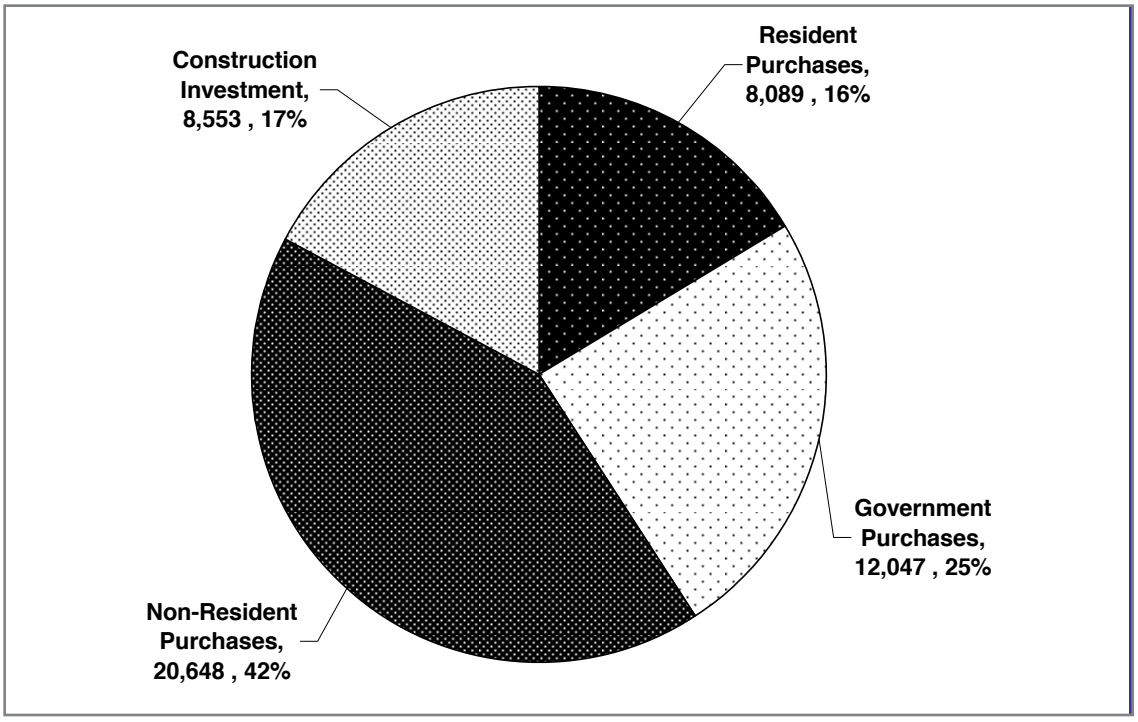
A model of the 5-county area was constructed in order to examine these inter-industry relationships. The model was benchmarked to local 2004 employment data provided by the Colorado Department of Local Affairs, State Demography Section.

By incorporating the concept of economic multipliers to basic industries, a picture of economic dependence emerges. The picture starts with employment that is generated by sales to four categories of customers: residents, non-residents, government, and construction investments. Earlier in this section, employment was displayed by industry. Here employment is displayed according to the customers that generate it. Each slice includes all of the secondary employment created by sales to that customer. A similar portrayal of labor income follows describing that for employment.

Sales to exports (non-residents) and to governments (local, State, and Federal) were mentioned above. Sales for the purpose of construction investments include homes, buildings, roads, and other infrastructure. These are separated out because they become a production factor in future economic activity. Second-home construction is a also a part of this category. The actual sale of second homes by real estate agents, and the purchase of goods and services by second-home owners once they occupy the property, are not part of construction. They are, however, captured within the non-resident slice. Employment generated by sales to residents is the remainder of total employment not otherwise captured in the three other categories.

Figures 3.25.6 and 3.25.7 portray the basic engines of the San Juan regional economy. Jobs generated by income earned in the area are fully captured by the original spending source, displayed in Figure 3.25.6. Exports (sales to non-residents) generate the largest share of jobs in each economy. Approximately 42% of all jobs are generated, in some way, by exports from the area. Although exports do not support all area jobs, non-residents are, by far, the most important customers. Sales to governments (at all levels) are the second largest customer of the area, generating approximately 25% of all jobs. Construction investments of all kinds generate approximately 17% of the total jobs in the area, indicating that the area is economically healthy and growing. Finally, sales to residents account for the final one-sixth of area jobs.

Figure 3.25.6 - Jobs Generated By Spending Source in the San Juan Area Economy, 2004

