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# Economic Impact of Recreation Use

Lake Nighthorse, Durango, Colorado

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Prepared For: Animas La Plata Water Conservancy District

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## Table of Contents

Executive Summary.....	3
How much economic output would result from Lake Nighthorse visitor spending?.....	3
How would the components of the economy be affected?.....	4
Where would the economic activity occur? .....	6
How would local government revenues be affected?.....	6
How Much Economic Output Would Result from Lake Nighthorse Visitor Spending?.....	7
Data and Approach .....	7
Outdoor Recreation Expenditure Patterns.....	8
Local and Visitor Spending.....	9
Economic Impacts of Spending Associated with Lake Nighthorse .....	11
Future Economic Impacts .....	12
How Would the Components of the Economy Be Affected? .....	13
La Plata County Economic Base .....	13
Size of the Summer Economy .....	15
Relative Impact of Lake Nighthorse Spending on the Economy.....	19
Where Would the Economic Activity Occur? .....	20
Development Patterns.....	20
Sales Tax.....	21
Lodging Tax .....	21
How Would Local Government Revenues Be Affected? .....	23
Appendix A- State Demography Office Base Analysis .....	24
Appendix B - Background on Economic Base Analysis .....	25
Economic Base Analysis .....	25
Appendix C – Alternate Economic Base Analyses.....	28
Economic Impacts of the Natural Gas Industry .....	28
La Plata County Economic Drivers .....	28
La Plata County Comprehensive Economic Development Strategy .....	30

## EXECUTIVE SUMMARY

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The sister report, Lake Nighthorse Recreation Market Assessment, estimates a potential market of 163,000 annual user-days for fully developed recreational facilities at the lake. The purpose of this report is to estimate the potential effects on the La Plata County economy of expenditures associated with recreational outings to Lake Nighthorse. This analysis also places the economic output projected to result from recreational use at the lake in the context of the overall structure and size of the La Plata economy. As a final step, the analysis shows where in the county the economic activity is likely to occur.

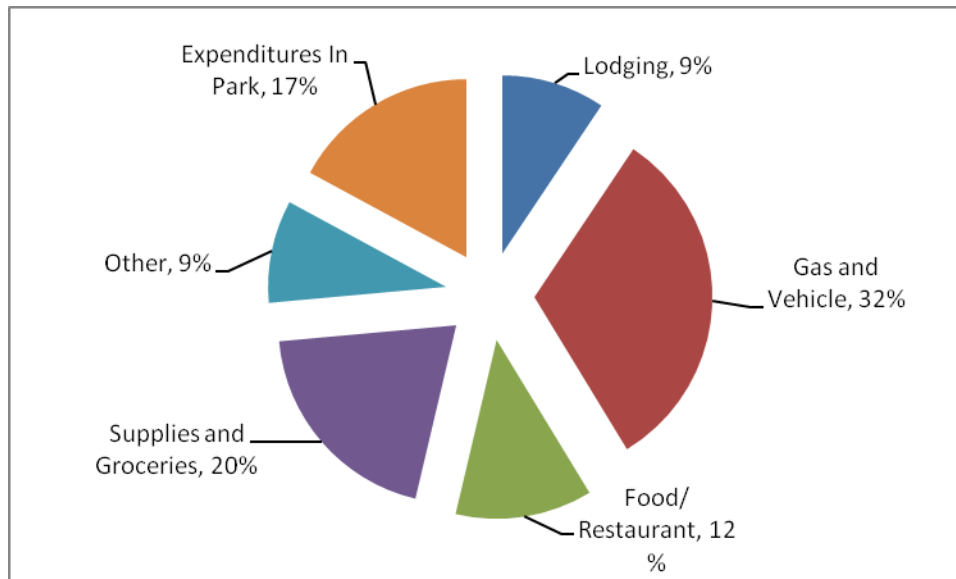
The approach used in this study is best expressed as a series of research questions:

1. How much economic output would result from Lake Nighthorse recreation spending?
2. How would the components of the economy be affected?
3. Where would the economic activity occur?
4. How would local government revenues be affected?

### **How much economic output would result from Lake Nighthorse visitor spending?**

The primary economic activity resulting from 163,000 annual user days at Lake Nighthorse would be the spending associated with the increase in recreational outings. Based on visitor expenditures measured in the Colorado State Parks' *Visitor Intercept Survey*, these user-days would result in an additional \$7,798,000 in annual expenditures in the county.

Throughout the analysis RPI Consulting analysts employ multipliers to calculate total economic output. Multipliers account for *direct impacts* (jobs and earnings for lodges, restaurants and other places visitors spend their money) and *secondary effects* (jobs and earnings for linen services, food distributors, maintenance contractors, and other businesses that support those primary tourism industries). Accounting for multiplier effects, the \$7,798,000 in annual expenditures will stimulate a total of \$12,718,000 annually in total economic output in La Plata County. That translates into 165 full-time-equivalent jobs.

**Figure 1- Expenditures by Category**

Source: Colorado State Parks Visitor Intercept Survey

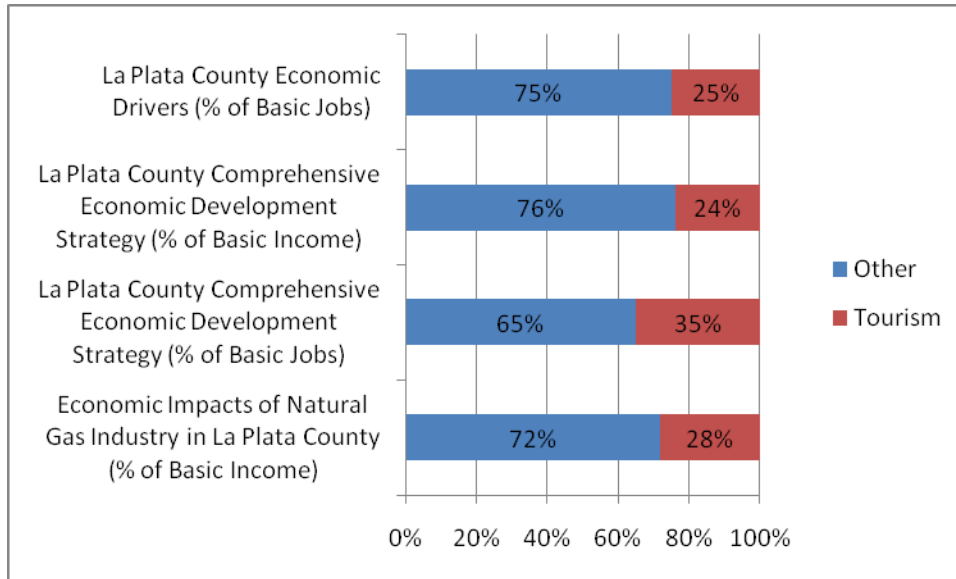
The Lake Nighthorse Recreation Market Assessment projects growth in user days out to the year 2025. Given the projected growth in user days, Lake Nighthorse spending is projected to grow to grow to \$10.8 million by 2025, resulting in \$17.7 million in total output accounting for multipliers (in 2010 real dollars). This translates into 230 jobs if growth occurs as projected.

### How would the components of the economy be affected?

An important component of evaluating the effect of \$12,718,000 in economic output in the economy is assessing how this increased activity fits into the structure of La Plata County's economic base.

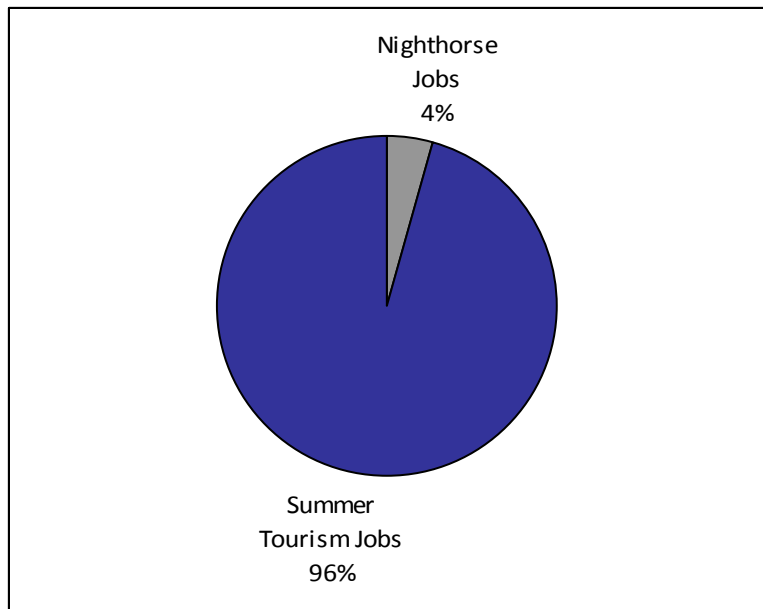
Each of four economic base studies done for La Plata County show that tourism is the major player in the economy. Specifically, Lake Nighthorse spending will be a boost to the summer or warm season tourist economy. Given the estimated distribution of summer vs. winter tourism 4,260 of the 7,475 jobs in the tourism industry (2008) are attributable to summer tourism. Recreational outings to Lake Nighthorse are expected to result in an output of 165 jobs, a potential 4% increase in jobs over warm-season tourism employment in 2008.

