

MIDDLE COLORADO
WATERSHED COUNCIL

THE ECONOMIC CONTRIBUTION OF RECREATION IN THE MIDDLE COLORADO WATERSHED



Baseline Assessment: The Economic Contribution of Recreation in the Middle Colorado Watershed

Preface

The Middle Colorado Watershed - from De Beque to Glenwood Springs - is a premier location for outdoor recreation. Whether it's hiking the national forests, rafting the Colorado River, fishing in the area's Gold Medal Waters, or hunting on the Roan Plateau, recreation is a strong driver of the area economy. However, until now, the size of that contribution has remained unknown.

A new report by Earth Economics estimates the economic contribution of outdoor recreation within the Middle Colorado Watershed. The information it provides is a great first step in painting a clear picture of the value of recreation to the region. With this new understanding, future resource management and economic decisions can be based on the current and potential value of the outdoor recreation industry.

The analysis found that recreation use within the Middle Colorado Watershed supports over 950 jobs in Garfield County each year, with \$140 million spent on recreation for an annual contribution of \$43 million to the GDP and \$6 million in tax revenue.

While the results are impressive, more work needs to be done. Intuitively, we know the numbers are likely much greater than are portrayed in this report. For example, the report enumerates a long list of recreation types that occur throughout the watershed on publicly owned land. However, the list is not exhaustive. Recreation activities not considered in the report include rock climbing, snowmobiling, Nordic skiing and commercial fishing, to name a few, because data is lacking in these areas.

Further, the existing data which provided the basis for the study were widely variable. The more reliable and consistent data such as user days for state park recreation areas is valuable. Parks staff are able to count the number of users who enter the parks or camp at its facilities. On the other hand, data for Bureau of Land Management lands are less robust given the difficulty of tracking disparate uses across unpatrolled federal lands. Also, recreation use on private lands, such as hunting and fishing on agricultural properties - a significant economic contributor in the region - was not included.

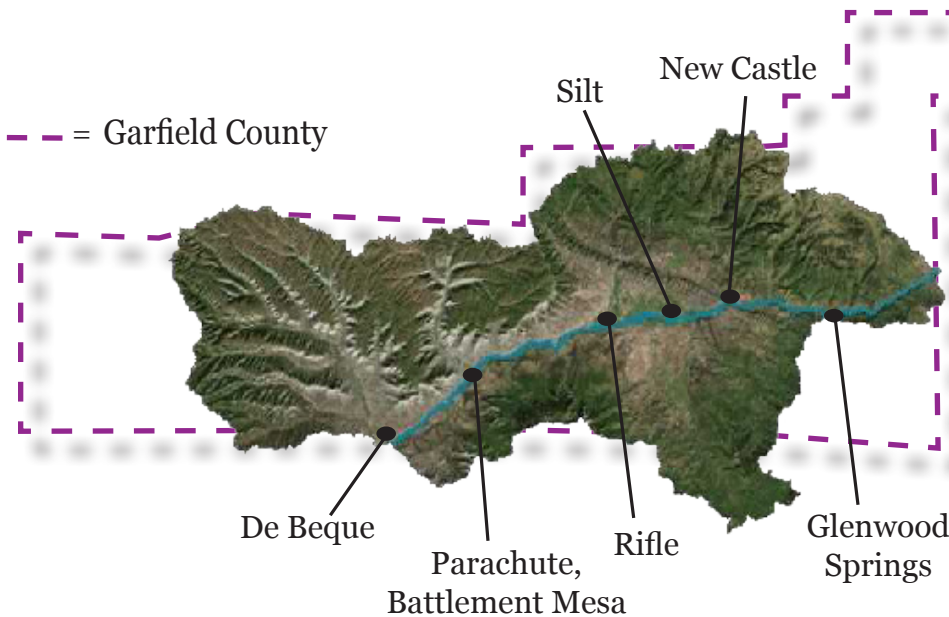
Finally, future updates to this work should include the Roaring Fork River since it is a critically important economic and recreational resource. Even as it stands, the data and results of this report will be useful in many respects. It can support investments in clean water, for example, in maintaining healthy streamflows, and in conserving working ranches and open spaces.

Local communities will find this analysis to be of value because it begins to quantify the economic contribution of outdoor recreation, which is an important driver for the middle Colorado River. Hopefully, it can be the basis of further study. With this information in hand, we can develop a blueprint for wise investment of our time and money in keeping outdoor recreation a viable industry.

