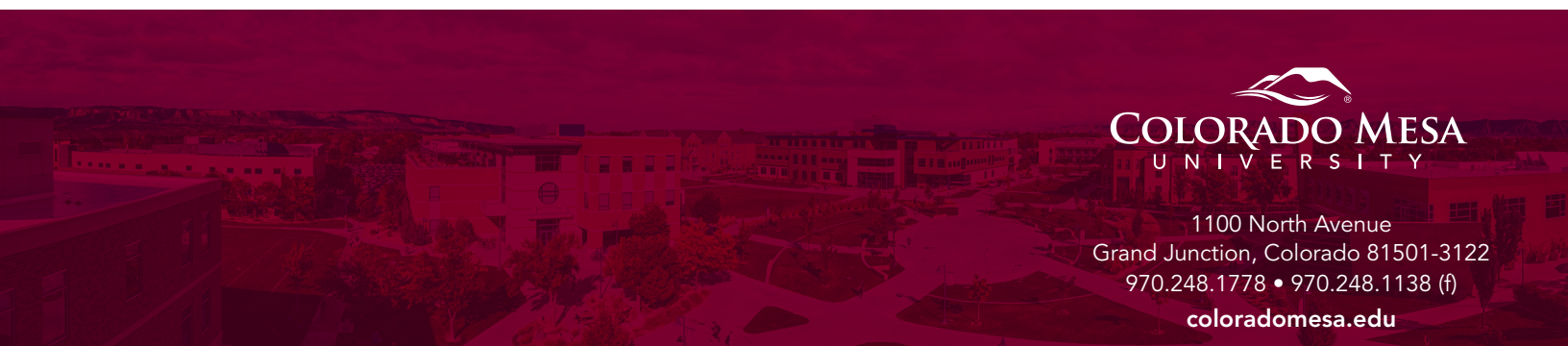




THE ECONOMIC IMPACT OF OUTDOOR RECREATION IN MESA COUNTY

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VERSION 3

Version 3 was released on 11.22.22, and updates the tourism section to include more details on the tourism results. The first two versions of the paper did not include the outdoor recreation spending in the tourism estimates because the outdoor recreation spending is subtracted from the combined results to avoid the double counting issue. Version 3 includes the full impact of outdoor recreation spending in the tourism numbers. The combined results that subtract for double counting have not changed.

Version 2 was released on 11.9.22, and includes spelling and grammatical changes.

Version 1 was released on 10.14.22.

The authors reserve the right to make updates to this report to correct any mistakes, spelling errors, or to make important changes to ensure the accuracy of this report and information based on feedback. Updates will be documented in this section if implemented. Please contact Nathan Perry at naperry@coloradomesa.edu with any mistakes, suggestions, or feedback.

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EXECUTIVE SUMMARY

- This study estimates the economic impact of outdoor recreation in Mesa County. It does so by measuring two things: 1) The economic impact of outdoor recreation businesses, and 2) the economic impact of outdoor recreation tourism, and combines these results into a total economic impact for outdoor recreation for the county.
- This economic contribution and impact report uses multipliers to estimate the supply-chain and household spending effects associated with an industry, while adjusting for leakages due to imports, taxes, profits, and savings.

COMBINED TOTAL IMPACT

- The total direct economic impact of outdoor recreation, including outdoor recreation businesses and outdoor recreation tourism is \$321,625,137, or 4.8% of GDP. This 4.8% is directly comparable to the Bureau of Economic Analysis' estimate for the state of Colorado's outdoor recreation impact of 3.1%.
- When including indirect (supply chain) and induced spending effects, the GDP impact rises to \$484,474,065, or 7.2% of GDP.
- The direct job impact is 7,620, or 8.4% of total jobs. When including indirect and induced effects that number rises to 9,897, or 11% of jobs. This jobs number includes full and part-time employment.

BUSINESS IMPACT

- The direct impact of outdoor recreation businesses on Mesa County is \$131,254,953, or 1.9% of GDP. Including indirect (supply chain) and induced spending effects, the outdoor recreation industry businesses contribute \$190,673,455 to county GDP, or This equates to 2.84% of the total GDP for the county.
- The direct employment impact of outdoor recreation businesses is 3,690, and after indirect and induced effects, the total impact to county employment is 4,501. Survey data shows that 60% of these jobs are full time and 40% are part time.

OUTDOOR RECREATION TOURISM IMPACT

- The direct county GDP contribution is \$227,247,122, equating to 3.3% of Mesa County GDP, and when including indirect and induced effects, this equates to 5.2% of county GDP.
- The direct employment impact of 4,743, and considering indirect and induced effects, the total employment impact of outdoor recreation tourism is 6,478, creating \$190,139,531 in wages. Outdoor recreation tourism equates to 5.2% of total employment and counting indirect and induced effects that number rises to 7.2% of employment. Converting this employment number to full time equivalent (FTE) shows 4,034 in direct FTE employment and 5,510 in total FTE.

OUTDOOR RECREATION BUSINESS

INTRODUCTION

The trend in outdoor recreation participation, and the economic activity it generates, has been increasing both nationwide and within the state of Colorado for many years.¹ These trends have only been magnified by the effects of COVID-19 on other forms of entertainment, driving even more people outdoors to engage in recreation. Recent studies suggest that over half of all Americans participated in outdoor recreation on at least a monthly basis, and as many as 20% may be new to outdoor recreation during the pandemic.²

Longer term trends suggest that not only are people increasing their outdoor recreation, but they are moving to counties rich in natural amenities such as Mesa County, Colorado because of the access to outdoor recreation and the public lands that facilitate access.³ These trends in outdoor recreation and migration to locations that provide opportunities for outdoor recreation represent a great economic opportunity for rural counties such as Mesa County, Colorado to diversify their economy and develop a strong outdoor recreation identity that provides jobs not only in the tourism industry but also in the manufacturing of outdoor recreation equipment and numerous industries that support this outdoor lifestyle.

Given the attraction of the natural amenities in these areas, outdoor recreation impacts almost every other sector of the economy by providing a quality of life that encourages retirees and employees to migrate to rural areas even if their livelihood doesn't directly contribute to the outdoor recreation economy in Mesa County and other rural locations. The wealth of opportunities for outdoor recreation in places like Mesa County make it more attractive as a place to live. Businesses and government agencies have an advantage in recruitment and retention of employees as a result of the outdoor recreation opportunities in the area.

To better account for the growing impact of outdoor recreation specifically in the economy, in 2018 the Bureau of Economic Analysis (BEA) started estimating outdoor recreation satellite accounts at the national level, followed by estimates at the state level. As of the writing of this report (2022), the BEA does not estimate the economic contribution of outdoor recreation at the county level. This study is an attempt to measure the economic contribution of outdoor recreation to the Mesa County economy. This is an important study for Mesa County to get a more accurate picture of a growing and influential sector in the local economy; but it will also serve as a model for other rural western economies that are situated adjacent to abundant public lands and other natural amenities which provide an attractive setting for the growing outdoor recreation industry. This study is unique as it is the first county level comprehensive outdoor recreation economic impact report that the authors are aware of,⁴ and takes an innovative approach by measuring the economic impact of outdoor recreation businesses as well as the economic impact of outdoor recreation tourism, controlling for double counting, in order to get a comprehensive view of the economic impact of outdoor recreation for the Mesa County economy.

Mesa County, Colorado is a county with a strong outdoor recreation identity and is home to a wide variety of public lands and other natural amenities that support outdoor recreation. Mesa County is home to 155,703 residents.⁵ It covers 3,341 square miles of landscape, ranging in altitude from over 11,236 feet (about 3.42 km) on top of Grand Mesa to 4,320 feet (about 1.32 km) where the Colorado River leaves the county at the Utah state border.

Most of the population of the county lives in the Colorado River valley in and around the county seat, Grand Junction, at an elevation of approximately 4600 feet (about 1.4 km) above sea level. The Colorado River valley in Mesa County is bounded by

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- 1 See for example: Colorado Parks and Wildlife. (2019). The 2019-2023 Colorado Statewide Comprehensive Outdoor Recreation Plan (SCORP); Colorado Parks and Wildlife. (2021). Existing Conditions, Trends, and Projections in Outdoor Recreation; Outdoor Foundation. (2021). 2021 Outdoor Participation Trends Report; Center for Western Priorities. (2015). The Golden Rush: How Public Lands Draw Retirees and Create Economic Growth; and State Outdoor Business Alliance Network (SOBAN). (2021). Inspiring the Future Outdoor Recreation Economy.
 - 2 Taff, B.D., Rice, W.L., Lawhon, B., & Newman, P. (2021) Who Started, Stopped, and Continued Participating in Outdoor Recreation during the COVID-19 Pandemic in the United States? Results from a National Panel Study. *Land* 2021, 10, 1396. [https:// doi.org/10.3390/land10121396](https://doi.org/10.3390/land10121396).
 - 3 See for example: Casey, T., and Gollob, J. (2017). Rural Colorado Migration Study; Center for Western Priorities (2015), SOBAN (2021).
 - 4 County level data on the economic impact of outdoor recreation exists by specific activities such as hunting which has been measured in the 2019 SCORP report, but comprehensive data on the overall economic impact of outdoor recreation remains largely at the regional and state level as well as the national level.
 - 5 Data is based on 2020 US census. Geographic and demographic data in this paragraph all comes from the US Census Bureau census.gov/quickfacts/mesacountycolorado, retrieved 11 pm 8/28/22.

the Bookcliff Mountains to the north, the Uncompahgre Plateau to the south, the Grand Mesa to the east and the Colorado National Monument to the West. Approximately 73%⁶ of Mesa County is federal public lands managed by the National Parks Service (Colorado National Monument – 1% of total county lands); the Bureau of Land Management (BLM) Grand Junction Field Office (GJFO – manages 45.9% of land in the county); and the US Forest Service Grand Mesa, Uncompahgre, and Gunnison National Forest (USFS manages 25.8% of the land in the county). There are no federally recognized tribal lands or military lands in Mesa County.