**Figure 2- Tourism and Percentage of Base Industry Literature Review**



Sources: *The Economic Impacts of the Natural Gas Industry in La Plata County 2003-2004*; *La Plata County Economic Drivers, Job Generation by Second Homes and Other Economic Drivers 2008*; *the 2006 La Plata County Comprehensive Economic Development Strategy*

**Figure 3- Nighthorse Jobs as % of Total Summer Tourism Jobs**

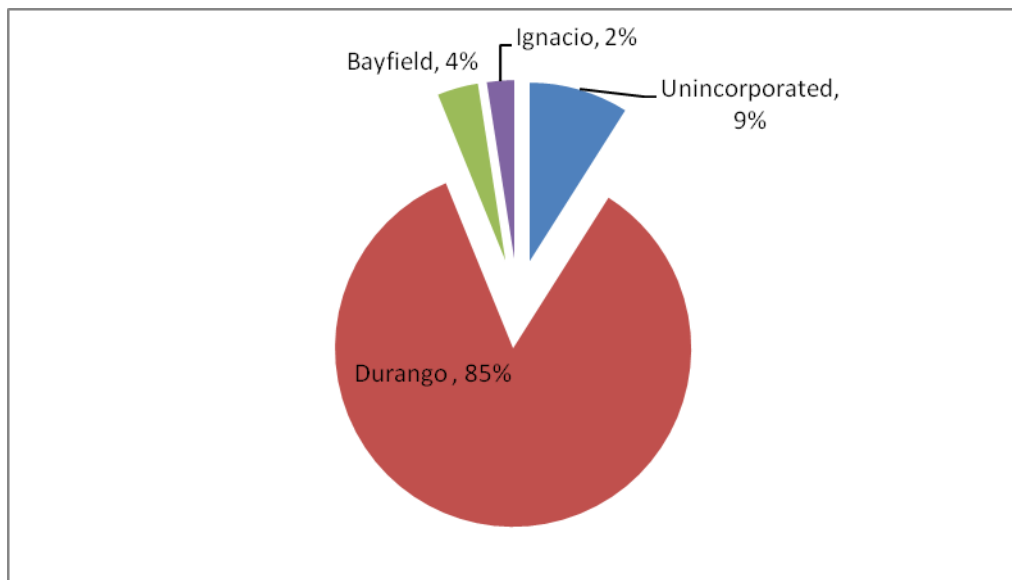


## Where would the economic activity occur?

Just as important as identifying which pillar of the economy recreation use at Lake Nighthorse would boost is the task of identifying *where* the economic activity is likely to occur. A retail sales location analysis combined with a lodging tax collection location analysis demonstrates that Durango is the hub of tourism activity and will therefore be the primary beneficiary of the economic activity generated by recreation use at Lake Nighthorse. Durango is the site of 75% of the county's retail sales and 80% of the county's lodging sales.

The fact that 85% of tourism-related development is located in Durango is further evidence that Durango will capture most of the economic activity generated by Lake Nighthorse. 4% of tourism-related land use is located in Bayfield, 2% is in Ignacio and 9% is located in the unincorporated areas of the county, most of which is at Durango Mountain Resort and Vallecito Lake.

**Figure 4- Weighted Average of Tourism-Related Land Use by Area**



Sources: La Plata County Assessor Data Base and RPI Calculations

## How would local government revenues be affected?

The increased economic activity resulting from recreation at Lake Nighthorse is expected to contribute an additional \$160,000 and \$143,000 in annual sales tax revenues for the City of Durango and La Plata County respectively. Additionally, the lodging taxes in the city would increase by \$10,000 and by \$3,000 in the county annually.

## HOW MUCH ECONOMIC OUTPUT WOULD RESULT FROM LAKE NIGHTHORSE VISITOR SPENDING?

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In La Plata County, tourism is the most substantial pillar of the local economy (detailed in the section of this report entitled *How Would the Components of the Economy be Affected?*). Businesses earn new dollars from visitors, dollars that originate from outside the La Plata County economy. In this respect tourism is an economic engine (direct base industry), creating a critical inflow of new dollars into the community. See Appendices B and C for a full description of economic base analysis and a review of economic base studies for La Plata County.

Estimating the effect of recreational use at Lake Nighthorse first requires the calculation of the quantity of spending associated with recreational outings to the lake and the direct and secondary effects this spending would have on the La Plata County economy. Subsequent sections of this report will detail the structure of the La Plata County economy and place Lake Nighthorse spending within the context of the La Plata County economic base.

### Data and Approach

The Bureau of Economic Analysis (BEA) developed the Regional Input-Output Modeling System (RIMS) to measure the magnitude of economic inputs on local economies. RIMS contains industry-specific multipliers by region measuring economic impacts in terms of jobs and earnings. Multipliers account for *direct impacts* (jobs and earnings for lodges, restaurants and other places visitors spend their money) and *secondary effects* (jobs and earnings for linen services, food distributors, maintenance contractors, and other businesses that support those primary tourism industries). According to the BEA, RIMS is “. . .based on an accounting framework called an input-output (I-O) table. Input-output tables in RIMS II are derived from two data sources: BEA's national I-O table, which shows the input and output structure of nearly 500 U.S. industries, and BEA's regional economic accounts, which are used to adjust the national I-O table to detail industrial structure and trading patterns in specific regions.”<sup>1</sup>

This analysis calculates the impact on the local economy that results from a change in economic activity. For example, if beef sales increase by \$1 million in a given economy, the impacts have ripple effects on other local industries, increasing demand for ranch equipment, warehousing, storage, service industries and transportation. It is possible to measure the combined impacts of a change in industry using the multiplier methodology. The multipliers presented in Figure 5

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<sup>1</sup>Regional Multipliers from the Regional Input-Output Modeling System (RIMS II): A Brief Description <http://www.bea.gov/regional/rims/brfdesc.cfm>

were obtained from the State Demography Office (SDO) and are specific for Colorado's scenic and resort region, which includes La Plata County.

**Figure 5- Selected Multipliers for Colorado Scenic and Resort Region**

	Recreation	Lodging	Food/Restaurant	Retail
Output	1.533	1.603	1.656	1.661
Direct Earnings	0.235	0.345	0.373	0.324
Total Earnings	0.375	0.507	0.538	0.501
Earnings Multipliers	1.599	1.469	1.441	1.547
Direct Employment/ Million in Spending	9.681	15.835	28.814	14.269
Total Employment/ Million in Spending	14.587	21.500	34.716	20.258
Employment Multiplier/ Million in Spending	1.507	1.358	1.205	1.420

Source: Colorado Department of Local Affairs, State Demography Office

## Outdoor Recreation Expenditure Patterns

The Colorado State Parks' *Visitor Intercept Survey* provides visitor expenditure data related to state park visits. The survey measured spending on lodging, vehicle, food, supplies and other expenditures in a 50-mile radius of state parks, as well as expenditures within the parks.

Expenditures were presented in terms of per-trip spending. To convert to expenditures per user-day, per-trip expenditures were divided by average trip length (1.27 days), and average individuals per car (2.69). On average, visitors to state parks spent \$65 per user day.

**Figure 6- Expenditures per User-Day by Category<sup>2</sup>**

Lodging	\$	6
Gas and Vehicle	\$	21
Food/Restaurant	\$	8
Supplies and Groceries	\$	13
Other	\$	6
All Expenditures in Park	\$	11
Total	\$	65

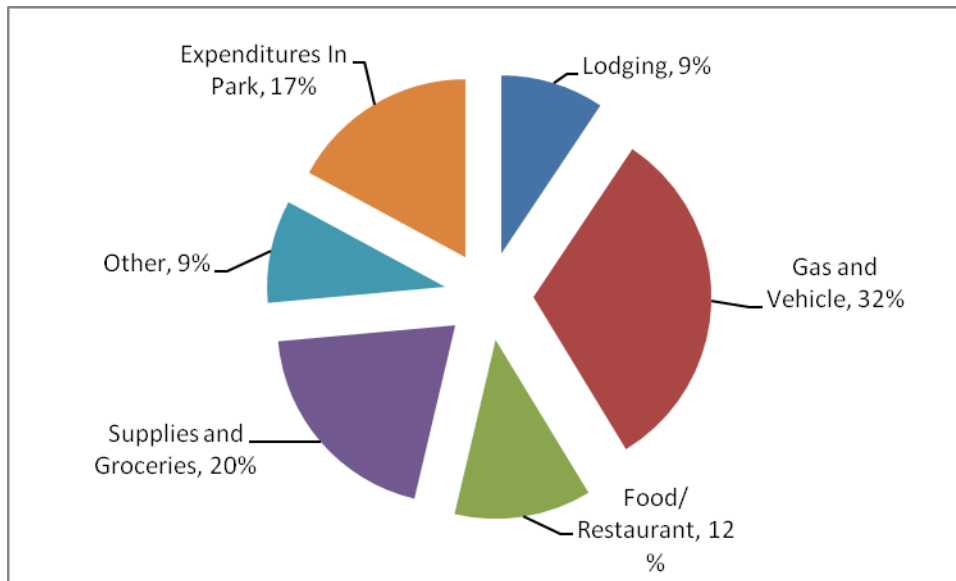
Source: Colorado State Parks Visitor Intercept Survey

Gas and vehicle expenditures accounted for the largest portion of expenditures, with 32% of total spending which is not surprising given that it is not uncommon to drive up to 100 miles for recreation (see the sister report *Lake Nighthorse Recreation Market Assessment*, 2010). Expenditures on supplies and recreational expenses in the park followed, with 20% and 17% respectively.