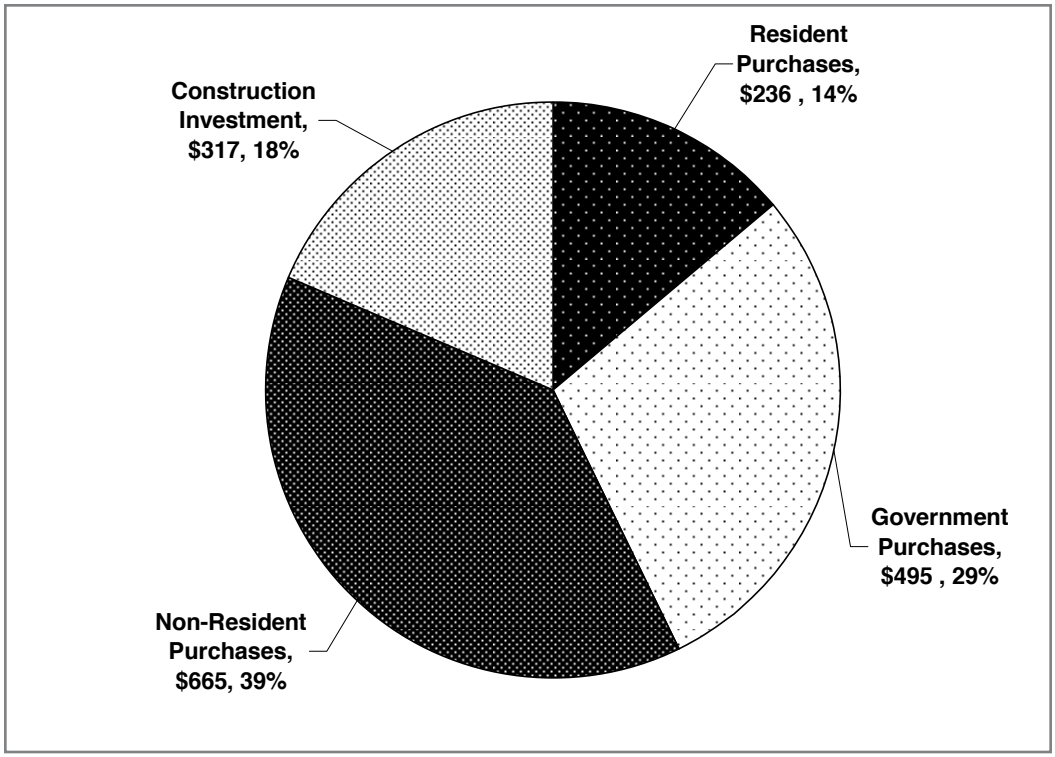


Source: Colorado State Demographers Office and USDA Forest Service

Figure 3.25.7 shows the regional economy using labor income, rather than employment. Labor income includes wages and salaries received by both employees and business owners. It does not include investment income of any kind, nor does it include government payments (such as Social Security). The pie chart is very similar to employment. However, a few small differences should be noted. Purchases by residents and non-residents generate somewhat smaller shares of area income than of area employment. Tourism is a significant export of the San Juan area. Tourism-related industries are characterized by lower incomes per job (which is reflected as smaller slices in the income pie chart). Resident purchases using non-labor income (whether it is Social Security or investment income) also favor sectors with lower incomes per job. Residents with a high level of investment income (including those often called "amenity migrants") often spend money on new homes. This expense is captured in the capital investment slice.

Income generated from sales to governments is somewhat larger than the comparable slice for employment (see Figure 3.25.7). Higher-than-average incomes for firms and governments doing business with various government agencies generally account for the larger share.

Figure 3.25.7 - Labor Income Generated by Spending Source in the San Juan Area Economy, 2004 ($million)