The national average of county land controlled by the federal government is 28.2%. With 72.9% of the county managed by the federal government as open-access public lands, access to outdoor recreation opportunities is considerably higher for residents and visitors to Mesa County than in many other locations. Only 26.8% of Mesa County is private land where recreational access is limited to the owner's permission, compared to 60.1% private land as the national average. 1.7% of Mesa County land is held in conservation easements. The remaining 0.2% of Mesa County is land controlled by the state of Colorado (mostly managed by Colorado Parks and Wildlife (CPW) as state parks and wildlife refuges) and city or county governments (867 acres, much of which are city parks and other public outdoor recreation spaces).

The relatively mild winter temperatures in the Colorado River valley (average low of 14F in January) and abundance of open-access public land support year-round outdoor recreation opportunities. Grand Mesa is home to Powderhorn Ski Resort for downhill skiing, as well as miles of groomed trails for cross country skiing, snowshoeing, snowmobiling and other wintertime activities. Over 200 lakes in alpine settings on Grand Mesa and the Uncompahgre Plateau as well as several rivers and a few lower elevation reservoirs provide many opportunities for recreational water activities including fishing, rafting, and a variety of paddle sports.

There are hundreds of miles of designated trails in Mesa County supporting hiking, trail running, mountain biking and a variety of motorized recreation. The large area of Mesa County set aside as public land provides habitat for birds and other wildlife supporting many activities from bird watching to hunting. These lands also provide the setting for dispersed camping as well as camping opportunities in dozens of established campgrounds. Many of these recreational amenities (trails, campgrounds, and other recreational infrastructure) have a national and international reputation for excellence that attracts thousands of visitors each year as well as contributing to the quality of life for the residents of Mesa County and surrounding areas.

LITERATURE REVIEW

The Bureau of Economic Analysis (BEA) measures the size of the outdoor recreation economy at the state and national level. This measure of outdoor recreation economic activity is what is known as a satellite account⁷, and is an accurate measure of outdoor recreation because it is “generally consistent with the System of National Accounts” that are used to produce national, state, and county GDP estimates.⁸ The BEA does not, however, produce outdoor recreation estimates at the county level. It is important to note that although we refer to the outdoor recreation industry as an “industry,” it is really more of a trade group or trade association, where several industries produce, service, or use outdoor recreation goods. This is why the BEA created a satellite account for outdoor recreation, because outdoor recreation encompasses several industries.

The BEA defines outdoor recreation as “all recreational activities undertaken for pleasure that generally involve some level of intentional physical exertion and occur in natural based environments outdoors.”⁹ Table 1 illustrates Colorado Outdoor Recreation Satellite Account (ORSA) for 2019. Overall, outdoor recreation contributes \$12,403,682,000, or 3.16% to Colorado GDP.

The biggest industry contributions in outdoor recreation can be seen in table 1, with large contribution from retail trade and accommodation and food services, contributing 18.6% each to the total outdoor recreation number. The next highest contribution industries are arts, entertainment, and recreation (16.3%); transportation and warehousing (13.9%); followed by wholesale trade (6.7%).

6 Percentages of public and private lands in Mesa County and National averages taken from Headwaters Economics, “A Profile of Public Lands Amenities – Mesa County, Colorado” produced by Economic Profile Systems February 6, 2018.

7 For information on BEA satellite accounts, see: <https://www.bea.gov/system/files/2021-07/whats-a-satellite-account-V6.pdf>.

8 Highfill, T., Smith-Nelson, C. (2018). Outdoor Recreation Satellite Account Methodology. Bureau of Economic Analysis. Retrieved from: https://www.bea.gov/system/files/methodologies/Outdoor%20Recreation%20Satellite%20Account%20Methodology_0.pdf.

9 *ibid*

Table 1: Outdoor Recreation Satellite Account GDP, Colorado 2019 data (in thousands)¹⁰

Industry	GDP Contribution	Percentage of Total
All industries	\$12,403,682	3.16%
Private industries	\$11,319,850	91.3%
Agriculture, forestry, fishing, and hunting	\$145,575	1.2%
Mining	\$8,728	0.1%
Utilities	\$7	0.0%
Construction	\$194,055	1.6%
Manufacturing	\$496,093	4.0%
Wholesale trade	\$833,314	6.7%
Retail trade	\$2,310,037	18.6%
Transportation and warehousing	\$1,728,793	13.9%
Information	\$54,222	0.4%
Finance, insurance, real estate, rental, leasing	\$698,684	5.6%
Professional and business services	\$210,026	1.7%
Educational services, health care, social assistance	\$180,254	1.5%
Arts, entertainment, and recreation	\$2,019,228	16.3%
Accommodation and food services	\$2,305,315	18.6%
Other services, except government	\$135,520	1.1%
Government	\$1,083,831	8.7%

Nationally, the BEA estimates that 2.1% of GDP for 2019 resulted from outdoor recreation. Figure 1 from the BEA illustrates the percentage of GDP that outdoor recreation contributions as a visual comparison between states. As of the writing of this report, 2020 data was available from the BEA but the authors chose to use 2019 as the comparison point because COVID-19 largely impacted outdoor recreation activity. This is clear in the 2020 data, as figure 2 illustrates the employment change from 2019 to 2020 in outdoor recreation.

SCORP

A study conducted for the Statewide Comprehensive Outdoor Recreation Plan by Southwick Associates for the state of Colorado showed a GDP contribution of \$35 billion dollars to the state, which equates to 10.2% of the state's total GDP.

¹¹ Indirect and induced effects total \$29.0 billion, and when combined with direct expenditures, account for \$62.5 billion dollars of output in the Colorado economy."¹² Outdoor recreation also contributes 511,000 jobs, almost "18.7% of the entire labor force in Colorado."¹³ Table 2 illustrates the economic contribution from the Southwick (2018) report. Mesa County is considered part of the Northwest region and is the largest economy in the northwestern region.

¹⁰ Bureau of Economic Analysis

¹¹ Southwick Associates, (2018). The 2017 Economic Contributions of Outdoor Recreation in Colorado: A Regional and county-level analysis. Retrieved from: https://oedit.colorado.gov/sites/coedit/files/EconomicContributionsOfOutdoorRecreationinColoradoStudy_2017.pdf.

¹² ibid

¹³ ibid

Figure 1: State Outdoor Recreation Value Added as a Percent of State GDP, 2019, reproduced from BEA¹⁴

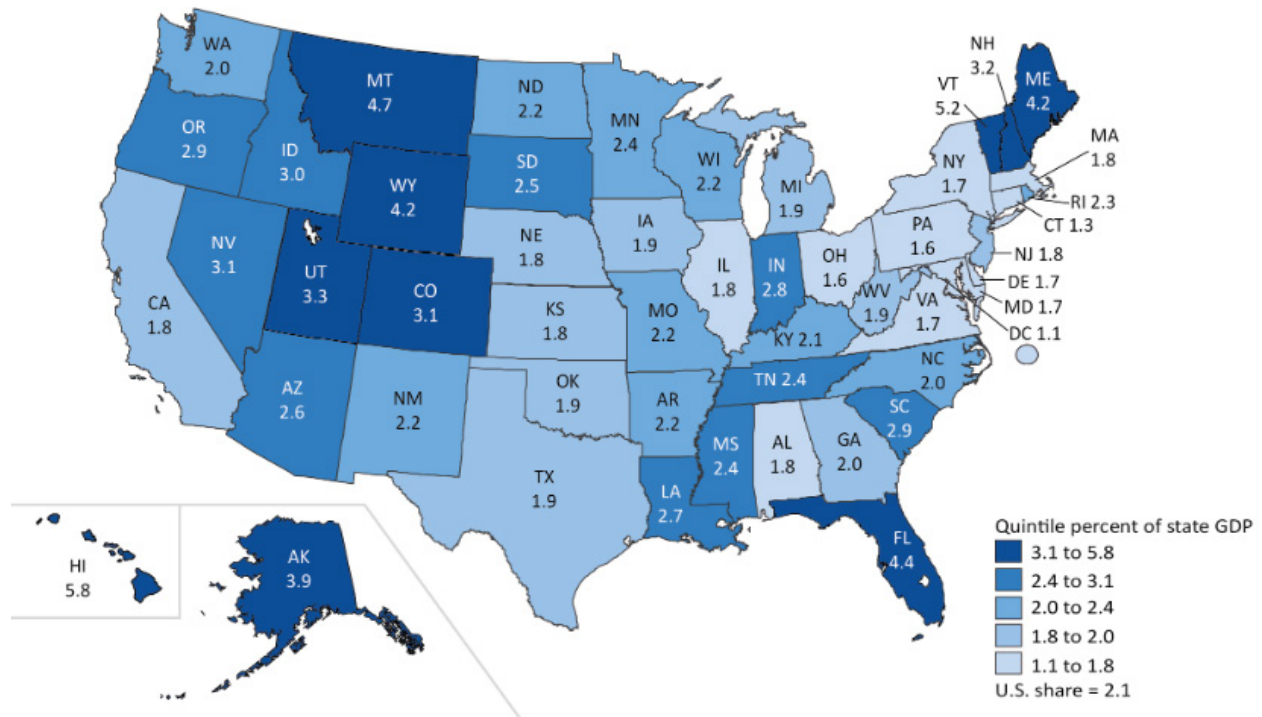
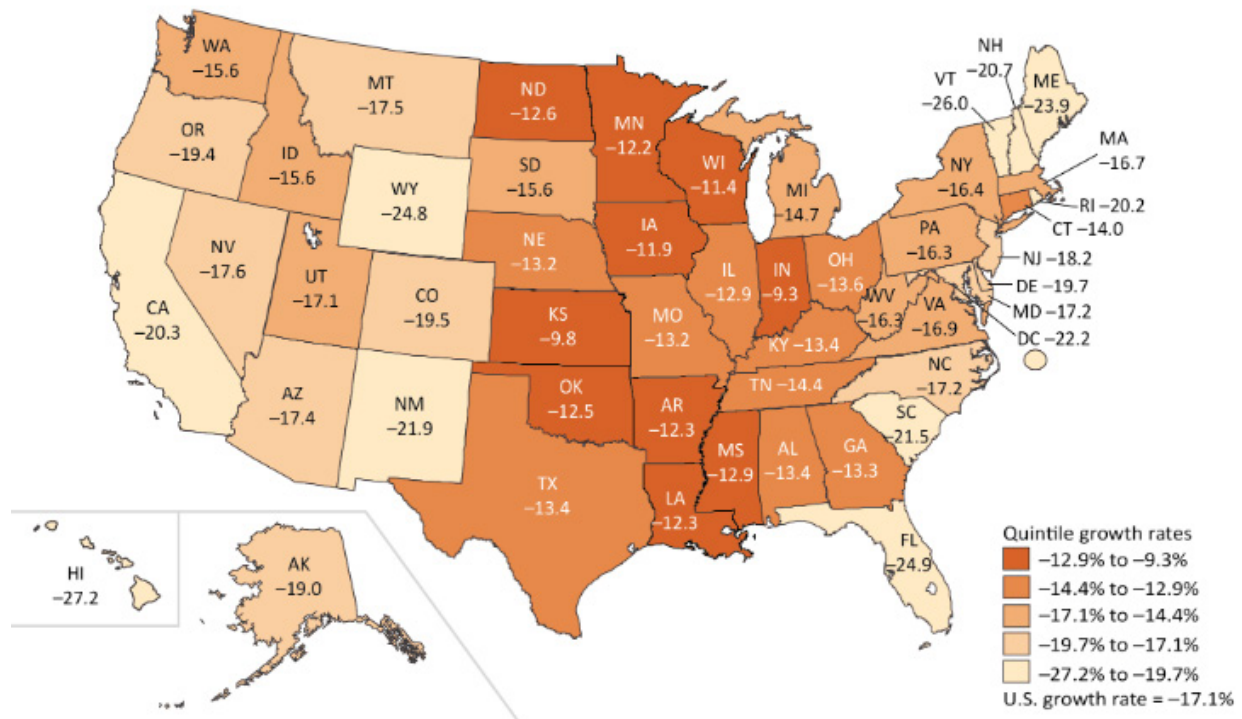