<sup>2</sup>Expenditure averages were rounded to the nearest whole dollar.



**Figure 7- Expenditures by Category**



Source: Colorado State Parks Visitor Intercept Survey

### Local and Visitor Spending

Spending in the local economy is broken into two categories: local (those that live in La Plata County); and visitor (those that live outside of the county who come to Lake Nighthorse for recreational outings). The regional population (lives outside of La Plata County but within a 100-mile drive of Lake Nighthorse) and tourist population (lives beyond a 100-mile drive) both identified in the sister report, *Lake Nighthorse Recreation Market Assessment* are combined and categorized as *visitors* in the context of this economic impact analysis.

Spending categories were consolidated to align with the economic multipliers presented in Figure 5. The following State Parks categories are considered retail expenditures: supplies and groceries, gas and vehicle, and other. Expenditures in the park are categorized as recreational because they are for entrance fees, equipment rentals and other on-site goods and services. Because the local population lives in La Plata County and would stimulate the regional economy regardless of whether they spend a day at Lake Nighthorse, only the on-site recreational expenditures at the lake are a direct result of development at Lake Nighthorse. Food and vehicle expenditures for county residents would take place with or without Lake Nighthorse.

**Figure 8 – Lake Nighthorse Annual User-Day Summary**

Local	53,112
Visitor	110,084
Total (rounded)	163,000

Source: Lake Nighthorse Recreation Market Assessment

To calculate the total spending, user-day spending is multiplied by the number of user-days developed in the Lake Nighthorse Recreation Market Assessment. For example The estimated 100,084 visitor user-days projected in the Lake Nighthorse Recreation Market Assessment, multiplied by the \$6 per user-day spent on lodging, results in an annual lodging expenditures of \$666,000 (rounded to 1000s). When all economic sectors are taken into consideration, Lake Nighthorse could be responsible for directly injecting nearly \$8 million into the local economy. 93% of this spending will originate from visitors.

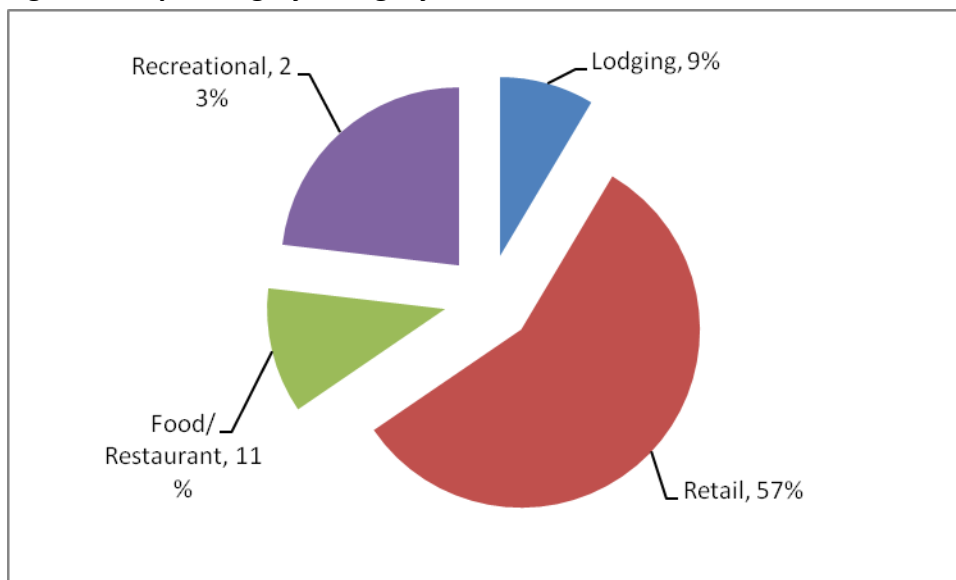
**Figure 9 – Visitor and Local Spending Annual**

	Visitor Spending	Local Spending	Total Spending
Lodging	\$ 666,000	\$ -	\$ 666,000
Retail	\$ 4,440,000	\$ -	\$ 4,440,000
Food/Restaurant	\$ 888,000	\$ -	\$ 888,000
Recreational	\$ 1,221,000	\$ 583,000	\$ 1,804,000
	\$ 7,215,000	\$ 583,000	\$ 7,798,000

Source: RPI Calculations, rounded to 1000s

The majority of additional spending (57%) will be for retail goods which could total over \$4 million annually. Local restaurants could see an additional \$888,000 in sales, and recreation sales occurring on-site at Lake Nighthorse could add another \$1.2 million. Also, many Lake Nighthorse recreationists will rent lodging in La Plata County, increasing sales at local lodging establishments by an estimated \$650,000.

**Figure 10- Spending by Category**



Source: RPI Calculations

## Economic Impacts of Spending Associated with Lake Nighthorse

The multipliers presented in Figure 5 are multiplied by spending inputs to calculate total output in terms of earnings and jobs. Multipliers account for *direct impacts* (jobs and earnings for lodges, restaurants and other places visitors spend their money) and *secondary effects* (jobs and earnings for linen services, food distributors, maintenance contractors, and other businesses that support those primary tourism industries). In total, the increase in spending will generate over \$12 million in total economic output, \$3.7 million in additional earnings and over 165 new jobs. Because most of the spending is related to retail activity, the impacts in this sector are the largest, with the additional retail spending creating as many as 90 new jobs.

Retail is responsible for 53%-58% of economic output, earnings and job creation; lodging represents 8%-9%, food/restaurants represents 11%-21%, and recreation is responsible for 17%-23%. Food and restaurant spending is proportionally higher because the magnitude of the multipliers associated with this category is relatively high compared to other industries.

**Figure 11- Spending Impacts by Category**

	Lodging	Retail	Food/Restaurants	Recreation	Total
Input	\$ 666,000	\$ 4,440,000	\$ 888,000	\$ 1,804,000	\$ 7,798,000
Output	\$ 1,067,000	\$ 7,375,000	\$ 1,470,000	\$ 2,806,000	\$ 12,718,000
Direct Earnings	\$ 230,000	\$ 1,438,000	\$ 332,000	\$ 487,000	\$ 2,487,000
Total Earnings	\$ 338,000	\$ 2,225,000	\$ 477,000	\$ 754,000	\$ 3,794,000
Direct Employment	11	63	26	21	121
Total Employment	14	90	31	30	165

Source: RPI Calculations

Visitor spending is responsible for 92%-93% of marginal economic output, while the local recreational spending accounts for 7%-8%. Spending from visitors to Lake Nighthorse will create over 150 additional jobs and accounting for locals' expenditures, 165 total jobs will be supported by recreation at Lake Nighthorse.

**Figure 12 - Spending Impacts (Local vs. Visitor)**

	Local	Visitor	Total
Input	\$ 583,000	\$ 7,215,000	\$ 7,798,000
Output	\$ 935,000	\$ 11,783,000	\$ 12,718,000
Direct Earnings	\$ 201,000	\$ 2,286,000	\$ 2,487,000
Total Earnings	\$ 296,000	\$ 3,498,000	\$ 3,794,000
Direct Employment	9	111	120
Total Employment	12	153	165

Source: RPI Calculations

## Future Economic Impacts

The 2010 Lake Nighthorse Recreation Market Assessment (market assessment) provides future projections for recreation participation rates and user-days at the lake. According to the market assessment, the expected increases from the locals and visitors are expected to add up to a year 2025 user-day projection of over 200,000 user-days, which represents a 25% increase over the current year user-day estimate of 163,000 user-days. The combined projection shows an average annual increase of 1.3% through the next 15 years.