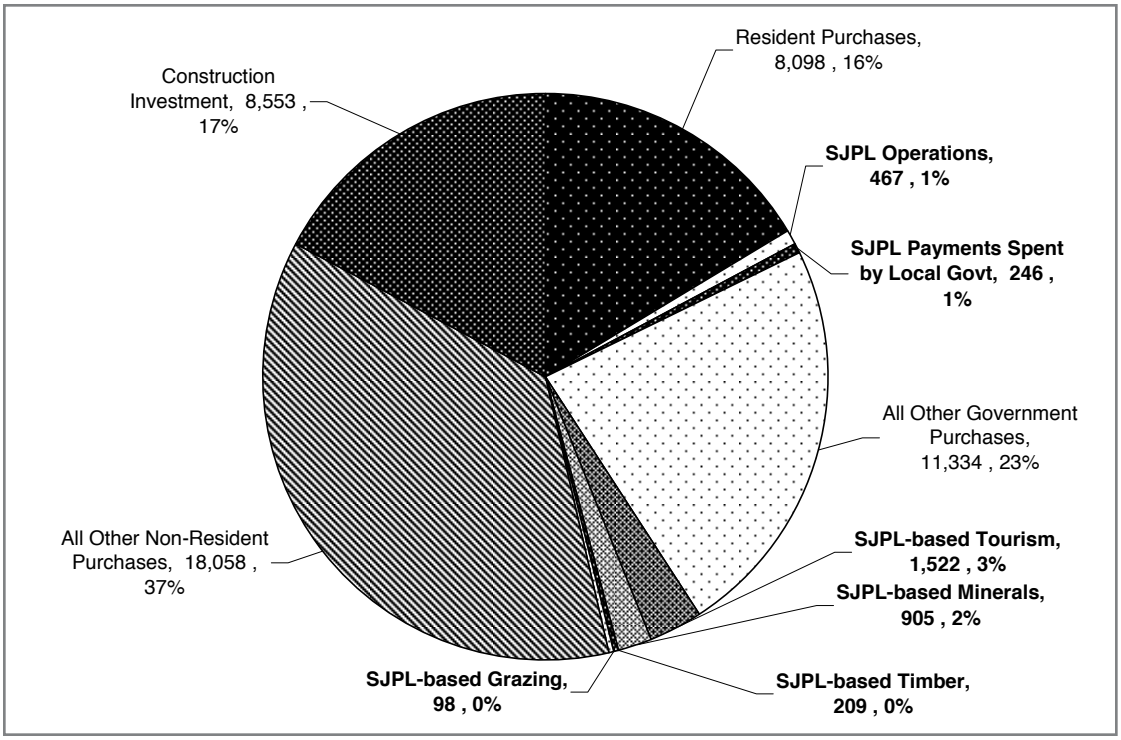


Source: Colorado State Demographers Office and USDA Forest Service

Figures 3.25.8 and 3.25.9 identify contributions of the SJPL to local area employment. Uses of the planning area (including tourism, livestock grazing, mineral extraction, and timber) are generally regarded as sales to non-residents. USFS/BLM offices are also government consumers, and bring new money into the area through local purchases and Federal employee salaries. The final piece of SJPL contributions is attributed to payments made by the Federal government to local governments (based upon Federal lands in the county). The payments are spent by local governments, increasing the magnitude of government purchases. These slices, individually and combined, indicate how dependent the local economy is on the management of the San Juan Public Lands.

Figure 3.25.8 shows that approximately 7% of all jobs in the area are supported by the use and management of the San Juan Public Lands. Tourism generated by the SJPL-related activities is the largest slice, providing over 1,500 jobs. Energy mineral extraction, including oil, natural gas, and CO2, provides the next largest portion of SJPL-related employment. Over 900 jobs are generated by energy industry activities.

Figure 3.25.8 Jobs Generated by Spending Source with SJPL Operations in the San Juan Area Economy, 2004



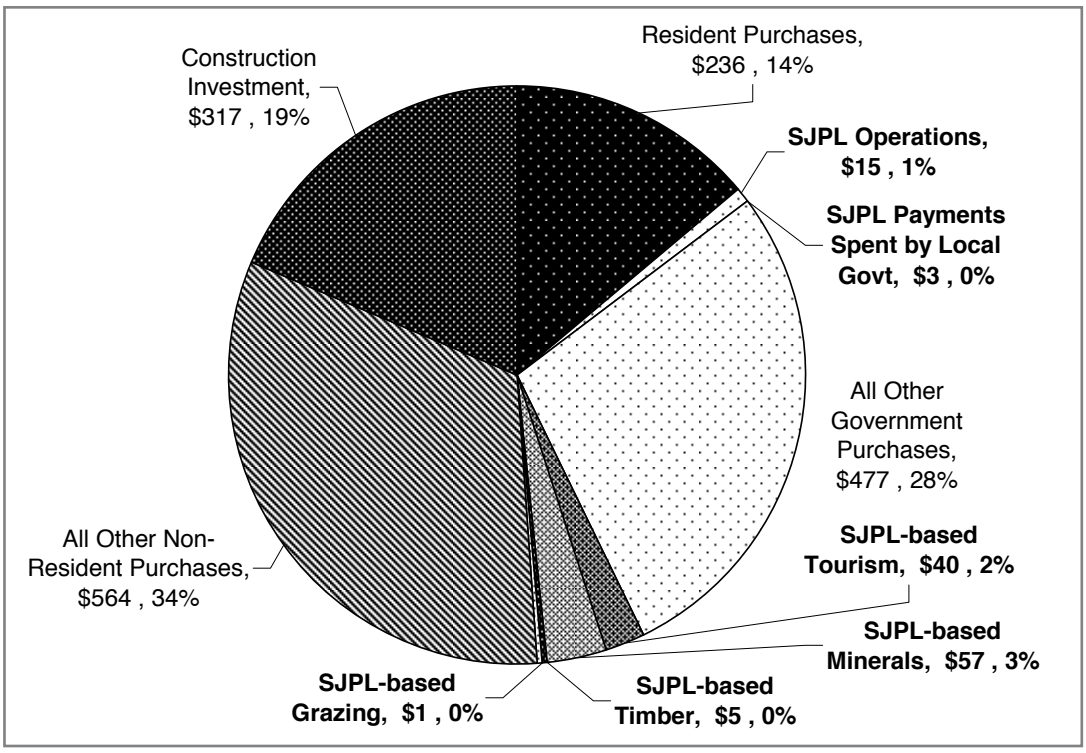
Source: Colorado State Demographers Office and USDA Forest Service

Commodity production of renewable resources is a smaller, but important piece of SJPL contributions. The wood products industry is often associated with national forests, and this area is an important center of the Colorado industry. Approximately 200 jobs can be credited to the San Juan Public Lands. Approximately one-quarter of this employment is associated with aspen processing at Western Excelsior and Wall Wood. Historically, agriculture is a significant part of this economy. The SJPL provides just fewer than 100 jobs through livestock grazing

Management operations and payments provide a greater economic boost to the area than do livestock grazing and timber harvesting combined. Over 700 jobs are generated through Federal employee spending, operation purchases, and local government spending of SJPL-based Federal payments.

Figure 3.25.9 provides a labor income perspective of SJPL contributions to the area. Total labor income attributable to public lands is approximately 7% of the area total, which is virtually identical to the employment share. Mineral extraction (which has higher paying jobs) is now the largest share, with tourism falling to second.