Figure 2: Percent Change in Outdoor Recreation Employment, 2019 to 2020, reproduced from the BEA¹⁵



¹⁴ Retrieved from: <https://www.bea.gov/news/blog/2020-11-10/outdoor-recreation-satellite-account-us-and-states-2019#:~:text=The%20new%20U.S.%20data%20show,to%201.3%20percent%20in%20Connecticut.>

¹⁵ Retrieved from: <https://www.bea.gov/news/2021/outdoor-recreation-satellite-account-us-and-states-2020>

Table 2: Total Economic Contribution of Outdoor Recreation in Colorado, by region. Table recreated from Southwick Associates (2018). Numbers are in thousands of dollars.¹⁶

	Northwest	North Central	Metro	Northeast	Southeast	South Central	Southwest	State
Output	\$14,879	\$13,846	\$10,648	\$505	\$1,648	\$6,384	\$5,009	\$62,540
Salaries & Wages	\$5,088	\$4,384	\$3,862	\$166	\$494	\$1,845	\$1,673	\$21,372
GDP Contribution	\$8,276	\$7,487	\$6,167	\$254	\$808	\$3,201	\$2,657	\$34,997
State/Local Taxes	\$1,231	\$1,002	\$743	\$51	\$184	\$615	\$490	\$4,369
Federal Taxes	\$1,195	\$1,074	\$934	\$39	\$121	\$439	\$380	\$5,125
Jobs	133,658	119,958	86,976	5,709	20,209	68,321	53,090	511,059

Southwick Associates (2018) performed their study using a survey from the Colorado Parks and Wildlife (CPW) that was sent to 7,000 Colorado residents. The survey was part of the Colorado Statewide Comprehensive Outdoor Recreation Plan that is used by CPW.¹⁷

OUTDOOR INDUSTRY ASSOCIATION

Other studies include a report by the Outdoor Industry Association titled “The Outdoor Recreation Economy.” This report estimates \$887 billion in consumer spending annually on outdoor recreation, creating 7.6 million jobs, 65.3 billion in federal tax revenue, and 59.2 billion in state and local tax revenue.¹⁸

Methodology

The business survey in this study is a standard economic impact survey that uses the income approach to GDP to estimate the impact of outdoor recreation businesses on the economy of Mesa County. The survey included questions on industry identification, wages, jobs, operating expenditures, capital expenditures, and proprietors’ income. The survey was sent to a list of 150 businesses in Mesa County that were identified as outdoor recreation-based businesses. This list was created with the help of the Grand Junction Economic Partnership (GJEP), a local economic development agency who regularly interacts with the outdoor recreation industry and has been compiling this list for years.¹⁹ In addition, this list was augmented with the help of the Outdoor Recreation Coalition (ORC), a trade industry group, which helped to identify any missing businesses or businesses that should not be included on the list.

Regular meetings with GJEP and ORC were conducted to discuss the qualities that a business which is included on a list of outdoor recreation businesses should have to be included in the study. The researchers determined that an existing framework for outdoor recreation should be used. The categories used are from Southwick Associates (2018).²⁰ These categories are used by the Colorado Outdoor Recreation Industry Office, and offer a useful baseline of outdoor activity categorization. The categories used in this report are almost exactly the same as the Southwick Associates (2018) report, with slight modifications that came from discussions with the authors, ORC, and GJEP, and are listed below.

¹⁶ ibid

¹⁷ ibid

¹⁸ Outdoor Industry Association. (2017). The Outdoor Recreation Economy. Retrieved from: https://outdoorindustry.org/wp-content/uploads/2017/04/OIA_RecEconomy_FINAL_Single.pdf.

¹⁹ Although in this report outdoor recreation businesses are referred to as an “industry,” really the outdoor recreation businesses are more of a trade group that includes several actual industries.

²⁰ Southwick Associates. (2018). The 2017 Economic contributions of outdoor recreation in Colorado: A regional and county-level analysis. Retrieved from: https://cpw.state.co.us/Documents/Trails/SCORP/2017EconomicContributions_SCORP.pdf.

Table 3: Outdoor Recreation Categories

Trail/Road	Walking, Jogging/Running (outdoors), Hiking/Backpacking, Horseback riding, Road biking, Mountain biking, Off-highway vehicle (OHV) or 4-wheeling/motorcycling
Water Based	Swimming (outdoors), Power boating, Water/Jet skiing, Sailing, Canoeing/Kayaking, Whitewater rafting, Stand up paddle-boarding
Winter	Skiing (alpine/tele)/snowboarding, Sledding/tubing, Snowmobiling, Snowshoeing, Cross-country skiing
Wildlife Related	Hunting, Fishing, Ice fishing, Bird Watching, Wildlife viewing
Other Outdoor	Developed/RV camping, Tent camping, Picnicking, Target or skeet shooting, Rock climbing, Team or individual sports (outdoors), Playground activities

An email was sent to the 150 outdoor recreation businesses with a Qualtrics survey link. Several subsequent reminder emails were sent over a two-month period ranging from 2/11/22 to 3/31/22, with the survey closing on the last day of March, 2022.²¹

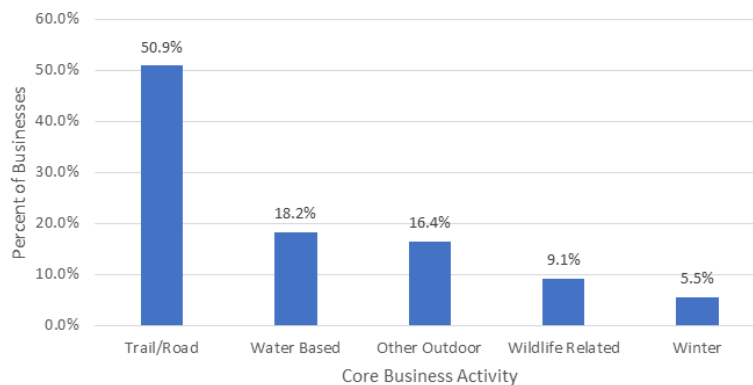
The data was extrapolated from the survey of the population using this business list. There were 45 responses to the wage question, and 51 responses to the employment question.²² These extrapolated numbers were input based on the industry each survey respondent indicated was their primary NAICS identification. The results from the business economic impact were combined with the results of the tourism economic impact to determine the full economic impact of outdoor recreation on Mesa County.

The model uses IMPLAN data from 2019. 2020 IMPLAN data was available, but because of COVID-19's impact on the economy, 2019 was determined to be a better year to compare in normal economic conditions. 2021 dollar prices were used.

RESULTS

Businesses were asked in the survey which best describes their core business activities. 50.9% responded trail/road, 18.2% water based, 16.4% other outdoor, 9.1% wildlife related, and 5.5% winter.

Figure 3: What best describes your core business activities in outdoor recreation?



²¹ It is important to note that there were 4 corporate businesses that sell outdoor recreation goods that did not respond to this survey: REI, Dicks Sporting Goods, Walmart, and Target. REI and Dicks are large outdoor recreation goods retailers that cause the total economic impact to be undercounted in this study. The jobs and wages these companies provide would be counted, however, due to the nature of their businesses, only the retail markup would be counted in GDP calculations since most products are purchased wholesale outside of the county.

²² In addition, the survey was sent to government agencies and public institutions that engage in outdoor recreation management or activity. This was a short list and was not included in the list of 150 businesses, and instead was treated as a separate category that was not extrapolated like the NAICS category businesses. The government/public information was not extrapolated to a larger number was simply modeled as is.