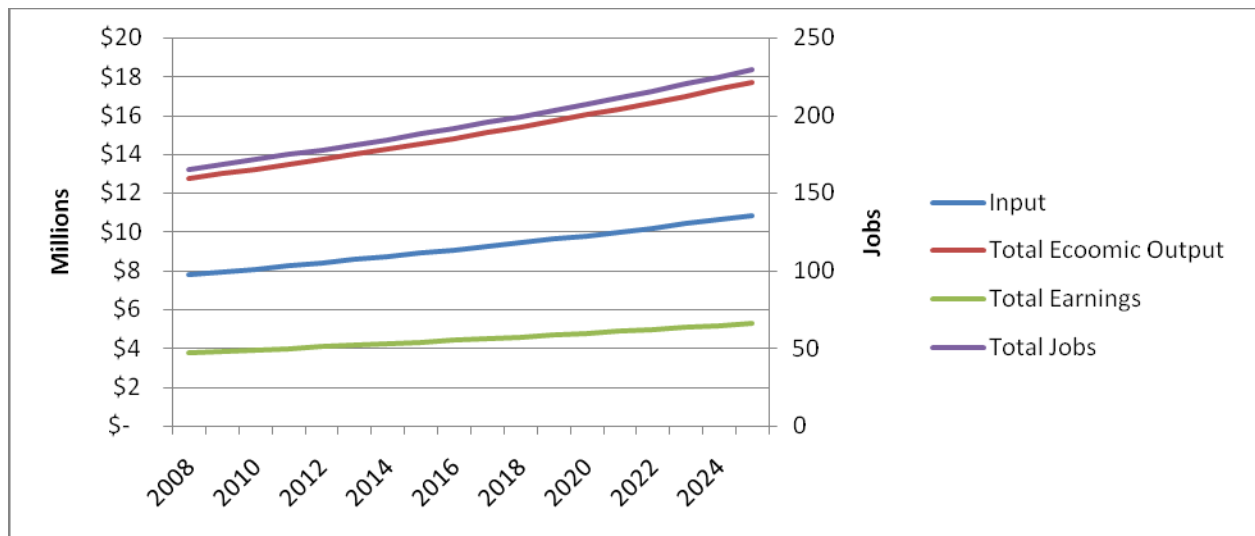
By combining the visitor and tourist trends from the market assessment with spending and impacts developed in this report, analysts were able to project economic impacts of recreation use at Lake Nighthorse in the future. Input in 2025 is expected to total over \$10.8 million and, accounting for multiplier effects, the total output is expected to be over \$17.6 million annually, with \$5.2 million in additional earnings and 230 additional full-time jobs. In total, economic output is expected to increase by 28% over 2008 base year calculations, and will steadily increase at an average annual rate of 1.7%.

**Figure 13- Future Economic Impacts through 2025**

	2008	2010	2015	2020	2025
Input (millions)	\$ 7.80	\$ 8.09	\$ 8.90	\$ 9.81	\$ 10.84
Total Economic Output (millions)	\$ 12.72	\$ 13.20	\$ 14.51	\$ 16.00	\$ 17.68
Total Earnings (millions)	\$ 3.79	\$ 3.94	\$ 4.33	\$ 4.77	\$ 5.27
Total Jobs (millions)	165	171	188	208	230

Source: Lake Nighthorse Recreation Market Assessment, the State Demography Office, RPI Calculations

**Figure 14- Economic Impacts Through 2025**



## HOW WOULD THE COMPONENTS OF THE ECONOMY BE AFFECTED?

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How would the \$12 million in economic output generated by the potential 163,000 user-days projected for recreational use at Lake Nighthorse influence the overall economy in La Plata County? To answer this question, it is necessary to examine the structure of the La Plata County economy in the context of the industry serving visitors: tourism.

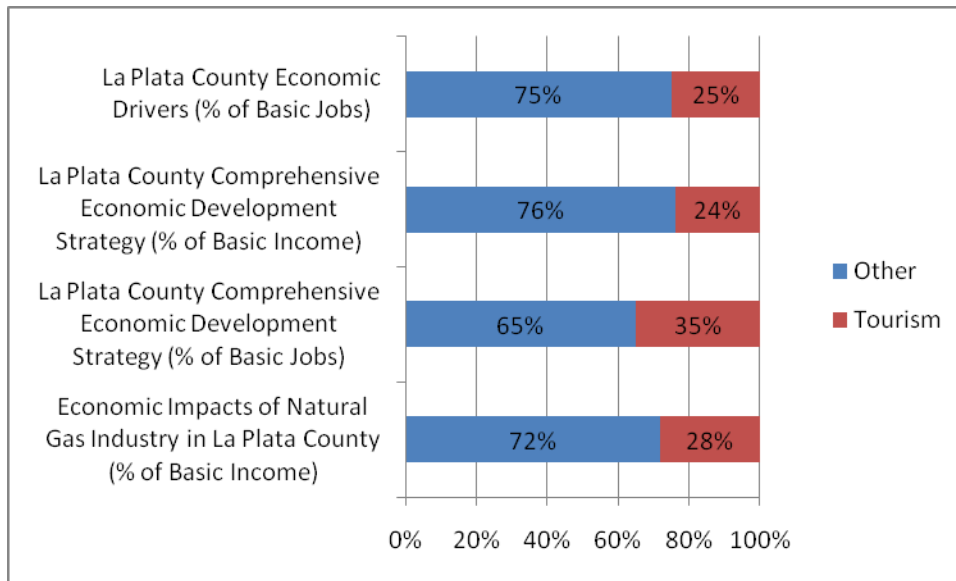
### La Plata County Economic Base

An important component of evaluating the effect of \$12 million in economic output in the economy is assessing how this increased activity fits into the structure of La Plata County's economic base. Businesses catering to visitors earn new dollars that originate from outside the La Plata County economy. In this respect tourism is a direct basic industry, creating a critical inflow of new dollars into the community. See *Appendix B-Background on Regional Economics* for a general description of economic base analysis.

Three studies specific to La Plata County arrive at a consistent conclusion that while the economy is relatively diverse, tourism is the most substantial leg of the economic base. All three of these reports use similar methodologies to analyze the structure of La Plata County's economy: *The Economic Impacts of the Natural Gas Industry in La Plata County 2003-2004*, a study conducted by the Office of Economic Analysis and Business at Fort Lewis College the *La Plata County Economic Drivers, Job Generation by Second Homes and Other Economic Drivers 2008*, prepared for Region 9 Economic Development District of Southwest Colorado by Lloyd Levy Consulting LLC; and finally the 2006 *La Plata County Comprehensive Economic Development Strategy* (CEDS) prepared by Region 9.

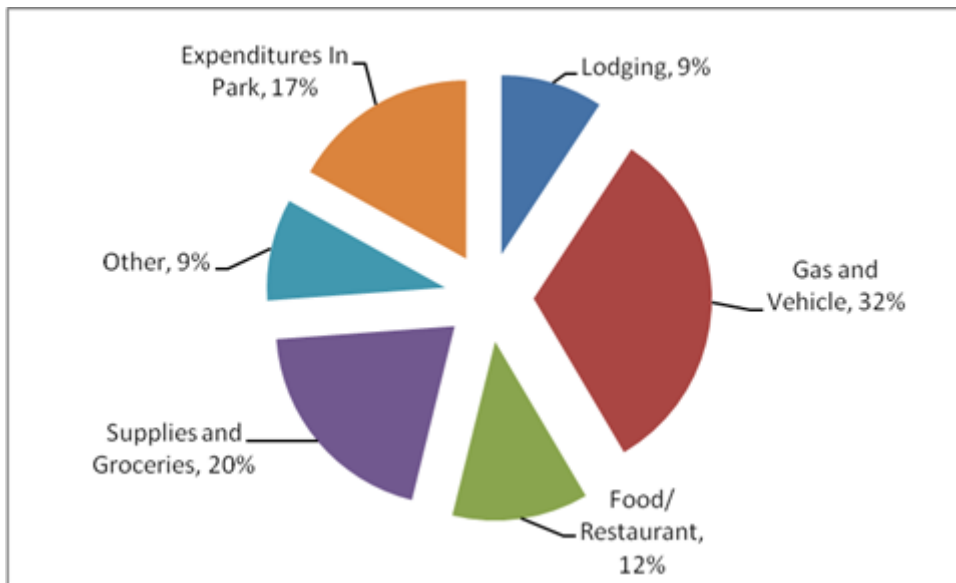
In each economic base study (see Figure 15), tourism accounts for between 24% and 35% of the economic base. According to the SDO base analysis, which is the most recent and accounts for the recent recession, the tourism industry in La Plata County is still the major player in the local economy, employing over 6,000 individuals in direct basic jobs (2008). This represents 28% of the direct basic jobs, and 18% of all jobs present in the county. The tourism industry is the single largest basic industry employer, fueling more than one-quarter of all basic employment in the county.

**Figure 15- Tourism and Percentage of Base Industry Literature Review**



Sources: *The Economic Impacts of the Natural Gas Industry in La Plata County 2003-2004*; *La Plata County Economic Drivers, Job Generation by Second Homes and Other Economic Drivers 2008*; *the 2006 La Plata County Comprehensive Economic Development Strategy*

**Figure 16- La Plata County Base Analysis – Basic Industries by Sector**



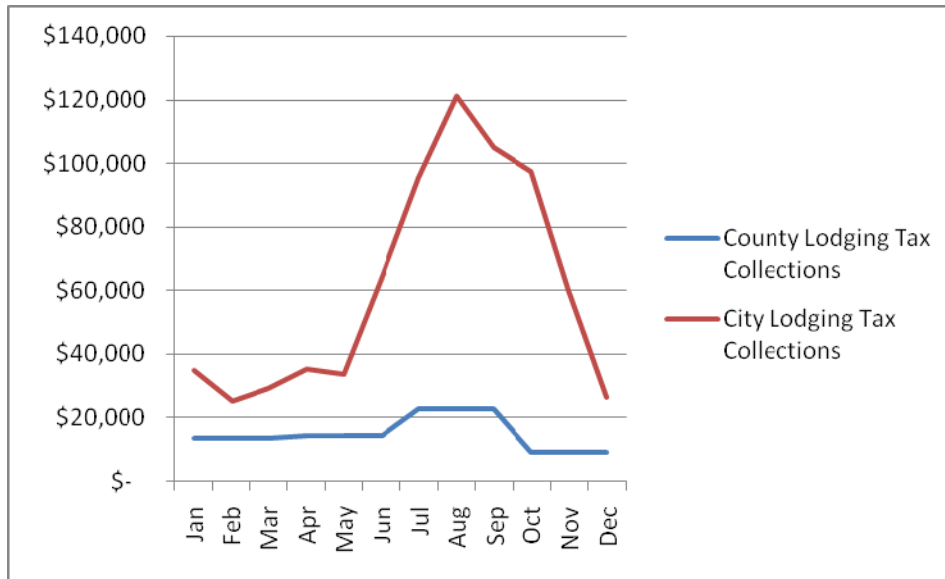
Source: *State Demography Office*

### Size of the Summer Economy

Because nearly all of the use at Lake Nighthorse will occur during the warm months, framing the influence of Lake Nighthorse visitor spending on the La Plata County economy first requires the isolation of summer tourism. Seasonal trends are examined using lodging tax collections by month and personal income by quarter.