Figure 3.25.9 Labor Income Generated by Spending Source with SJPL Operations in the San Juan Area Economy, 2004 ($million)



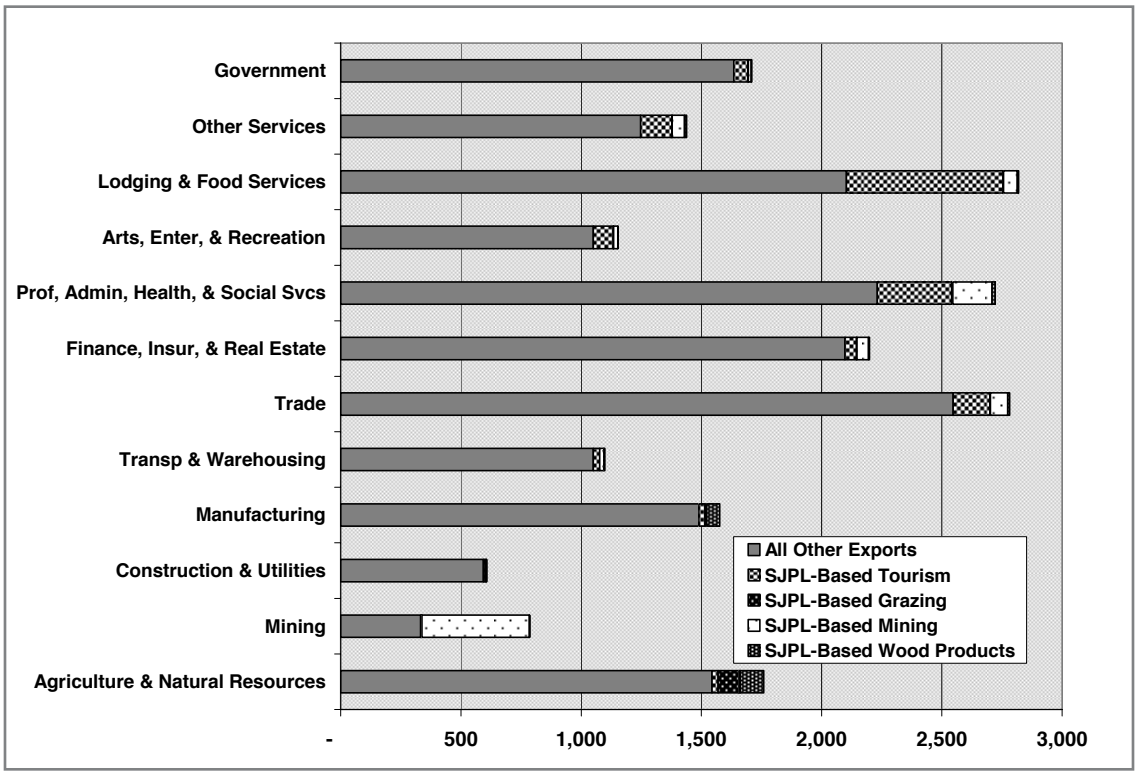
Source: Colorado State Demographers Office and USDA Forest Service

Figures 3.25.10 and 3.25.11 offer a more detailed perspective on where SJPL-based jobs can be found within the economy. These charts show the number of jobs in each major industry supported by exports (including sales to non-residents). Jobs supported by public lands operations and payments are not part of exports; therefore, they are not included in the figures below.

The region's economy is fundamentally tourism- and amenity-based. Industries most affected (impacted) by SJPL-related tourism are Lodging and Food Services, Trade (wholesale and retail), and Services.

Jobs generated by energy minerals are found in every major sector of the area, with large pieces in Mining and in Professional, Administrative, Health, and Social Services. Livestock grazing jobs are primarily located in the Agriculture sector, while wood products jobs are located in the Agriculture and Natural Resources, plus Manufacturing sectors. When combined, uses of the San Juan Public Lands provide nearly 13% of all export-based jobs.