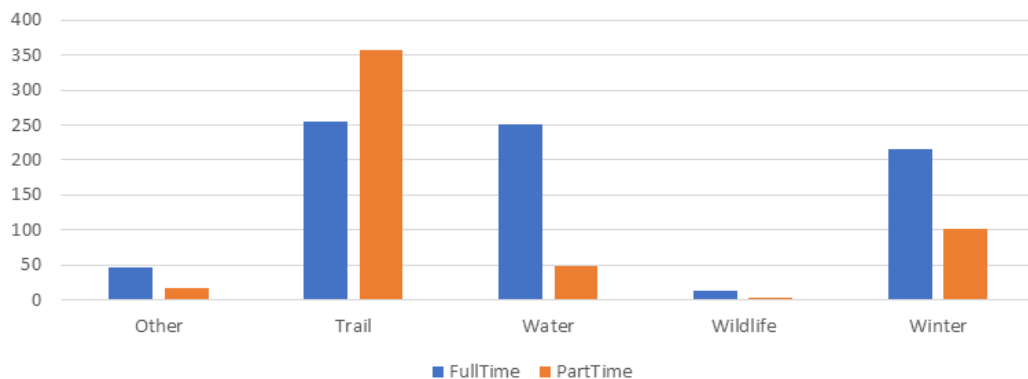
Respondents indicated that an average of 88% of their business revenue came from the categories listed in figure 3.²³ The survey asked businesses how long they have been in business in Mesa County. The average outdoor recreation business has been in Mesa County for 14.63 years. Survey respondents were asked to select which NAICS code best described their business. Table 4 illustrates that 28% of respondents said retail trade, 20.8% arts, entertainment, and recreation, and 20.8% manufacturing.

Table 4: Outdoor Recreation Industry Code Classification

Industry	Count	Percentage
Retail Trade	15	28.3%
Arts, Entertainment, and Recreation	11	20.8%
Manufacturing	11	20.8%
Other	5	9.4%
Professional, Scientific, and Technical Services	3	5.7%
Wholesale Trade	3	5.7%
Agriculture, Forestry, Fishing, and Hunting	2	3.8%
Other Services	2	3.8%
Educational Services	1	1.9%

51 businesses responded to the employment question, reporting 782 full time jobs and 529 part time jobs.²⁴ Extrapolating to the full 150 businesses shows an estimated employment number of 2,299 full time and 1,555 part time employees from the business survey. Figure 4 illustrates the number of employees by core business type.

Figure 4: Number of employees by core business



Forty-five businesses responded to the wage question, with a total of \$27,978,664 in wages. Extrapolating to the full business population brings an estimate of \$93,262,213 in total wages for the outdoor recreation industry.

Businesses were asked to list expenditures that are not related to wages or capital expenditures. Twenty-seven businesses answered this question, and those that did not answer their response was treated as zero. Both the expenditures, capital expenditures, and proprietor income were extrapolated based on the wage question response of 45, with no response treated as zero.

²³ Note that when extrapolating the data to the population, jobs and wages were weighted based on the percentage of revenue that companies reported was related to outdoor recreation. 88% was the average, but when weighted by wages, this number rises to 96.7%.

²⁴ This estimate has a margin of error of 11.2%.

Table 5: Wage and Employment Contribution by Industry (full and part time jobs combined)

Industry	Wage Percentage	Job Percentage
Manufacturing	65.00%	52.2%
Retail Trade	14.16%	8.2%
Arts, Entertainment, and Recreation	9.70%	28.4%
Other	5.44%	4.1%
Professional, Scientific, and Technical Services	3.52%	4.9%
Wholesale Trade	0.72%	0.5%
Agriculture, Forestry, Fishing, and Hunting	0.59%	1.3%
Other Services	0.57%	0.3%
Educational Services	0.30%	0.1%
Grand Total	100%	100%

INPUT-OUTPUT MODELING

This report uses a data and software program called IMPLAN²⁵ to conduct the economic contribution and impact analysis. IMPLAN is an Input-Output model that accounts for all flows of economic activity between different sectors in an economy, including government and households. The model uses a Social Accounting Matrix (SAM) which, along with accounting for the relationships between different industries, and accounts for the relationships between industries, households, and government, as well as other elements like savings, commuting, and trade.

The direct effect from jobs, wages, expenditures, and proprietor income is the starting point for the economic contribution story. After the direct industry contribution is calculated, these numbers need to be adjusted for leakages from the economy, supply chain effects, and multiplier effects, all of which IMPLAN estimates.

Leakages are important to consider because not every dollar spent in the county stays in the region. Leakages include taxes, commuting (a leakage of employee compensation), savings, and imports from other areas (as imported goods do not drive further local effects). In addition to this, there is a difference between proprietor-owned businesses and corporate businesses, as corporate-owned businesses send profits to a corporate office and are not spent locally. Leakages are calculated by IMPLAN for each economic activity.

IMPLAN also calculates supply chain effects for each spending category and industry. Supply chain effects, or indirect effects, are the effects of local spending on suppliers. Take the example of a ski lift repair company. When repairing ski lifts, the ski lift repair company uses supplies from local suppliers, buying steel, parts for the ski lift chair, etc., which would be a supply chain impact. However, there may be instances where there is not a local ski lift repair option, and repairs are purchased outside of the region, in which case it would not be counted as economic impact on the supply chain. IMPLAN estimates these supply chain effects per industry and estimates how much of this supply chain effect is spent locally. Induced effects are also calculated by IMPLAN and are vital to any economic impact report. Every dollar spent by both outdoor recreation workers and employees of outdoor recreation supply chain businesses in the area becomes income to someone else, such as a local business, hotel employee, gas station attendee, or wait staff. Each of these businesses or employees spends this new income, creating income for someone else. The cumulative impact of these rounds of spending is known as the multiplier effect. The multiplier effect is the total economic effect divided by the direct effect.

Model and Results²⁶

The direct effect is the initial value that the industry contributes to the study region. Indirect effects are supply chain effects, and induced effects represent the employee spending from those working in the direct and indirect industries. The three combined are the total economic contribution. The direct employment for this industry is 3,690, and after indirect and induced effects, the total contribution to county employment is 4,501. Table 6 shows that the outdoor recreation industry contributes \$190,673,455 to county GDP. This equates to 2.84% of the total GDP for the county.

²⁵ IMPLAN Group LLC. IMPLAN 2020. Huntersville, NC. IMPLAN.com.

²⁶ Some wording and phrasing explaining economic impact concepts is taken from previous economic impact studies conducted by

Table 6: Economic Impact of Outdoor Recreation Businesses²⁷

	Employment	Labor Income	GDP	Output
1 - Direct	3,690	\$98,466,896	\$131,254,953	\$198,892,817
2 - Indirect	265	\$10,770,138	\$17,298,177	\$42,540,416
3 - Induced	546	\$22,688,869	\$42,120,325	\$77,350,251
Total	4,501	\$131,925,902	\$190,673,455	\$318,783,484

The contribution to county GDP, or value added in economic terms, is the difference between an industry's output and the cost of intermediate inputs. "Value Added" is defined as the total market value of all final goods and services produced within a region for each period of time. Output includes value added (GDP) plus the cost of intermediate goods.²⁸

The questionnaire asked to list full and part-time employment. 59.6% of jobs are full time, while 40.3% are part-time. IMPLAN job results can be applied to these percentages to get an estimate of what percentage of these jobs are full time versus part-time. To check the employment estimates, the model was run without the employment data from the survey, using just the wages, proprietor income, and intermediate inputs, allowing IMPLAN to estimate employment provided the given information. Results for GDP were almost identical, and direct job numbers fell to 3,238 with total job numbers including indirect and induced effects at 4,048. The number is smaller but not significantly smaller, indicating to the authors the authenticity of the survey results.

The total output value of \$321,162,442 represents the gross total value of all sales and production due to the outdoor recreation industry. This is a broader measure than the standard gross domestic product (GDP). Output is the value of an industry's production. It counts the county GDP and the intermediate inputs that are associated with it. This total output measure is the gross measure of local economic activity and is more in line with how a business would account for the sales transaction from one firm to another. GDP, or "value added" is a subset of "Output," and is a useful measure of wealth created by an economy. Therefore, GDP is a more accurate representation of economic contribution and is the emphasis of this report. Table 7 illustrates the employment impact by industry.

Table 7: Employment Impact by Industry Top 10

Industry Display	Direct Employment	Indirect Employment	Induced Employment	Total Impact Employment
362 - Motorcycle, bicycle, and parts manufacturing	1,991.45	0.02	0.00	1,991.47
504 - Other amusement and recreation industries	604.06	0.52	3.36	607.94
410 - Retail - Sporting goods, hobby, musical instrument and bookstores	484.65	0.12	5.31	490.08
528 - Other federal government enterprises	37.00	0.01	0.02	37.03
405 - Retail - Building material and garden equipment and supplies stores	34.52	1.33	3.73	39.58

Nathan Perry.

²⁷ Employment, wages, proprietor income, and intermediate inputs were modeled through the use of IMPLAN's industry impact analysis function. Capital expenditures were modeled as a commodity outputs.

²⁸ A good example illustrating the relationship between total output and GDP is car production: GDP only counts the final value of the car, but total output adds the intermediate goods of steel, rubber, and other parts, plus the total value of the car. This is known as double counting in GDP calculations.

468 - Marketing research and all other miscellaneous professional, scientific, and technical services	28.82	1.18	0.69	30.69
395 - Wholesale - Machinery, equipment, and supplies	16.51	1.37	0.47	18.35
18 - Commercial hunting and trapping	12.82	0.00	0.02	12.85
482 - Other educational services	11.78	1.75	5.60	19.13
396 - Wholesale - Other durable goods merchant wholesalers	9.21	14.20	2.02	25.44

Table 8 illustrates the tax impacts at the federal, state, county, sub-county special district, and sub county general level. The tax impacts are broken down by direct, indirect, and induced effects. Outdoor recreation contributes a total of \$3,530,172 to county taxes, \$4,452,301 to sub-county special districts, and \$3,130,994 to sub-county general.