A plot of historical average (2005-2009) lodging tax collections by month clearly shows a seasonal pattern related to visitation (Figure 17). Lodging tax collections begin to increase in May, peak in August and decrease into the fall and winter months. Smaller increases occur in the winter, reflecting skiing and other winter recreation.

**Figure 17- Durango and La Plata County Average Lodging Tax Collections by Month<sup>3</sup>**

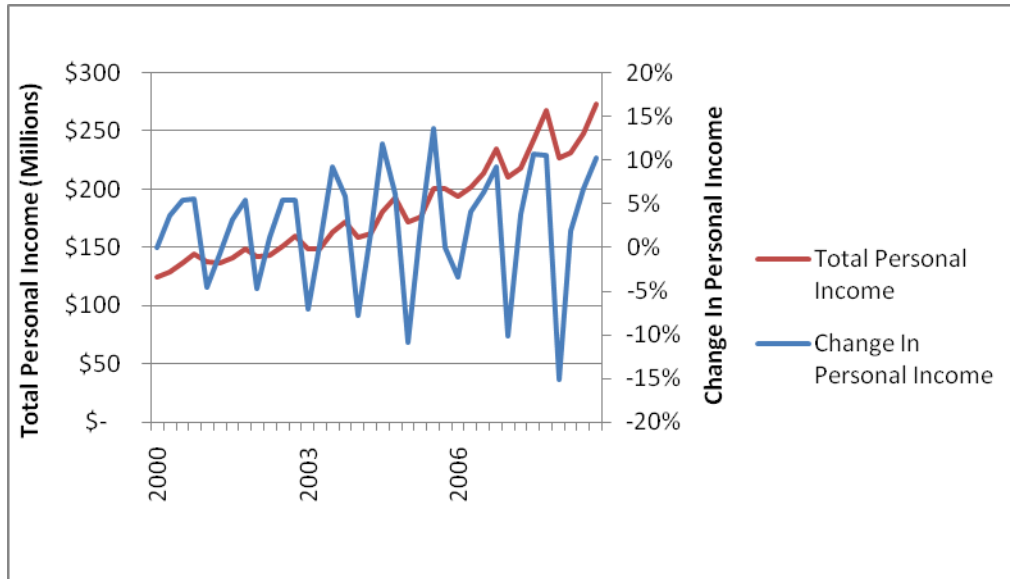


Sources: City of Durango and La Plata County Finance Departments

The cyclical nature of La Plata's economy is illustrated by the peaks and valleys that regularly occur when personal income and changes in personal income are plotted by quarter over time. On average, 3<sup>rd</sup> and 4<sup>th</sup> quarter earnings are 8% and 7% higher than the previous quarter, and 1<sup>st</sup> quarter earnings decrease by 7% when compared with the previous quarter. Again, this indicates a strongly seasonal economy, with strong months beginning in the summer and continuing through early fall.

<sup>3</sup> County lodging taxes are reported on a quarterly basis; monthly extrapolations were made in order to plot.

**Figure 18- La Plata County Personal Income and % Change by Quarter 2000-2008**



Source: Bureau of Economic Analysis

Because such a large portion of tourism activity falls under taxable sales, retail sales are a good indicator of seasonality in the economy and can be used as a method for estimating overall seasonal fluctuations associated with tourism activity in general.

The first step in estimating the portion of the economy reliant on summer tourism is to isolate and subtract spending originating from La Plata County residents. In order to calculate local spending, two ratios are applied to La Plata County's average per capita income of \$40,000. According to the Bureau of Labor Statistics, residents of rural areas, or concentrated populations of less than 50,000, spend 42% of their annual income on retail goods.

The Region 9 study, *The Social and Economic Effects of Second Homes*, surveyed full-time homeowners as well as second-home owners, and specifically measured the amount of retail spending done by each group of homeowners in La Plata County. The survey showed that La Plata County homeowners account for 48% of total retail spending in the county. County residents tend to purchase big-ticket items such as furniture and automobiles outside of La Plata County. On average, La Plata County residents spend \$677/month on retail goods in the county.



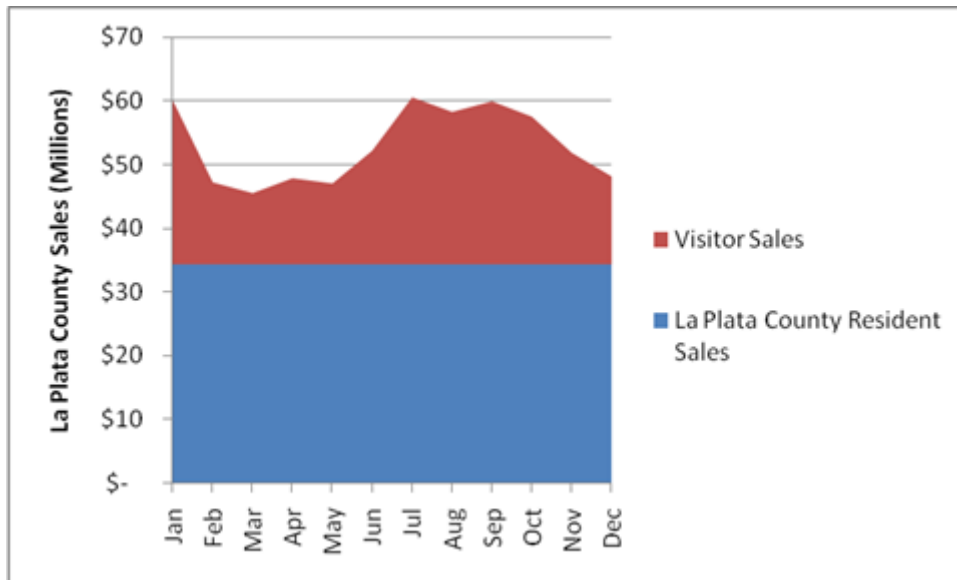
**Figure 19- La Plata County Resident Spending Analysis**

Resident Spending Analysis		Source
La Plata County 2008 Population	50,735	State Demography Office
2008 Per Capita Income	\$40,677	State Demography Office
% Income Spent on Retail	42%	Bureau of Labor Statistics
% Spending in La Plata County	48%	Region 9 Second Home Study
Annual Spending In La Plata County	\$8,123	
Monthly Spending in La Plata County	\$ 677	

Applying the per capita monthly spending figure to the La Plata County population shows a local monthly spending volume of \$34 million. By subtracting this from the county's average monthly taxable sales figures, it is possible to isolate visitor spending by month. Figure 20 shows the portion of visitor spending by month. Monthly sales patterns align with the seasonal patterns seen in the personal income analysis and lodging tax collections. The spike in visitor spending in January originates from after-Christmas skiers, the busiest time for local ski areas.

With monthly sales aggregated by population segment, it is possible to estimate the ratio of visitor to local spending. Then it is possible to calculate the portion of total sales that occur during the May-October lake season.

**Figure 20- La Plata County Sales by Month**



Source: La Plata County Finance and RPI Calculations

The sales tax analysis shows that approximately 35% of total spending in the county originates from visitors, with 20% of the total retail activity occurring during the May-October warm-

weather lake season (sometimes referred to as the "warm season"). Because retail sales capture such a large portion of tourist expenditures, they can be used as an indicator for estimating the seasonality of all economic activity associated with tourism.