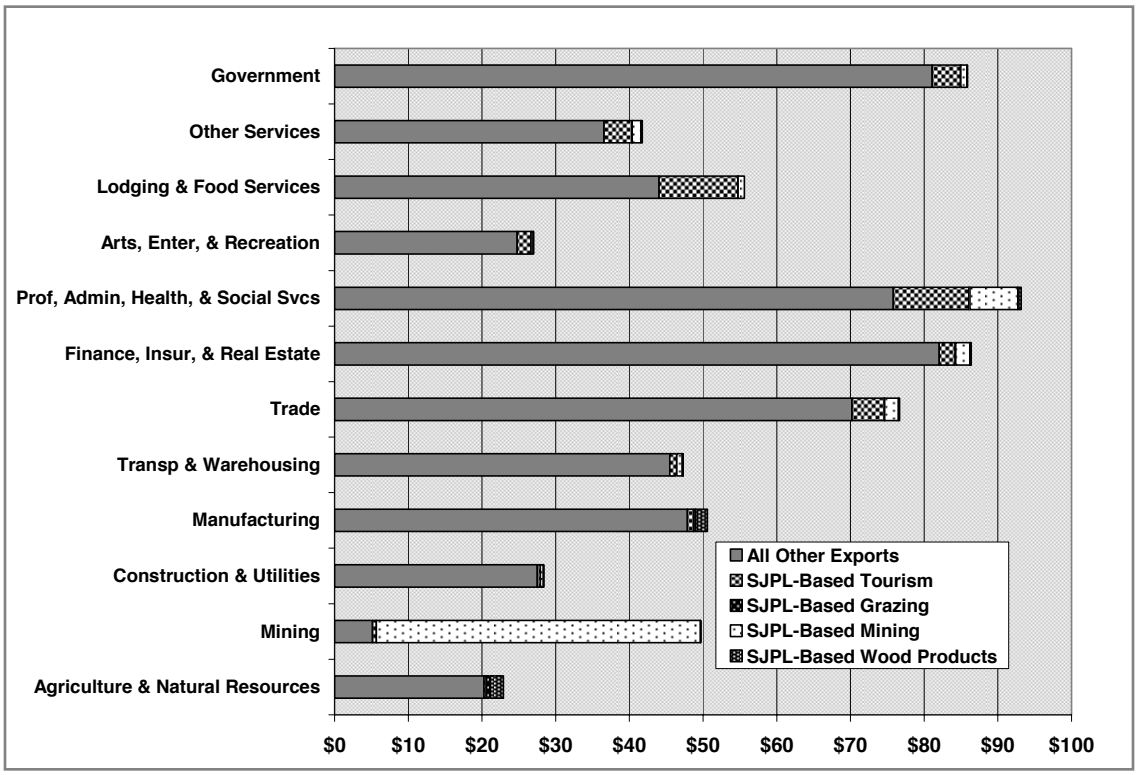
Figure 3.25.10 Jobs by Industry Supported by SJPL Operations and Other Export-Based Activities in the San Juan Area Economy, 2004



Source: Colorado State Demographers Office and USDA Forest Service

The labor income picture of SJPL contributions to exports is provided in Figure 3.25.11. The San Juan mining industry includes sand and gravel companies, a coal mine, and a variety of oil and gas firms. Oil and gas extraction generally has very low staffing requirements, but very high income generation. Other mining activities have much higher staffing requirements coupled with lower income. The dominant mining activity within the planning area is natural gas extraction. That is why SJPL-based mining income in Figure 2.11 is a much larger share of all exports than SJPL-based mining employment in Figure 2.10.

Figure 3.25.11 - Labor Income by Industry Supported by SJPL Operations and Other Export-Based Activities in the San Juan Area Economy, 2004 ($million)



Source: Colorado State Demographers Office and USDA Forest Service

ENVIRONMENTAL CONSEQUENCES

DIRECT AND INDIRECT IMPACTS

Direct and indirect impacts on planning area jobs and income are generated by changes in recreational uses of the public lands, mineral extraction, the use of timber and forage resources, and agency expenditures (including salaries, equipment, contracts). A change in recreation, mineral, and/or in timber production may mean a change in jobs and income to local communities. In addition, if production is decreased in one resource and increased in another, there is a shifting of jobs from one industry to another. To estimate changes in income and employment for each alternative, a computer model of the area economy was developed. The model was calibrated to employment estimates established by the Colorado State Demography Office. (See Appendix B for a more detailed discussion of the models and analysis methodology.)

Throughout the planning area, employment and labor income attributable to the planning area are estimated for the year 2015. The year 2015 was selected because it is an approximate mid-point of the next decade, and a year for which the Colorado State Demography Office provides detailed forecasts. In addition, 2015 would allow time for changes in program levels to materialize. The base year for all comparisons is 2004 (the latest year for which complete economic data is available). Jobs are defined as annual average jobs, thus, some may be part-time. Labor income includes all wages and salaries, plus benefits, paid by business proprietors to employees and to themselves.

Output estimates for the planning area include those for 2004, and projections for 2015. As shown above, there are 5 programs administered by the SJPLC that may impact local economies: recreation (including hunting, fishing, and other wildlife-based activities), grazing, timber, minerals (especially natural gas), and administrative expenses. Changes by alternative for each of these programs are described below.

Impacts Related to Recreation

The visitor expenditure profiles used in the analysis were obtained from two sources. Expenditures for non-local, non-skiing recreation were obtained from the National Visitor Use Monitoring (NVUM) system (which is a national survey of recreation visitors to national forests). Each national forest is classified as a high-, average-, or low-spending area (by comparing local spending with national averages). Spending on the San Juan National Forest best matched national averages. Downhill skiing expenditures were based on survey data from multiple studies obtained during development of the White River National LMP revision. The spending totals were compared with non-local ski spending from the NVUM system (which provides a national average across all ski areas on USFS lands). The Colorado-based skier spending totals were higher than the NVUM national averages, and resulted in a relatively high share of total tourism spending in the planning area. (In order to better match local spending, the Colorado-based spending totals were moderated somewhat in order to provide a better fit for the planning area.) All expenditures were adjusted to 2004 dollars in order to be compatible with the economic models.