Table 8: Tax Impact of business model

	Sub-county General	Sub-county Special Districts	County	State	Federal	Total
1 - Direct	\$2,245,310	\$3,193,906	\$2,531,944	\$8,145,600	\$23,190,199	\$39,306,959
2 - Indirect	\$177,648	\$253,535	\$200,623	\$753,129	\$2,487,284	\$3,872,218
3 - Induced	\$708,036	\$1,004,860	\$797,605	\$2,414,691	\$5,591,438	\$10,516,630
Total	\$3,130,994	\$4,452,301	\$3,530,172	\$11,313,420	\$31,268,920	\$53,695,807

OUTDOOR RECREATION TOURISM

INTRODUCTION

Tourism is a vital component of many local economies and serves as an important component for Mesa County. Aside from the outdoor recreation amenities listed in the previous section, Mesa County is also home to a large vineyard and wine industry, as well as lavender and peach farms that are agritourism based.

There are several studies and estimates on the impact of tourism on Mesa County, but none that try to determine the proportion of that impact that is due to outdoor recreation tourists. The second section of this report is dedicated to estimating the economic impact of outdoor recreation tourism on Mesa County. There are three primary studies that helped inform this study, and a summary of their results are listed below.

LITERATURE REVIEW

Tourism Economics, a tourism economics consulting firm, performed an economic impact of tourism study for the City of Grand Junction in 2019.²⁹ This study uses information from the Longwoods International (2020) studies, as well as BEA data, tax data, census data, lodging performance data, and Tourism Economics specific data such as aviation data, survey data, and credit card information data.

Tourism Economics found that 3.1 million people visit Grand Junction every year. Total visitor spending was \$417,300,000, and when including indirect and induced spending, the total economic impact was \$621,700,000. 2019 GDP was \$6,864,880,000, which means tourism spending equates to 9% of Mesa County's GDP.²

Longwoods International (2020) provides detailed tourism reports to Visit Grand Junction that estimate total number of tourists, activities, spending, and demographics.³⁰ Longwoods International (2020) states that "respondents are selected to be representative of the U.S. population." For Grand Junction, Longwoods International had a sample size of 439 for overnight based travel, and 239 for day-based travel.

Longwoods International does not directly estimate economic impact of tourism but does provide spending profiles of the average traveler to Grand Junction by category. Longwoods International estimates that 16% of leisure travelers cite outdoors as the main purpose of the trip. In addition, 2% cite skiing/snowboarding, which in the Longwoods International study is considered a separate category.

Summit Economics, LLC (2016) produced a study on the economic impact of the travel industry on Mesa County, and estimated that 4,836 jobs were the result of tourism.³¹ When considering indirect and induced effects, the number of jobs increases to 5,566. In the Summit Economics tourism survey, they found that 44% of people who visited were vacationing, while 38% visited city/state/national parks, and 28% engaged in hiking.

Methodology

For the tourism survey, the authors partnered with Visit Grand Junction (the travel and tourism office of the city). To capture the economic impact of tourism, a survey was deployed using the software, Suzy.³² Suzy is an app that incentivizes users to answer surveys and asks a series of questions to identify the target audience and weed out non-realistic answers. The initial survey was sent to 15,050 participants that the software identified could have traveled to Mesa County through its location tracking capabilities. The initial survey question asks users "which of the following places have you visited in the last 3 years," and forces users to select Grand Junction area, which includes Grand Junction, Fruita, and Palisade, from a list of options. These three municipalities make up the identity of Mesa County, and in discussions with Visit Grand Junction, asking about the "Grand Junction area" was more likely to resonate than "Mesa County." The last 3 years (2019-2021) were used to get a larger sample size.

Through a series of questions, users were asked their purpose for visiting. If users identified that they traveled to Mesa

²⁹ Tourism Economics. (2020). Economic Impact of Tourism in Grand Junction, Colorado, 2019.

³⁰ Longwoods International. (2020). Travel USA Visitor Overnight Visitation.

³¹ Summit Economics, LLC. (2016). The impact of the travel industry on the Mesa County Economy. Retrieved from: https://www.visitgrandjunction.com/sites/default/master/files/final_the_impact_of_the_travel_industry_on_mesa_county_final.pdf.

³² <https://suzy.com/>

County to engage in outdoor recreation, they became part of the 290 usable responses.³³ If they traveled to Mesa County to engage in business, and then selected that they engaged in outdoor recreation, they were not included in the usable responses. The reasoning is that their spending on hotels, food, etc., would have existed due to their business trip regardless of their additional outdoor recreation. Hence the travel spending is spurred by business and not outdoor recreation. It may be possible that some outdoor recreational spending such as renting a mountain bike should be counted. However, in the business survey we have counted the impact of wages, profits, expenditures, etc., hence the travel spending on outdoor recreation is already accounted for and counting it in the tourism economic impact would be double counting. This is true for both business travelers and people who came exclusively for outdoor recreation. Avoiding the double counting GDP issue is an integral methodological component of combining a business economic impact and a tourism economic impact.

From this sample size of 15,050 people, 802 respondents indicated that they had visited the region in the last three years. Of these 802 individuals, 315 indicated their primary reason for visiting was outdoor recreation, with 290 answers that were usable. A spending profile was created using the spending questions asked in the “Suzy” survey. This spending profile was then extrapolated using data from the Tourism Economics study. Tourism Economics estimates that 3.1 million people travel to Grand Junction every year. The spending profile was extrapolated to the population of tourists using these data points.

Outdoor Recreation tourism respondents were 64% female, with 43% of respondents in their 40s, 25% in their 30s, and 14.5% in their 50s. Respondents were 88.4% white/Caucasian, 60% of whom have a graduate or professional degree, and 20.5% who have a bachelor’s degree. 67% of respondents made \$75,000 or more, and 83% were married. Additional demographic data, as well as graphical illustrations of demographic data including a state of origin heatmap, are in appendix A.

Results

Table 9 illustrates the results of the IMPLAN model, and shows a direct employment impact of 4,743. Considering indirect and induced effects, the total employment impact of outdoor recreation tourism is 6,478, creating \$190,139,531 in wages. IMPLAN estimates that Mesa County has a total employment number of 89,961, which means outdoor recreation tourism equates to 5.2% of total employment and counting indirect and induced effects that number rises to 7.2% of employment. Converting this employment number to full time equivalent (FTE) shows 4,034 in direct FTE employment and 5,510 in total FTE.

The direct county GDP contribution is \$227,247,122, equating to 3.3% of Mesa County GDP, and when including indirect and induced effects, this equates to 5.2% of county GDP. When compared to the total tourism economic impact, Tourism Economics (2019) reports a total of \$417,300,000 in direct total tourism spending in Mesa County and adding indirect and induced effects the total impact is \$621,700,000 in Mesa County. Using IMPLAN’s 2019 GDP number, the Tourism Economics result equates to 6.2% of GDP measuring just the direct impacts and 9.2% for the total impact. This means that outdoor recreation tourism accounts for 54.4% of the total economic impact of tourism estimated by Tourism Economics.

Table 9: Economic Impact of Outdoor Recreation Tourism³⁴

	Employment	Labor Income	GDP	Output
1 - Direct	4,743	\$118,898,311	\$227,247,122	\$406,326,892
2 - Indirect	950	\$38,634,022	\$61,230,123	\$143,333,096
3 - Induced	785	\$32,607,199	\$60,539,194	\$111,169,934
Total	6,478	\$190,139,531	\$349,016,438	\$660,829,922

Table 10 illustrates the employment impact by industry. Because outdoor recreation spending by tourists is counted in this section (and will be omitted from the final combined calculation to avoid the double counting problem), outdoor recreation tourism has the biggest impact on other amusement and recreation industries, hotel employment, retail, rental car businesses, and food services.

³³ This estimate has a margin of error of 5.7%.

³⁴ Each spending category from the survey was input into IMPLAN using IMPLAN’s industry output function.

Table 10: Employment Impact by Industry top 10 Outdoor Recreation Tourism

Industry Display	Impact Employment (1 - Direct)	Impact Employment (2 - Indirect)	Impact Employment (3 - Induced)	Total Impact Employment
Other amusement and recreation industries	1,410.39	1.45	4.84	1,416.68
Hotels and motels, including casino hotels	1,044.95	0.01	0.01	1,044.98
Retail - Miscellaneous store retailers	620.93	3.83	16.26	641.02
Automotive equipment rental and leasing	426.72	3.79	2.31	432.82
All other food and drinking places	276.92	71.58	19.59	368.09
Full-service restaurants	257.27	28.67	49.88	335.82
Limited-service restaurants	216.59	9.61	51.1	277.3
Retail - Food and beverage stores	188.2	1.39	22.28	211.87
Retail - Gasoline stores	165.57	0.69	5.84	172.1
Retail - Nonstore retailers	98.2	3.75	14.94	116.9

Table 11 illustrates the tax impacts at the federal, state, county, sub-county special district, and sub-county general level. The tax impacts are broken down by direct, indirect and induced effects. Outdoor recreation contributions a total of \$12,064,972 to county taxes, \$10,723,401 to sub county general, and \$15,176,686 to sub-county special districts.