**Figure 21- Summer Tourism Spending Analysis**

	Millions	% of Total	
Local Spending	\$ 412	65%	
Visitor Spending	\$ 224	35%	
Total Spending	\$ 636		

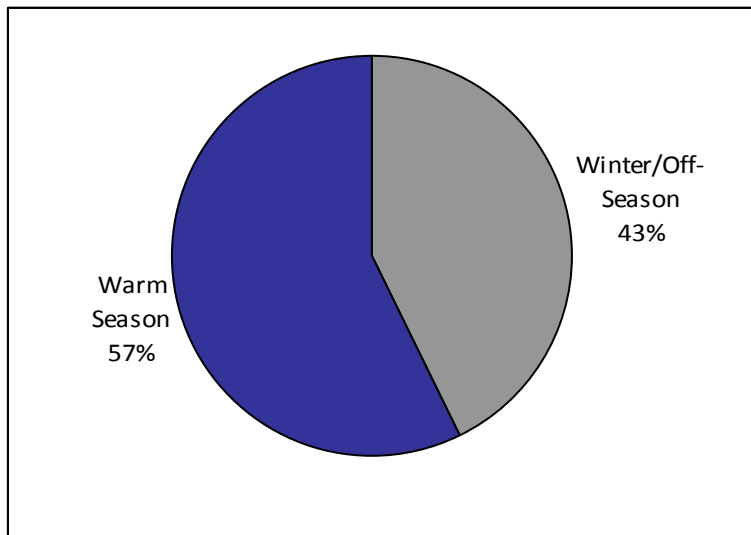
  

	Millions	% of Visitor Spending	% of Total Spending
May - Oct Visitor Spending	\$ 129	58%	20%
Shoulder Visitor Spending	\$ 95	42%	15%
Total Visitor Spending	\$ 224		

Source: RPI Calculations

Looking at tourism by itself, just over half of tourism activity occurs during the warm-weather months.

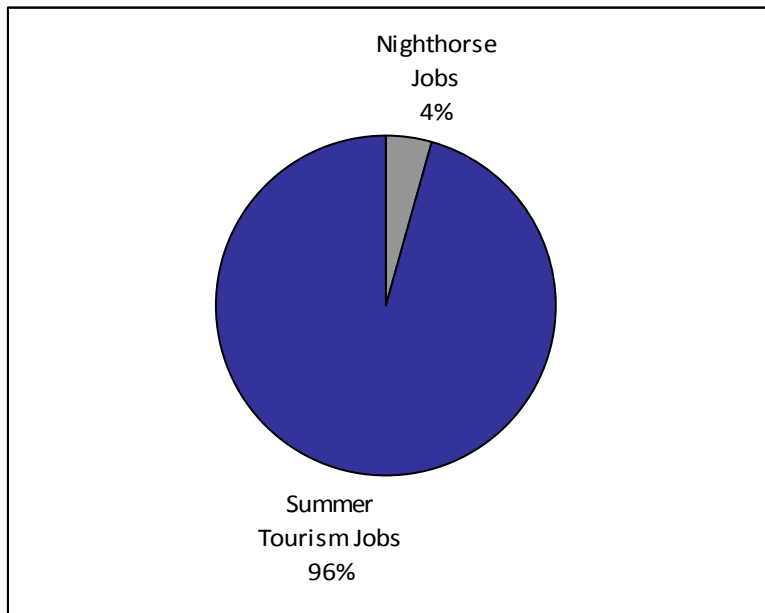
**Figure 22 - Warm Season Vs. Winter/Off-Season Tourism**



### Relative Impact of Lake Nighthorse Spending on the Economy

Given the estimated distribution of summer vs. winter tourism in Figure 22, 4,260 of the 7,475 jobs in the tourism industry (2008) are attributable to summer tourism. Recreational outings to Lake Nighthorse are expected to result in an output of 165 jobs in the tourism industry, a potential 4% increase in jobs over 2008 warm-season employment levels.

**Figure 23- Nighthorse Jobs as % of Total Summer Tourism Jobs**



## WHERE WOULD THE ECONOMIC ACTIVITY OCCUR?

Just as important as identifying which pillar of the economy recreation use at Lake Nighthorse would boost is the task of identifying *where* the economic activity is likely to occur. This section of the report provides evidence that Durango is the hub of tourism activity and will therefore be the primary beneficiary of the economic activity generated by recreation at the lake.

### Development Patterns

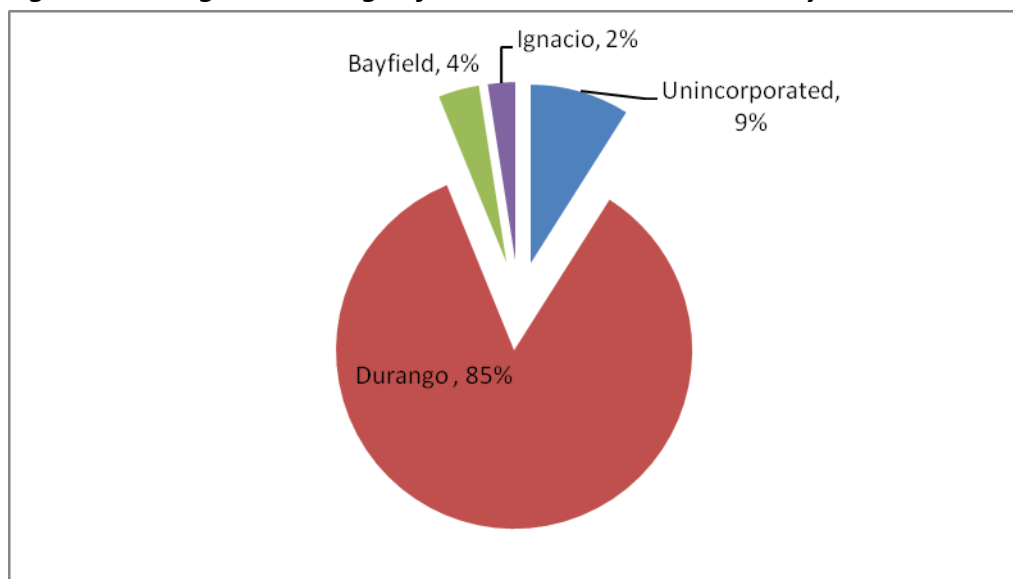
Using La Plata County assessor and GIS data, RPI analysts inventoried the floor area of non-residential development by type and location in La Plata County. Figure 24 shows that 74% of total commercial space in the county is located within Durango city limits. Tourism-related land uses (lodging, retail and restaurant development) are more concentrated in Durango than general commercial, with 80% or more of the tourism-related development in Durango.

**Figure 24- La Plata County Square Footage Distribution by Area**

	Commercial	Lodging	Retail	Restaurant
Unincorporated	19%	19%	6%	11%
Durango	74%	81%	87%	80%
Bayfield	3%	0%	5%	2%
Ignacio	4%	0%	2%	6%
Totals	100%	100%	100%	100%

Source: La Plata County Assessor’s Database. Rounding can result in sums not equaling 100%

**Figure 25- Weighted Average of Tourism-Related Land Use by Area**



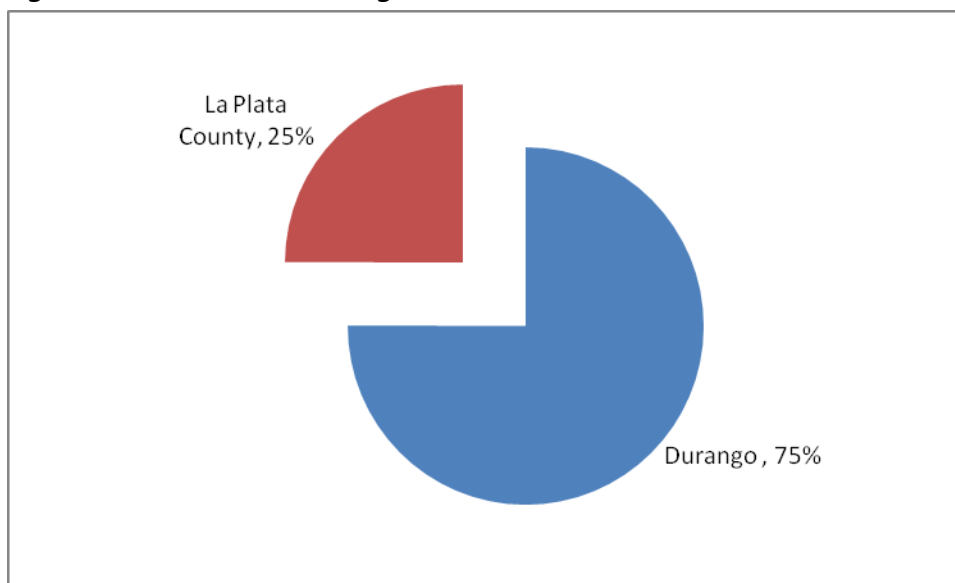
Sources: La Plata County Assessor Data Base and RPI Calculations

A weighted average of these three land uses shows that 85% of tourism-related land use is located in Durango. 4% of tourism-related land use is located in Bayfield, 2% is in Ignacio and 9% is located in the unincorporated regions of the county, a majority of which is at Durango Mountain Resort.

## Sales Tax

Analysis of taxable sales and lodging taxes further demonstrates that Durango is dominant in providing retail goods for residents and tourists. Between 2002 and 2008, 73% of gross sales and 75% of retail sales occurred within the city.