DLMP/DEIS Alternatives: As discussed in the Recreation section, the total number of visitors to the planning area is projected to increase under all of the alternatives, with only a slight variation among alternatives based on program funding levels. National economic and demographic conditions (under all of the alternatives) may result in greater impacts to the overall number of non-local tourists coming to the planning area than would potential visitor displacement anticipated under any of the alternatives. As an example, a change in travel management designation might shift motorized and non-motorized users to different spots within the planning area, while dramatically higher national fuel prices might discourage visitors from driving to Colorado in order to recreate on the planning area.

Impacts Related to Livestock Grazing

DLMP/DEIS Alternatives: Compared with the current management alternative (Alternative A), livestock grazing production would be generally maintained under Alternative B, would drop by approximately 9% under Alternative C, and would increase by approximately 18% under Alternative D. Some permittees may maintain, or potentially even increase, the number of AUMs, with more intensive management. Some permittees may choose to reduce AUMs (due to market and personal factors that are outside the scope of this analysis).

Impacts Related to Timber Management

Over the last decade, timber industry reliance upon the San Juan Public Lands has undergone major changes. Due to the volatility in lumber markets, and to a recent history of reduced supplies from public lands, firms have: 1) adjusted their source of timber supplies, 2) updated their mills to improve efficiency, 3) changed their product mix, and/or 4) closed. This analysis assumes that the remaining mills have successfully made adjustments, and would continue to operate.

DLMP/DEIS Alternatives: Timber sale program quantity would continue at current levels under Alternatives A and B, decrease by 9% under Alternative C, and increase by 27% under Alternative D. This would result in approximately 48 fewer jobs than currently associated with the wood products industry in Alternative C and approximately 76 more jobs under Alternative D. The mix of species harvested varies slightly between alternatives, with more aspen potentially harvested under Alternatives B and D than currently (Alternative A). When considered in full, the range of timber offered by the planning area under each of the alternatives may continue support of area mills.

Impacts Related to Oil and Gas Exploration and Development

DLMP/DEIS Alternatives: Nine fewer wells would be expected under Alternative B, 19 fewer under Alternative C, and 23 fewer under Alternative D, than under Alternative A. This would result in 49 less oil- and gas-related jobs under Alternative B, 103 less under Alternative C, and 11 less under Alternative D, than under Alternative A. The No Leasing Alternative would result in 727 fewer oil- and gas-related jobs.

Impacts Related to Administrative Expenditures

The total operating budget for managing the San Juan Public Lands would not vary by alternative. The budget has declined in recent years, but is expected to remain relatively stable, after adjustments for inflation, for the next decade. How the budget is spent may vary by alternative; the differences, however, were not considered large enough to be meaningful in this analysis. Consequently, there may be no economic impacts attributable to administrative expenditures under any of the alternatives.

Summary

Under all of the alternatives, impacts related to employment and income are illustrated in the following four tables. The first two tables provide a look at employment impacts related to SJPLC resource management (first by program and then by industry). Changes are estimated for 2015; the base year, however, is 2004.

Table 3.25.3 Projected Changes in Employment Associated with SJPL by Program by Alternative in 2015 (jobs)

	2004	2015	CHANGE FROM ALTERNATIVE A IN 2015		
PROGRAM	Base Year	Alternative A (No-Action Alternative)	Alternative B	Alternative C	Alternative D
Recreation	1,522	1,522	20	-13	39
Grazing	98	98	0	-10	21
Wood products	209	303	0	-48	76
Minerals	905	1,439	-49	103	-11
Payments to State/Counties	246	246	0	0	0
SJPL Operations	467	431	0	0	0
TOTAL	3,447	4,039	-29	-174	125
Percentage (%) Change in Total Jobs from Base Year	---	17%	16%	12%	21%

DLMP/DEIS Alternatives: From 2004 through 2015, all employment increases; however, the magnitude of increase may vary by alternative. Alternative D may result in the largest growth, followed by Alternative A, Alternative B, and finally by Alternative C. Difference by alternative is mainly due to changes in the minerals and timber programs. Most job growth and most of the variation would be attributable to planning area-based natural gas development. Although the impacts related to timber may be experienced primarily in Montezuma County, some of the secondary, and all of the tourism-based, impacts may be felt in all communities.

Table 3.25.4 - Projected Changes in Employment Associated with SJPL by Major Industry by Alternative in 2015 (jobs)

INDUSTRY	2004 Base Year	2015 Alternative A (No-Action Alternative)	CHANGE FROM ALTERNATIVE A IN 2015 Alternative B	Alternative C	Alternative D
Agriculture and Natural Resources	221	260	-1	-30	54
Mining	454	727	-39	-83	-9
Construction and Utilities	71	71	0	0	0
Manufacturing	94	132	0	-14	24
Transportation and Warehousing	59	70	0	-1	2
Wholesale and Retail Trade	266	308	0	-3	2
Finance, Insurance, and Real Estate	118	147	0	-2	3
Professional and Administrative Services	300	348	1	28	20
Education, Health, and Social Services	457	501	10	-7	21
Arts, Entertainment and Recreation	106	123	0	-1	1
Accommodations and Food Service	741	773	-6	1	-8
Personal and other Services	212	243	7	-6	16
Government	348	336	-1	0	-1
TOTAL	3,447	4,039	29	174	125
Percentage (%) change in Total Jobs from Base Year	---	17%	16%	12%	21%

Industries most impacted by employment changes (from 2004 to 2015) may be Mining, Agriculture and Natural Resources, and Manufacturing. These sectors may be primarily impacted by changes in natural gas development and timber harvesting. Although growth in the service sectors attributable to San Juan Public Land management may be modest, they may exhibit some change by alternative (due to spending by employees in other sectors). Between 2004 and 2015, overall growth in jobs, related to the SJPL, may vary from a low of approximately 12% (under Alternative C), to a high of approximately 21% (under Alternative D).