Table 11: Tax Impact of Outdoor Recreation Tourism

	Sub-county General	Sub-county Special Districts	County	State	Federal	Total
1 - Direct	\$8,945,028	\$12,648,827	\$10,060,224	\$25,118,674	\$31,575,903	\$88,348,657
2 - Indirect	\$760,842	\$1,083,755	\$858,494	\$2,986,033	\$8,903,629	\$14,592,754
3 - Induced	\$1,017,532	\$1,444,104	\$1,146,253	\$3,470,263	\$8,035,865	\$15,114,017
Total	\$10,723,401	\$15,176,686	\$12,064,972	\$31,574,970	\$48,515,398	\$118,055,428

COMBINED RESULTS

The business economic impact and tourism economic impact are combined for the total economic impact of outdoor recreation, subtracting for the tourism study's purchases of outdoor recreation goods to avoid the double counting issue. These results are in table 12. When comparing the final results to the Bureau of Economic Analysis estimates, it is important to just use the direct impacts.

The BEA estimate of 3.1% for Colorado is a direct estimate and does not include indirect and induced impacts. The total direct economic impact of outdoor recreation, including outdoor recreation businesses and outdoor recreation tourism is \$321,625,137, or 4.8% of GDP. This 4.8% is directly comparable to the BEA's estimate for Colorado of 3.1%. Including indirect and induced effects raises the GDP impact to \$484,474,065 or 7.2% of GDP. The direct job impact is 7,620, or 8.4% of total jobs. When including indirect and induced effects that number rises to 9,897, or 11% of jobs.³⁵ This jobs number includes part-time and seasonal employment. Table 13 summarizes the percentage of total jobs and percentage of GDP for the business impact, tourism impact, and combined impacts.

³⁵ IMPLAN estimates jobs at 89,961.04, while the BEA for the same year (2019) estimates jobs at 90,875. IMPLAN data is used for the jobs comparison and the GDP comparison.

Table 12: Economic Impact of Outdoor Recreation Businesses

	Employment	Labor Income	GDP	Output
1 - Direct	7,620	\$200,550,181	\$321,625,137	\$540,434,017
2 - Indirect	1,060	\$43,455,671	\$68,931,601	\$162,163,184
3 - Induced	1,217	\$50,587,383	\$93,917,328	\$172,466,597
Total	9,897	\$294,593,235	\$484,474,065	\$875,063,799

Table 13: Percentage of Jobs and GDP Summary

	% of Total Jobs	% of GDP
Business		
Direct	4.10%	1.96%
Total	5.00%	2.84%
Tourism		
Direct	4.37%	2.84%
Total	6.00%	4.38%
Combined		
Direct	8.47%	4.80%
Total	11.00%	7.23%

CONCLUSION

The total impact of outdoor recreation in Mesa County is 7.2% of GDP and 11 % of jobs. Given the abundance of natural amenities such as public land and open space, it is not surprising that the 4.8% direct outdoor recreation economic impact is significantly higher than the state average of 3.1% direct outdoor recreation impact as measured reported by the BEA. Accounting for more than 1 out of every 10 jobs in Mesa County (direct, indirect and induced effects), outdoor recreation is a significant part of the economic profile of Mesa County contributing not only revenue and jobs, but quality of life for those workers who also recreate outdoors when they are not working as a result of the industry impact³⁶. Outdoor recreation is clearly an important part of not only the economy of Mesa County, but the identity of the county and the potential for future economic growth in the future.

While this study details the significant direct, indirect and induced effects of outdoor recreation (business and tourism) on the Mesa County economy, it does not capture the impact that outdoor recreation has on decisions to come to Mesa County on business trips and conventions because of the desire to recreate outdoors in addition to the business conducted; nor does it account for the recruitment benefits for businesses already located in Mesa County when trying to attract employees. These contributions would require a different study to capture such impacts, but are likely to add to the economic and other benefits Mesa County derives from the existence of such an abundance of outdoor recreation opportunities in the area. This study has demonstrated the value of assessing outdoor recreation economic impacts at the county level in Mesa County and can act as a model to apply this research to other counties in Colorado and across the West. A simple guide on how to repeat this study in other counties can be found in Appendix B.

³⁶ The contribution of outdoor recreation to quality of life in rural western Colorado counties including Mesa County is well documented as a reason for migrating to and staying in the counties in Casey, T., and Gollob, J. (2017). Rural Colorado Migration Study; Center for Western Priorities (2015), SOBAN (2021).