**Figure 26- Seven Year Average Retail Sales Concentration<sup>4</sup>**



Source: Colorado Department of Revenue

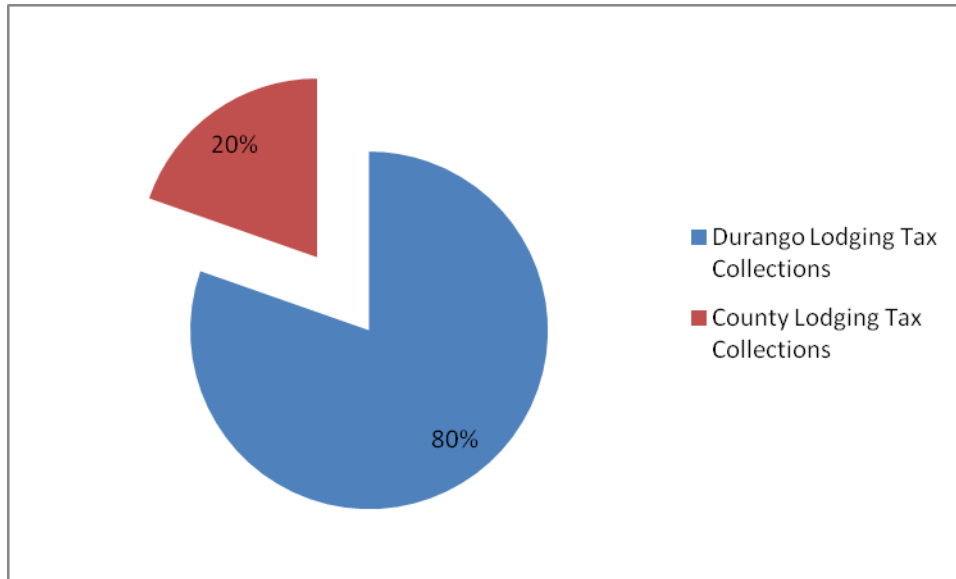
## Lodging Tax

The county and city levy a 2% lodging tax on all lodging establishments, creating an indicator for where visitors stay when they travel to La Plata County. 5 years of collection data were obtained from each jurisdiction to establish a 5-year average for comparison.

80% of total lodging taxes collected by the city and the county occur at establishments located in Durango. On average, the city collected over \$720,000 in lodging taxes, while the county collected over \$170,000. This demonstrates that most visitors to La Plata County stay in Durango.

<sup>4</sup> County taxable sales includes sales in Ignacio and Bayfield.

**Figure 26- Five-Year Average Lodging Tax Collections Concentration**



Sources: City of Durango and La Plata County Finance Departments

## HOW WOULD LOCAL GOVERNMENT REVENUES BE AFFECTED?

Additional economic activity from Lake Nighthorse will translate into increased sales and lodging taxes for La Plata County and the City of Durango. Using the historical sales-tax collection ratio presented in Figure 27, the additional spending is divided up between the city and the county. All additional spending is subject to county sales tax and 75% of taxable sales expected to occur in the city. The increased economic activity from recreation at Lake Nighthorse is expected to contribute an additional \$160,000 and \$143,000 in annual sales tax revenues for the city and county respectively. Additionally, the lodging taxes in the city could increase by \$10,000 and by \$3,000 in the county annually.

**Figure 27- Sales and Lodging Tax Collections**

	Nighthorse Related Sales		Tax Rates		Revenues	
	Taxable Sales	Lodging	Taxable Sales	Lodging	Taxable Sales	Lodging
City Of Durango	\$ 5,353,000	\$ 500,000	3%	2%	\$ 161,000	\$ 10,000
La Plata County	\$ 7,132,000	\$ 166,000	2%	1.9%	\$ 143,000	\$ 3,000

Source: RPI Calculations

## APPENDIX A- STATE DEMOGRAPHY OFFICE BASE ANALYSIS

**Figure 28- Employment Economic Base Analysis**

Industry Group	Total Employment	Employment Percent of Basic	Employment Percent of Total
Traditional - All Totals	4,745	21%	14%
Traditional - Agribusiness - All Totals	1,131	5%	3%
Traditional – Mining	977	4%	3%
Traditional – Manufacturing	291	1%	1%
Traditional – Government	2,346	11%	7%
Regional Center / National Services - All Totals	3,698	17%	11%
Regional Center / National Services - Construction	305	1%	1%
Regional Center / National Services - Communications	149	1%	0%
Regional Center / National Services - Trade and Transportation	236	1%	1%
Regional Center / National Services - Professional and Business Services	1,113	5%	3%
Regional Center / National Services - Finance, Insurance and Real Estate	96	0%	0%
Regional Center / National Services - Education and Health Services	1,797	8%	5%
<b>Tourism</b>	<b>6,264</b>	<b>28%</b>	<b>18%</b>
Households - All Totals	3,041	14%	9%
Households – Commuters	-190	-1%	-1%
Households – Retirees	1,488	7%	4%
Households - with Public Assistance Income (excluding retirees)	553	2%	2%
Households - with Dividends, Interest, and Rental Income (excluding retirees)	1,190	5%	4%
Total Direct Basic	22,223		
Indirect Basic	4,475	20%	13%
Worker Local Res. Services (Non-Basic)	11,648		34%
Total All Industries	33,872		
Ratio: Total / Direct Basic	1.5		

Source: State Demography Office



## APPENDIX B - BACKGROUND ON ECONOMIC BASE ANALYSIS

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The methodology used throughout this report originates from the field of regional economics. Regional economics is an appropriate field for evaluating effects of recreational use at Lake Nighthorse because both the quantity of economic activity and the place it occurs are taken into consideration. Economic base analysis is one of the most important tools offered by the field of regional economics because it focuses attention on the fuel and the engines of economic growth and sustainability in a particular place.

### Economic Base Analysis

Economic base analysis works by categorizing all industry into three classes known as direct basic, indirect basic, and resident services. There are many variations on this theme, and some economists choose to make the categories more or less complex. This report will limit its examination to these three.

#### Direct Basic

Direct basic industries are those that bring in dollars from outside the local economy. We know that money must flow into our economies from the outside or it would not be long until the local economy was bereft of capital, as all of its monetary resources drifted out (through taxes, import of goods, etc.). In Colorado, money historically entered local Western Slope markets from the outside when extractive industries (such as manufacturing or agriculture) sold products to purchasers outside of the local economy. Currently on the Western Slope of Colorado, many of these dying traditional base industries have been replaced by tourism and its attendant manifestations.

Direct base industries that fall under the general title of tourism include all the activities that are the gateway for outside dollars to enter the local economy via visitor spending. Monitoring the strengths and weaknesses of base industries can tell us much about the economy because virtually everything else is dependent on the base drivers. Growth or decline in the economy can be traced to the health of this sector, and scrutiny of the base drivers can even allow for some economic forecasting.

#### Indirect Basic

Indirect basic industries compose the second tier of our three-tiered framework. Indirect basic industries supply the basic industries with the materials and services that they need to conduct business. For restaurants, this might include the food and liquor vendors, lumberyards for the construction industry, manufacturers for the retailers, linen cleaners for lodging, etc.