The next two tables provide a look at impacts related to labor income (first by program and then by industry). As noted earlier, labor income includes all wages and salaries, plus benefits, for employees and for the self-employed.

Table 3.25.5 - Projected Changes in Labor income Associated with SJPL by Program by Alternative in 2015 ($ thousand)

PROGRAM	2004	2015	CHANGE FROM ALTERNATIVE A IN 2015		
	Base Year	Alternative A (No-Action Alternative)	Alternative B	Alternative C	Alternative D
Recreation	$40.1	$40.1	$0.8	-$0.4	$1.4
Grazing	$0.9	$0.90	$0.0	-$0.1	$0.2
Wood products	$4.9	$7.31	$0.0	-$1.1	$1.8
Minerals	$58.8	$91.12	-$4.9	-$10.4	-$1.1
Payments to State/Counties	$3.1	$3.07	$0.0	$0.0	$0.0
SJPL Operations	$15.0	$13.83	$0.0	$0.0	$0.0
TOTAL	$122.8	$156.3	-$4.1	-$12.0	$2.1
Percentage (%) Change in Total Jobs from Base Year	---	27%	24%	18%	29%

Table 3.25.6 - Projected Changes in Labor Income Associated with SJPLC by Major Industry by Alternative in 2015 ($ thousand)

INDUSTRY	2004 Base Year	2015 Alternative A (No-Action Alternative)	CHANGE FROM ALTERNATIVE A IN 2015 Alternative B	Alternative C	Alternative D
Agriculture and Natural Resources	$2.7	$3.4	$0.0	-$0.4	$0.7
Mining	$44.6	$68.5	-$3.7	-$7.8	-$0.8
Construction and Utilities	$3.5	$3.6	$0.0	$0.0	$0.0
Manufacturing	$2.9	$4.1	$0.0	$0.4	$0.7
Transportation and Warehousing	$2.2	$2.7	$0.0	$0.0	$0.1
Wholesale and Retail Trade	$7.2	$8.3	$0.0	$0.0	$0.0
Finance, Insurance, and Real Estate	$5.0	$6.1	$0.0	-$0.1	$0.1
Professional and Administrative Services	$10.8	$12.7	$1.6	-$2.9	$0.4
Education, Health, and Social Services	$10.6	$12.4	$0.3	-$0.2	$0.6
Arts, Entertainment and Recreation	$2.3	$2.5	$0.0	$0.0	$0.0
Accommodations and Food Service	$12.0	$12.5	-$0.1	$0.0	-$0.1
Personal and other Services	$5.7	$6.4	$0.2	-$0.2	$0.5
Government	$13.2	$13.1	$0.0	$0.0	$0.0
TOTAL	$122.8	$156.3	-$4.1	-$12.0	$2.3
Percentage (%) change in Total Jobs from Base Year	---	27%	24%	18%	29%

From 2004 to 2015, labor income changes may be larger than job changes. This would be mainly due to a large increase in natural gas development (where average incomes generally exceed other sectors). Incomes related to the timber program may also increase by nearly 50%. By alternative, absolute changes may be the largest in relation to recreation and timber.

CUMULATIVE IMPACTS

Social and economic changes in the planning area result when individuals, businesses, governments, and other organizations initiate actions. Many decisions will be made by thousands of players over the next decade, and all may impact such things as employment, housing, and transportation. Some of these decisions are specifically identified in other parts of this document. For economic and social impact purposes, it is impossible to account for all such decisions separately. Therefore, projections of employment and income to 2015 are used to account for all of these changes. They provide a comprehensive context for considering the impacts of SJPL management. Projections used in the DLMP/DEIS were based upon estimates generated by the Colorado Department of Local Affairs, State Demographers Office.

Table 3.25.7 - Estimated Cumulative Impacts Related to Employment and Labor Income by Alternative for SJPL

	2004		FORECAST IN 2015				
				SAN JUAN PUBLIC LANDS SHARE			
EMPLOYMENT	**Area Totals**	**SJPL Share**	**Area Totals**	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Total (jobs)	49,345	3,447	65,962	4,039	4,010	3,865	4,164
Economic Indicator	100%	7.0%	100%	6.1%	6.1%	5.9%	6.3%
Percentage (%) Change from No-Action Alternative	---	---	---	---	-0.7%	-4.3%	3.1%
LABOR INCOME							
Total ($ million)	$1,713.4	$122.8	$3,595.7	$156.3	$152.2	$144.3	$158.6
Percentage (%) of Area Total	100%	7.1%	100%	4.3%	4.2%	4.0%	4.4%
Percentage (%) Change from No-Action Alternative	---	---	---	---	-2.6%	-7.7%	1.5%

Forecast based on data from Colorado Department of Local Affairs, State Demography Office, May 2007

If projections made by the State of Colorado bear out, the region would experience healthy growth. The public lands contribution to the area may also increase in both jobs and income, but may not grow as fast. Consequently, the share that use and management of the San Juan Public Lands would contribute to the area economy is expected to decrease slightly by 2015.