APPENDIX A: TOURISM SECTION DEMOGRAPHICS

Figure 5: Gender composition of respondents

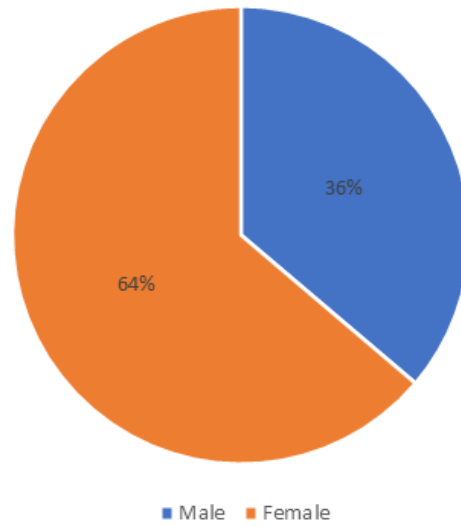


Figure 6: Age Distribution of Respondents

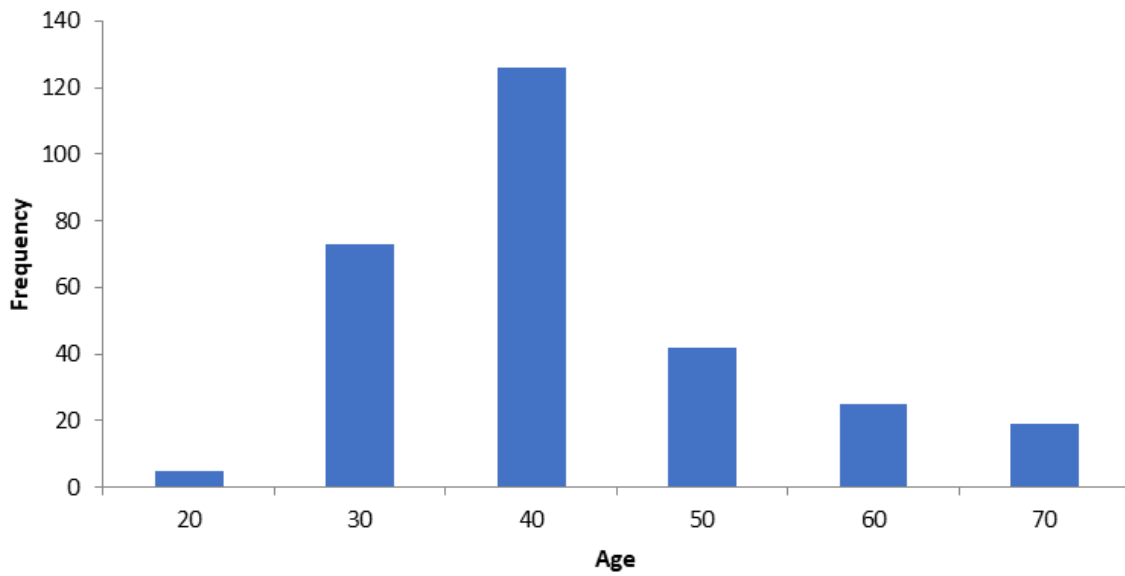


Figure 7: Race/Ethnicity

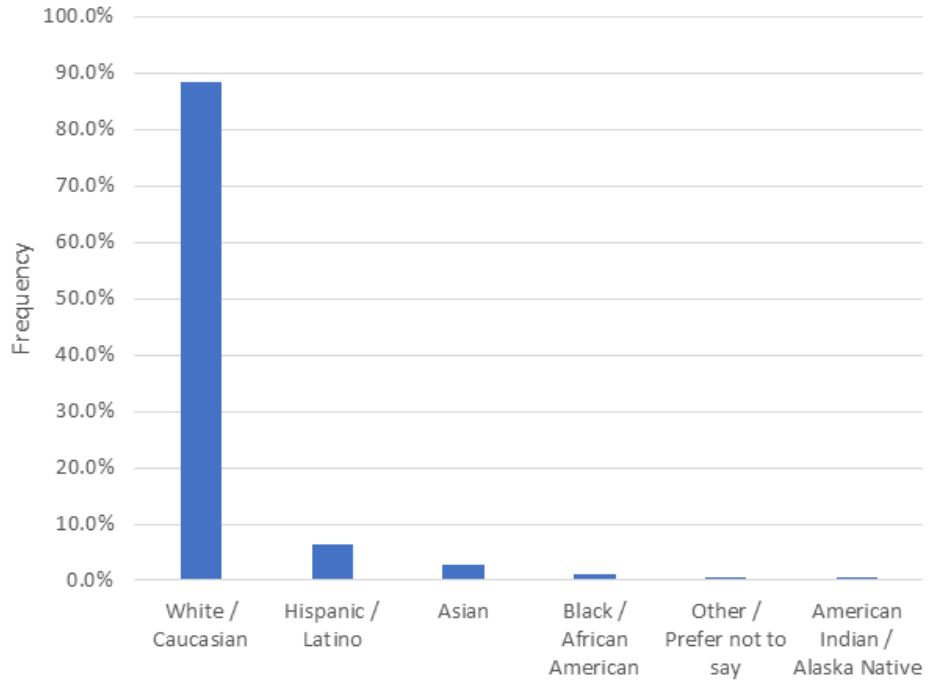


Figure 8: Education

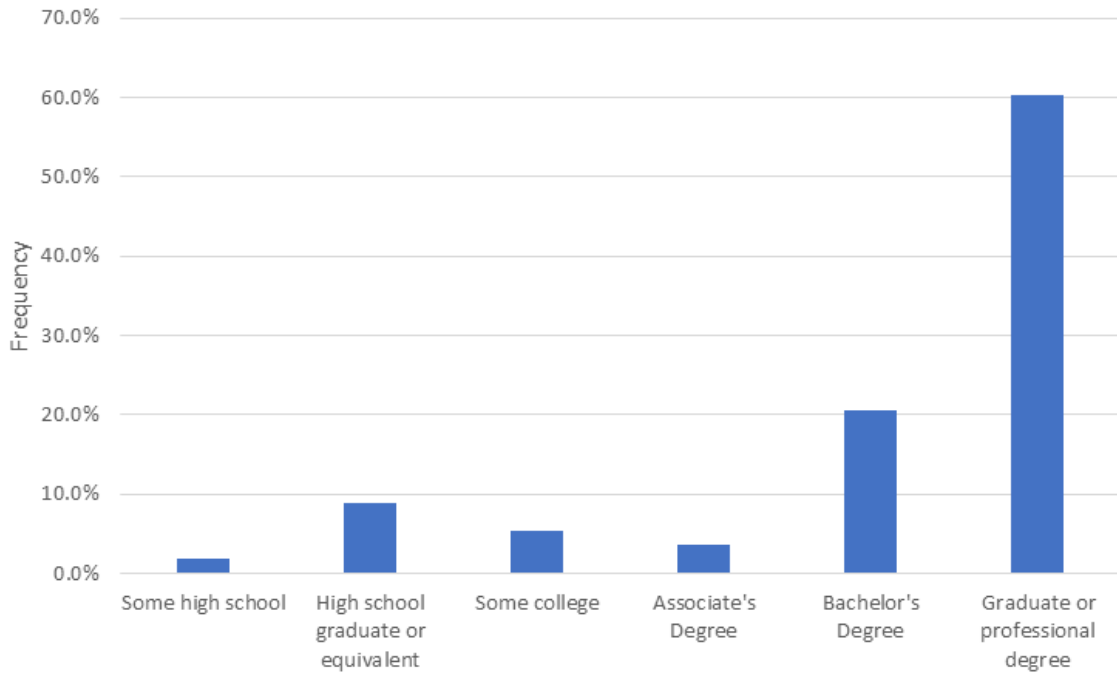


Figure 9: Income

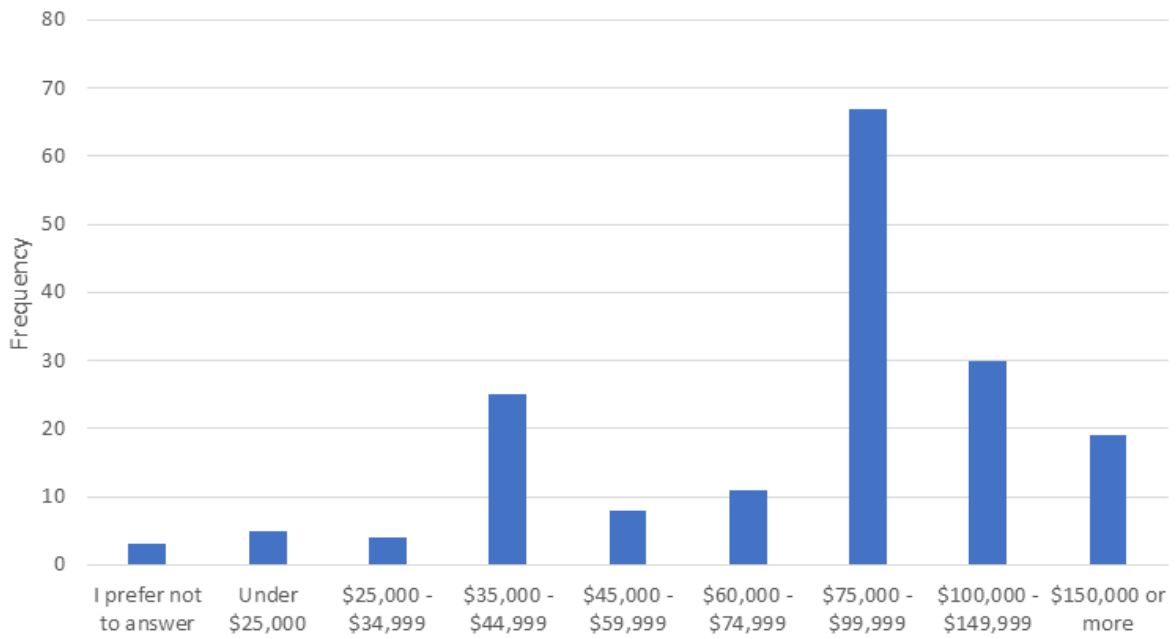


Figure 10: Relationship Status

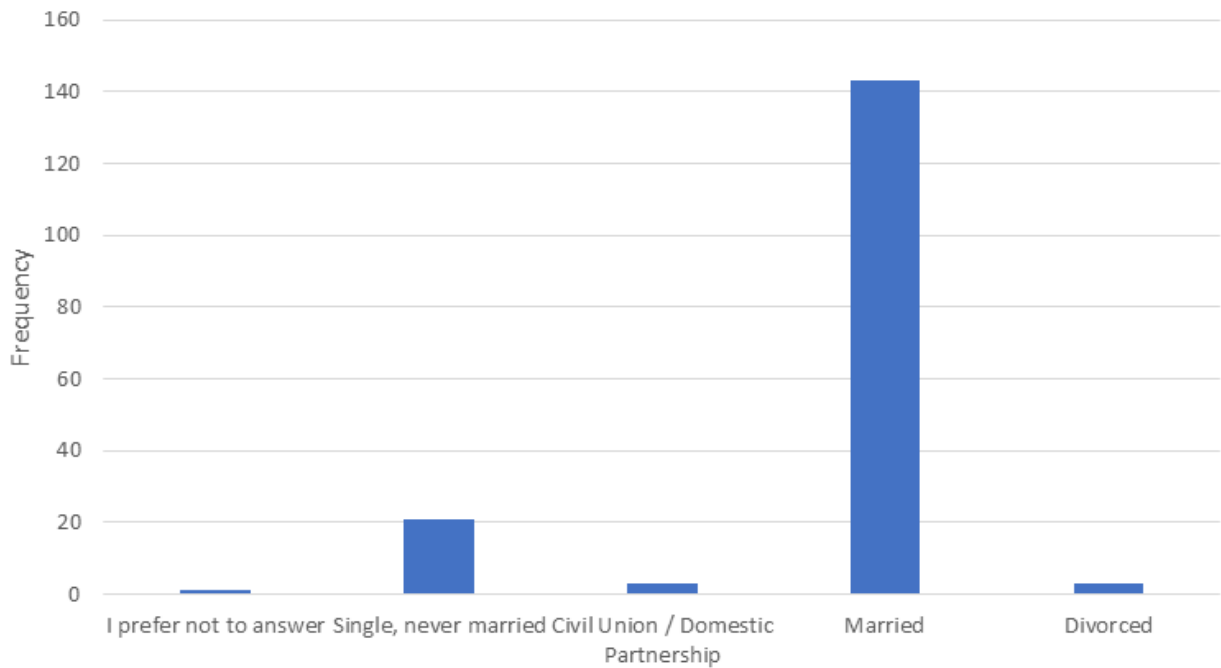


Figure 11: Household Size

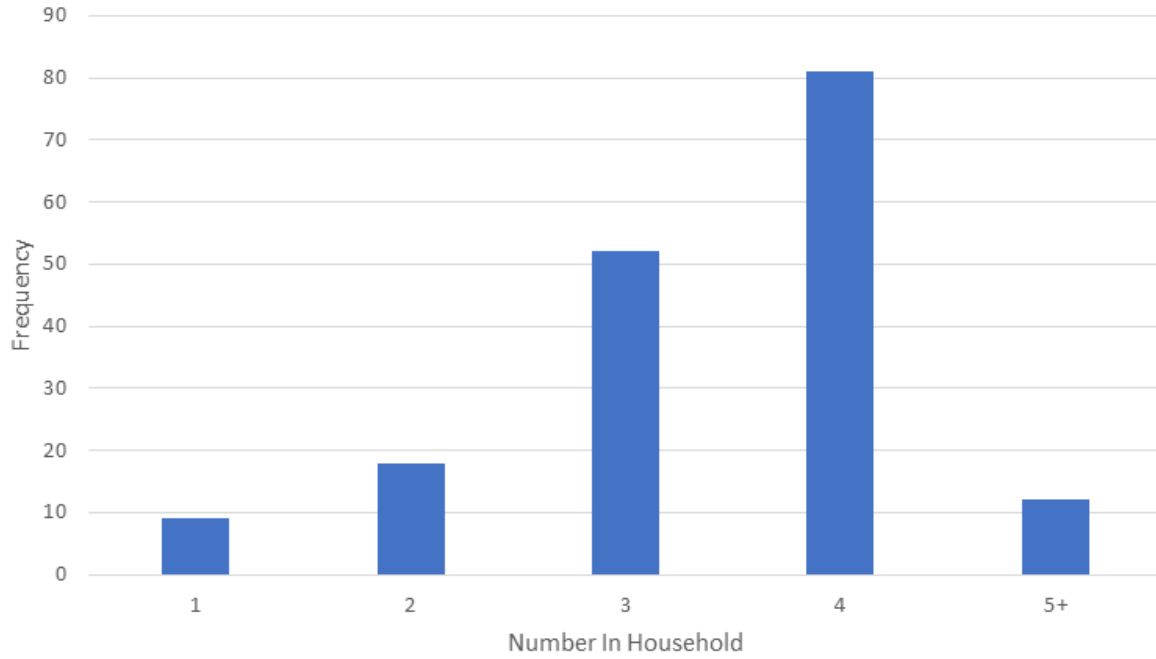


Figure 12: Parenting Status

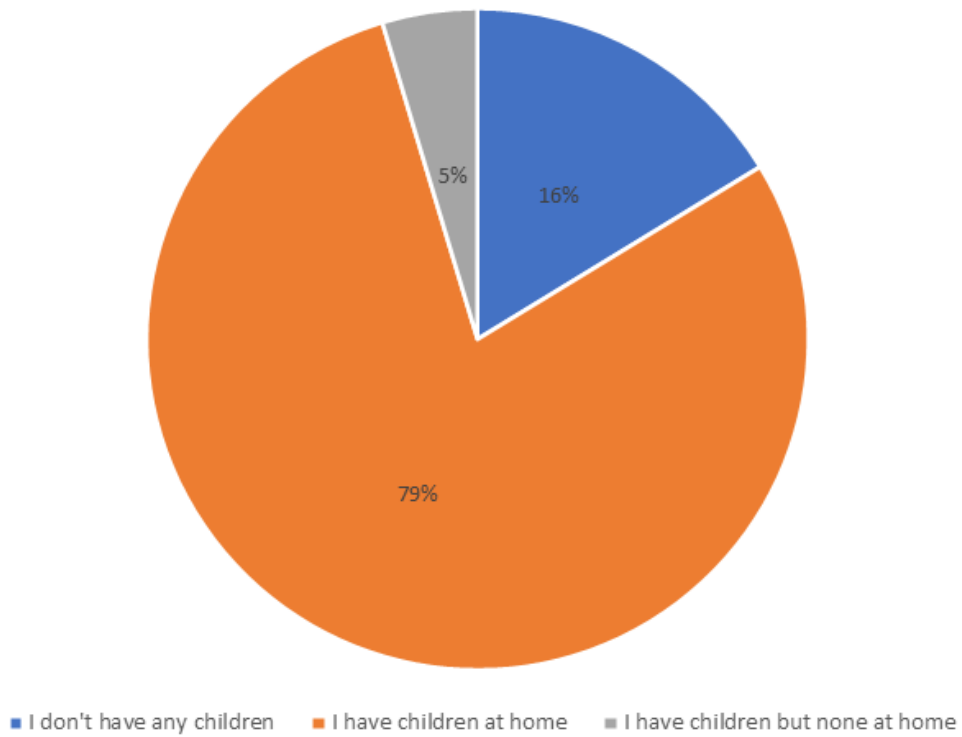


Figure 13: State of Origin

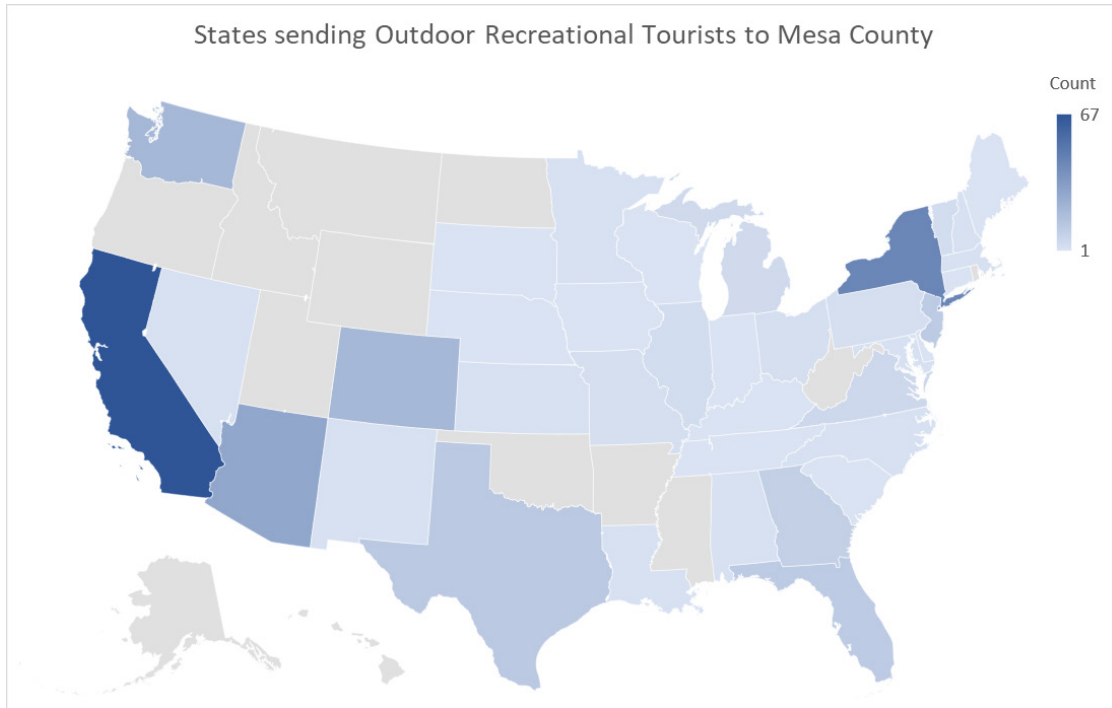
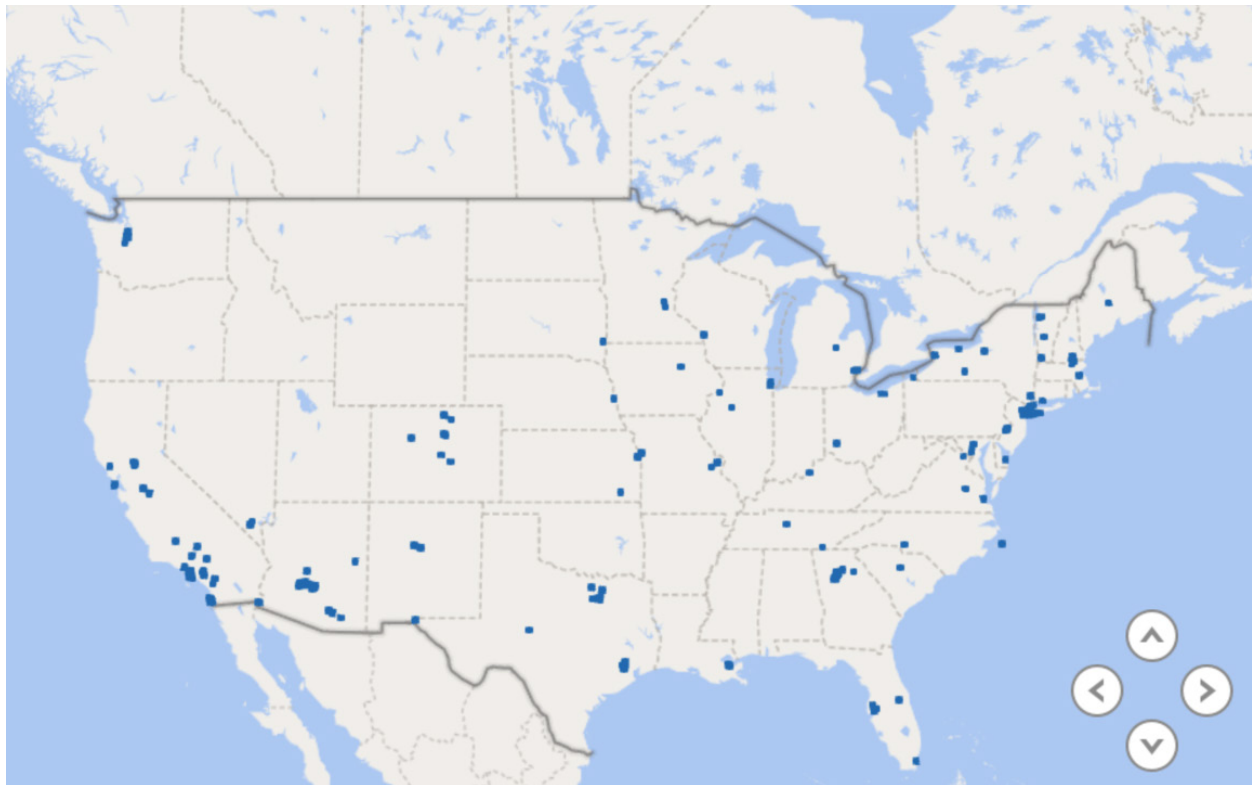


Figure 14: Zip Code of Origin



APPENDIX B: HOW TO REPEAT THIS STUDY

This study is repeatable in mid to small level counties. The methodology becomes difficult in metropolitan areas, but not impossible. Below is a basic outline of the important steps involved in measuring outdoor recreation economic impact using this study's methodology. Feel free to reach out to the authors for further guidance and suggestions.

BUSINESS SURVEY

- 1) Define what outdoor recreation is.
 - a. This study uses the SCORP categories with slight modifications.
- 2) Develop list of outdoor recreation businesses.
 - a. Find partner agency, trade group.
 - i. We partnered with the Grand Junction Economic Partnership (GJEP) who had been putting an outdoor recreation business list together for years, as well as the outdoor recreation coalition (ORC) .
- 3) Develop Survey and administer.
 - a. Capture the following categories of business data for one year:
 - i. Wages
 - ii. Profits
 - iii. Employment counts (Full vs. part time)
 - iv. Non-capital expenditures
 - v. Capital Expenditures
- 4) Extrapolate survey sample to estimated total outdoor recreation business population.
- 5) Model in economic impact software.

TOURISM SURVEY

1. Need estimate of total number of tourists who visit the study area.
2. Need existing data or survey to determine what percentage of those tourists are coming to area for outdoor recreation. We used an estimate from our survey.
3. Need survey for spending profile of outdoor recreation tourists
 - a. Can do in person surveys or big data approach
4. This study partnered with Visit Grand Junction, a government entity that promotes tourism in the county. They had numerous previous tourism economic impact studies and existing surveys by which to compare this study's results to, as well as an existing survey apparatus that allowed us to take a big data approach.
5. Extrapolate from sample to population.
6. Model in economic impact software.

COMBINE RESULTS

1. Combine results of tourism and business economic impact
2. Ensure no double counting of outdoor recreation spending by tourists. The spending of outdoor recreation goods and services locally will already be counted in the form of wages and profits from the business survey

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