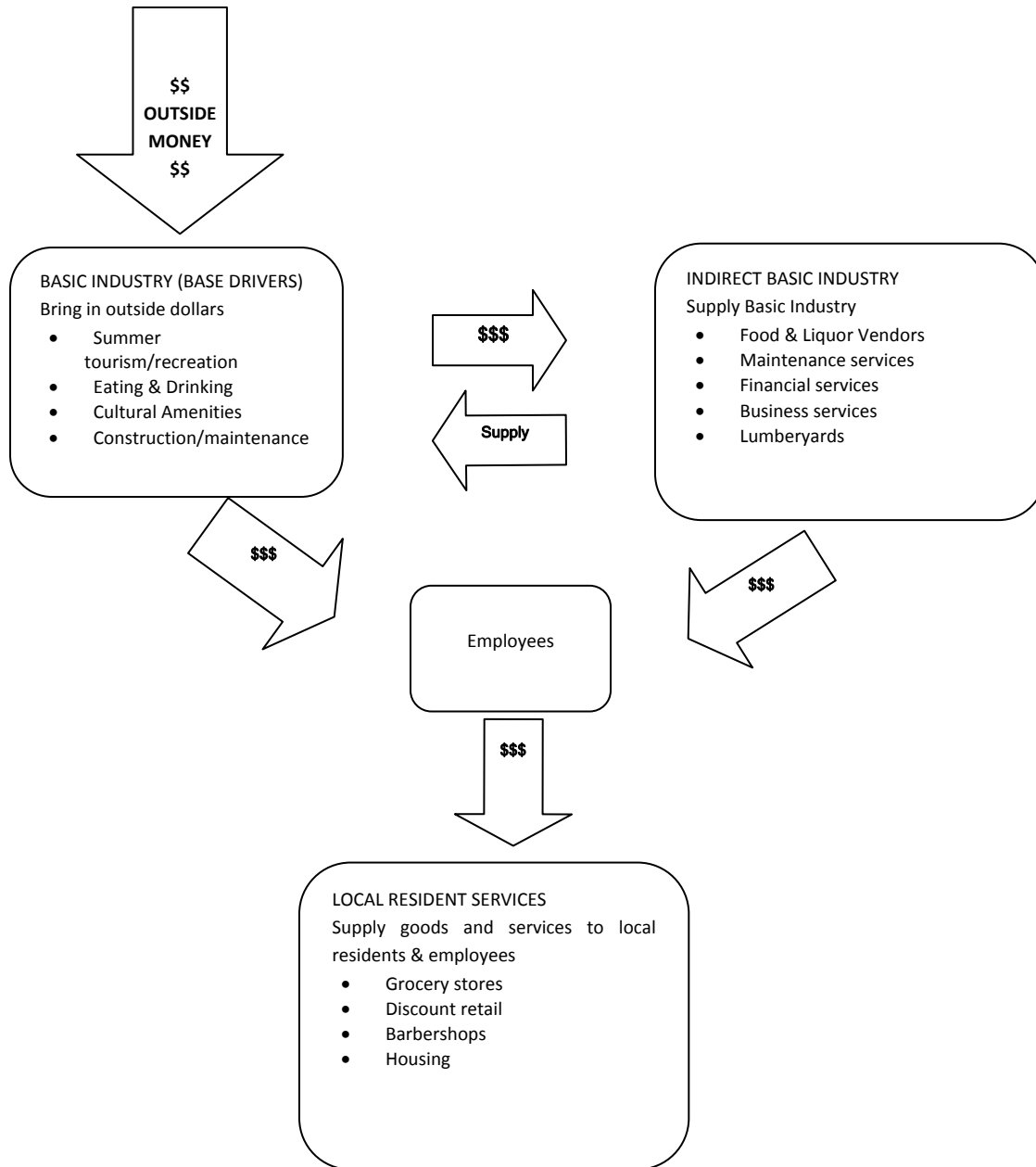
### Local Resident Services

The final tier of our framework is that of the local resident services. Employees form the backbone of the labor force supplying the direct and indirect base industries. Employees earn paychecks and in turn, require?? and spend that money for services.

Local resident services are simply the commercial services that we all use in our everyday lives to maintain an enjoyable residence in town or county. They include but are not limited to: grocery stores, barber shops, hardware stores, discount retail, shoe stores, etc. Clearly, there is some overlap between the categories. For example, some tourists use local grocery stores while local residents eat at restaurants built primarily for tourists. Fortunately, there are some reliable and long-standing techniques establishing ratios for how much each industry is utilized by which group of users. Often these techniques are complemented by surveys and best guesses by both planners and economists who are familiar with the region in question.

Another reason to utilize the base analysis framework is that existing data is especially amenable to input and analysis. We are capable of tracking employment and income in each industry type—this allows us to know how strongly each industry group is performing over time. Looking at historical trends and making some future projections is an excellent vantage point for understanding the regional economy.

Figure 29 - Economic Base Analysis



## APPENDIX C – ALTERNATE ECONOMIC BASE ANALYSES

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### Economic Impacts of the Natural Gas Industry

*Economic Impacts of the Natural Gas Industry in La Plata County 2003-2004* specifically analyzes the natural gas industry; however, analysis of other industries is presented as ancillary information. The report provides base analysis that specifically examines personal income and does not include analysis focusing on employment. Again, the tourism industry was the single largest sector of the local economy. The tourism industry is responsible for generating more than a quarter of all personal income in the county. While the relative proportion of income generated by the tourism industry remained around 28%, it should be noted that industries with fewer employees were responsible for larger portions of personal income. This suggests that jobs in the tourism industry generally pay less than those in industries such as mining, construction and business services.

**Figure 30- Percent of Personal Income or Output in La Plata County 2003<sup>5</sup>**

Tourism	28%
Retail Sales and Services	25%
Fort Lewis College	10%
Construction	10%
Natural Gas Industry	22%
Other	5%

Source: *Economic Impacts of the Natural Gas Industry in La Plata County 2003-2004*

### La Plata County Economic Drivers

*La Plata County Economic Drivers, Job Generation by Second Homes and Other Economic Drivers 2008*, provides a complete economic base analysis that focuses on employment as the base economic indicator. Furthermore, this study specifically analyzes the effects of tourism and second homes on the local economy. The report uses the economic modeling software known as IMPLAN, which is a nationally recognized system used to measure economic impacts in a specific local economy. A methodology summarization from the report:

*A key component is to use IMPLAN Social Accounting and Impact Analysis Data and Software<sup>1</sup> to estimate impacts of economic drivers for which local data are available and to estimate impacts of drivers that are not easily measured at the local level. The IMPLAN model used for this study was customized by substituting locally validated employment by sector for La Plata County instead of the default employment in the model's 2006 data set. This forces the model to more accurately reflect actual*

<sup>5</sup> This report does not differentiate between basic and non-basic economic output.

relationships between industries and institutions and makes sure that impacts are consistent, meaning that they add up to a total employment number that has been reviewed and accepted by La Plata.<sup>6</sup>

This methodology is slightly different than those used by the SDO and the Office of Economic and Business Research, and therefore returns slightly different but comparable results.

**Figure 31- Economic Base Analysis**

Economic Driver	Attributable Direct Jobs		Attributable Total Jobs	
	Amount	% Share	Amount	% Share
<b>Construction</b>				
Federal Government	101	<1%	177	<1%
State and Local Government	390	2%	676	2%
Private Local (Residential, Commercial and Industrial)	2,987	16%	5,766	17%
Other Non-Local	237	1%	333	1%
Subtotal	3,715	20%	6,952	21%
<b>Household Spending</b>				
Retiree	1,709	9%	3,143	10%
Other- Government Payments	417	2%	710	2%
Other- Dividends Interest and Rent	1,328	7%	2,227	7%
Subtotal	3,454	18%	6,080	19%
<b>Tourism and Travel</b>	<b>3,218</b>	<b>18%</b>	<b>4,954</b>	<b>15%</b>
<b>Regional Services</b>				
Trade and Transportation	332	2%	618	2%
Information and Communications	62	<1%	116	<1%
Financial and Insurance	304	2%	558	2%
Professional and Business	1,162	6%	2,161	7%
Education and Health	498	3%	927	3%
Subtotal	2,358	13%	4,380	13%
<b>Agriculture, Mining, Utilities and Manufacturing</b>	<b>1,568</b>	<b>9%</b>	<b>3,711</b>	<b>11%</b>
<b>Government</b>				
Federal Government	552	3%	1,115	3%
Southern Ute	1,011	6%	1,552	5%
State Government	186	1%	286	1%
Subtotal	1,749	10%	2,953	9%
<b>2nd Homes</b>				
Construction	270	1%	555	2%
Real Estate	28	<1%	60	<1%
2nd Home Owner Spending	955	5%	1,670	5%
Subtotal	1,253	7%	2,285	7%

<sup>6</sup> La Plata County Economic Drivers, Job Generation by Second Homes and Other Economic Drivers 2008, page 1.

<b>Fort Lewis College</b>				
Employment and Spending	645	4%	1,178	4%
Capital Construction	10	<1%	17	<1%
Student Spending	325	2%	615	2%
Subtotal	980	5%	1,810	5%
Total	18,295	100%	33,125	100%

*Source: La Plata County Economic Drivers, Job Generation by Second Homes and Other Economic Drivers 2008*

This analysis shows the tourism market as a slightly smaller portion of the total economy at 18% of direct jobs and 15% of total area jobs. However, this analysis separates the economic impacts attributable from second homes from the total tourism industry. If these two sectors are combined, these industries account for 25% of direct jobs and 23% of total jobs. Combined, these two sectors are again the largest source of employment in the county. This report really emphasizes the importance of second home ownership as a portion of the tourism base sector. Second homes are responsible for approximately one-third of economic activity associated with visitation and tourism.

## **La Plata County Comprehensive Economic Development Strategy**

The base analysis presented in the CEDS provides a complete picture of the local economy, with a comparable estimate of jobs and income. According to the report, 65% of local jobs are attributable to the base industries, while the remaining 35% provide services to local residents and therefore do not bring in outside dollars. The tourism sector generates 35% of the basic jobs, which translates to 23% of all employment in the county.

While the tourism industry accounts for almost one-quarter of total employment, it is responsible for 12% of total earnings. The base analysis in the CEDS states that 51% of income in the county is a result of resident services while 49% is generated from basic industries. The difference between job generation and income suggests that jobs in the basic industries are relatively low-paying. This is contrasted with the mining, government and residential services where the portion of total jobs is less than the portion of total income. This is not necessarily negative, because jobs and income generated by the residential-services portion of the local economy would not exist if the basic industries were not providing jobs that directed extra-local funds into the local economy. In other words, the low-paying jobs in the tourist sector help generate the higher-paying jobs that provide services for residents.

**Figure 32- Economic Base Analysis**

	Jobs		Income	
	Basic Industries	Total Economy	Basic Industries	Total Economy
Agribusiness	6%	4%	2%	1%
Mining	3%	2%	9%	5%
Manufacturing	2%	1%	1%	1%
Regional Services	18%	12%	19%	10%
<b>Tourism</b>	<b>35%</b>	<b>23%</b>	<b>24%</b>	<b>12%</b>
Government	2%	1%	5%	3%
Households	18%	12%	20%	10%
Indirect/other	16%	10%	20%	10%
Resident Services		35%		49%
Total	100%	100%	100%	100%

Source: La Plata County Comprehensive Economic Development Strategy