Whatever change may be felt by communities in the 5-county area, the Durango area is the most likely to experience the greatest changes. These impacts may center in and around Durango due to its size, as well as to its role of regional center. All 5 counties have a tourism economic component, and all may experience a gradual increase in economic activity as tourism continues to grow in the area.

A reasonably foreseeable future activity that may result in a significant change in the employment and income of the San Juan area (and is included in State growth projections) is coalbed methane development. Immigration of retirees and late-career households may continue and accelerate, creating additional service and trade jobs of all types.

Financial/Economic Efficiency

Both financial and economic efficiency are analyzed in this section. Financial efficiency examines revenue and cost implications from the perspective of the government agency. (It could also be said that this is the perspective of the taxpayer.) Only those revenues and costs that are recorded in financial records are included in this analysis.

Economic efficiency examines a broader definition of benefits by including values for public land uses that are not captured in the marketplace. Willingness-to-pay values for recreation use are the primary additions over a financial analysis. Estimated market value for meat gained by grazing livestock on public land is also included. Water values have been excluded from this analysis. This is because historic and future activities on public lands have not approached intensities needed to increase water yield. (This is documented in the water yield analysis of Appendix B. Appendix B also includes a complete description of values used in the financial and economic analyses.)

Many non-market, non-use values are excluded from this economic efficiency analysis. Some outcomes or impacts (including those related to biological diversity, visual amenities, bequest values, existence values, and some social impacts) have no monetary values or costs that have been established by the USFS or by the BLM. Some research studies have explored the development of such values; however, it is reasonable to handle these items in a non-monetary fashion. This is done in other sections of this DLMP/DEIS. The agency cost of achieving these non-monetary outputs is included in both the economic and financial analyses.

Net public benefit is an important concept for carrying out a LMP revision. Net public benefit is defined as the overall value to the nation of all outputs and positive impacts (benefits), minus all the associated inputs and adverse impacts (costs) for producing those primary benefits, whether they can be quantitatively valued or not. Thus, conceptually, net public benefits are the sum of this economic analysis, plus the net value of non-priced outputs and costs. It is not the result of an economic analysis alone. This concept is the basis upon which the decision-maker selects an alternative for implementation.

The main criterion used in assessing financial or economic efficiency is present net value (PNV). PNV is defined as the value of discounted revenues or benefits, respectively, minus discounted costs. An economic efficiency analysis includes all outputs (including timber, grazing, and recreation) for which monetary values are assigned. As noted above, the monetary values include both market and non-market values received by the public.

In addition, a financial efficiency analysis was completed in order to determine the net financial returns of each alternative. A financial efficiency analysis is the PNV of agency revenues and costs. The following table displays the economic and financial PNV for each alternative. All monetary values are expressed in constant dollars (with no allowance for inflation). A 4% discount rate was used over a 50-year period (2008 to 2057). Revenues are not reduced for payments made to States and/or to counties. The reduction of PNV under any alternative, as compared to the most financially or economically efficient solution, is the economic trade-off (or opportunity cost) of achieving that alternative.

Table 3.25.8 - Economic and Financial Efficiency by Alternative

INDICATOR	Alternative A	Alternative B	Alternative C	Alternative D
Financial net revenues	0	9,528	29,234	9,528
Economic net benefits	4,597	19,582	19,582	4,597
Difference from highest economic net benefit	4,597	29,110	48,816	14,125

(present net value over 50 years in millions of 2004 dollars)

As shown in the table above, financial net revenues (public lands revenues minus public lands costs) may vary from a low of $409.47 million under Alternative C, to a high of $416.24 million under Alternative D. In all cases, public lands revenues would exceed costs. High natural gas extraction levels would make Alternative D have the highest financial net revenues. Alternatives with a preservation emphases, such as Alternative C, may show the lowest net revenue to the taxpayer. This is because there are lower agency revenues associated with these emphases in order to off-set similar levels of expense.

The economic net benefits (society benefits minus all costs) may range from a low of $4.07 billion under Alternative D, to a high of $4.13 billion under Alternative C. The net economic benefits may be an order of magnitude larger than the financial gross revenues (primarily because market price of natural gas would more than off-set the cost of natural gas drilling and extraction). Natural gas extraction wouldn't vary greatly between alternatives. Recreation benefits (dollar expressions of non-market values) may be the next largest source of beneficial impacts. Recreation benefits would range from $206 to $279 million (about one-half of the total mineral net benefits). This suggests that even with the limited monetary values available for this analysis, society would benefit greatly from the implementation of any of the alternatives fully considered in this document. Much of the benefits may be attributable to the value of oil and gas extraction.

There would be small relative changes in economic net benefits between the alternatives. In absolute terms, however, there would be a $64 million decrease from Alternative C to Alternative D. A drop in recreation benefits of $73 million, and a drop in grazing net benefits of $1 million would not be off-set by an increase in timber harvesting benefits of $10 million. The No Lease Alternative would result in the lowest PNV.