Donna Gray
Board of Directors, Middle Colorado Watershed Council
May 2018

VALUE of OUTDOOR RECREATION in the MIDDLE COLORADO WATERSHED

The Watershed supports



850K
acres of open space



430K
state park visits



71K
big game
hunting days



521K
river recreation days



33
river guiding outfits

\$140M

spent annually
on recreation
activities

972

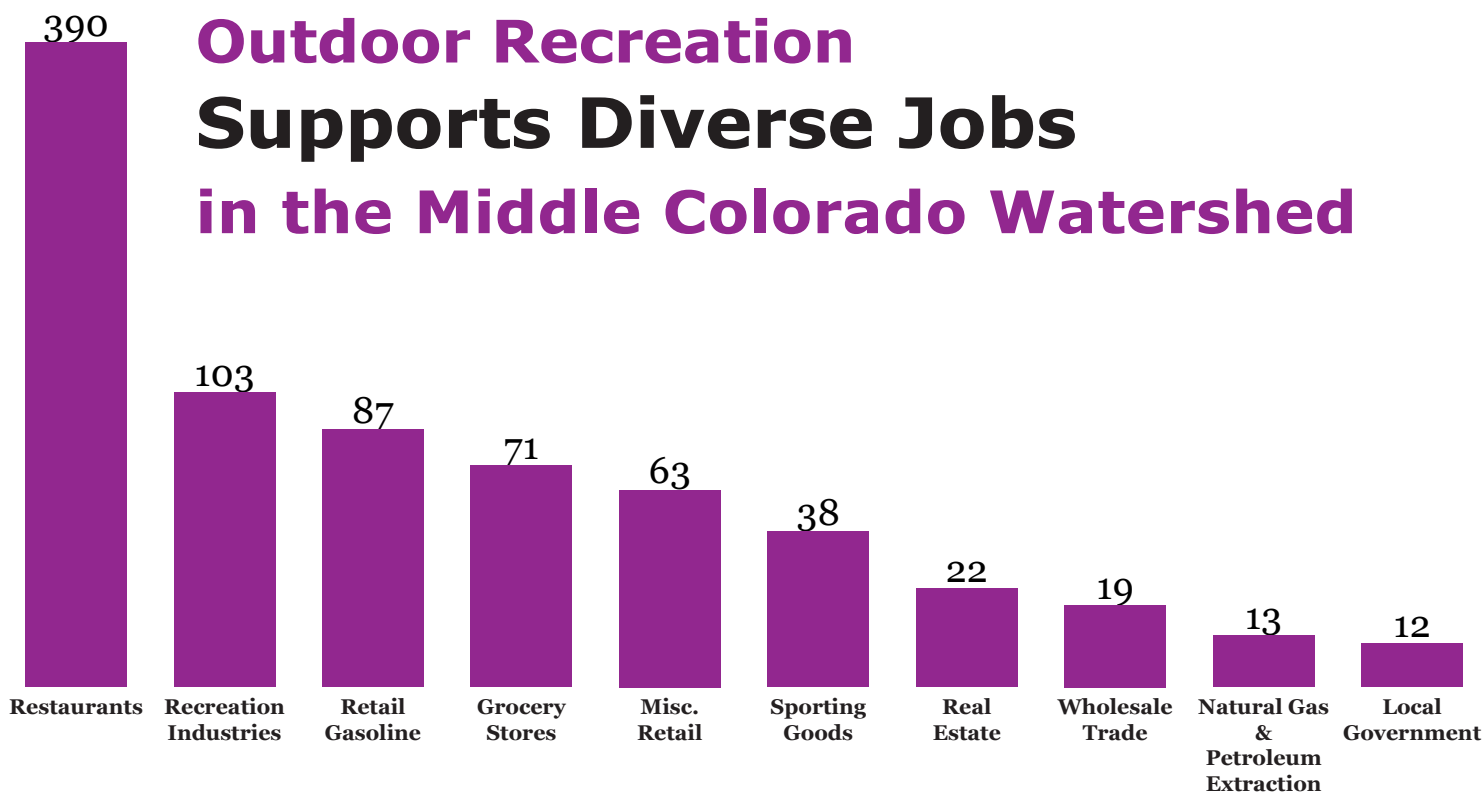
jobs supported
annually within
Garfield County

\$43M

contributed to
GDP

\$6M

generated for
state and local
taxes



Top 10 Garfield County Industries with Jobs Supported by Outdoor Recreation

Healthy Lands, Thriving Economies

Maintaining healthy lands and waters is key to attracting outdoor recreationists, who in turn contribute to sustainable local economies.

The Colorado River forms the heart of the state's outdoor industry. Within the Middle Colorado River Watershed, the river is responsible for at least:

\$32M

spent annually
on recreation
activities

321

jobs supported
annually within
Garfield County

\$15M

contributed to
GDP

\$2.5M

generated for
state and local
taxes

Baseline Assessment: The Economic Contribution of Recreation in the Middle Colorado Watershed

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Contents

This report highlights the methods, data sources, and detailed results supporting Earth Economics' factsheet entitled "Economic Contribution of Recreation in the Middle Colorado Watershed", and is organized into the following sections:

- Section 1. Introduction
- Section 2. Recreation Participation
- Section 3. Consumer Expenditures
- Section 4. Economic Contribution Analysis
- Section 5. Discussion of Results

Section 1. Introduction

Recreation opportunities abound in the Middle Colorado River Watershed, from the Flattop Wilderness and Glenwood Canyon in the east to expanses of Bureau of Land Management (BLM) land in the west. Visitors and locals enjoy access to stunning outdoor recreation areas within the watershed. Intact wilderness and healthy lakes and rivers provide many benefits for recreationists, improving mental and physical health through connections with nature and opportunities to hike, run, paddle, and bike. In addition to individuals' mental and physical health, thriving outdoor recreation lands contribute to the economic health of surrounding communities through the recreation-related spending of visitors and residents. While it is acknowledged that recreation is an economic engine in the Middle Colorado River Watershed, until now the size of its contribution has remained unknown, because it is not measured in traditional economic indicators like the Gross Domestic Product (GDP).

This analysis estimates the economic contribution of outdoor recreation within the Middle Colorado River Watershed, specifically the direct and secondary effects of recreational spending – jobs, GDP contribution, and tax revenue – realized in Garfield County. By highlighting this sector, future resource management and economic decisions can be made with an appreciation of the current and potential value of the local outdoor recreation industry.

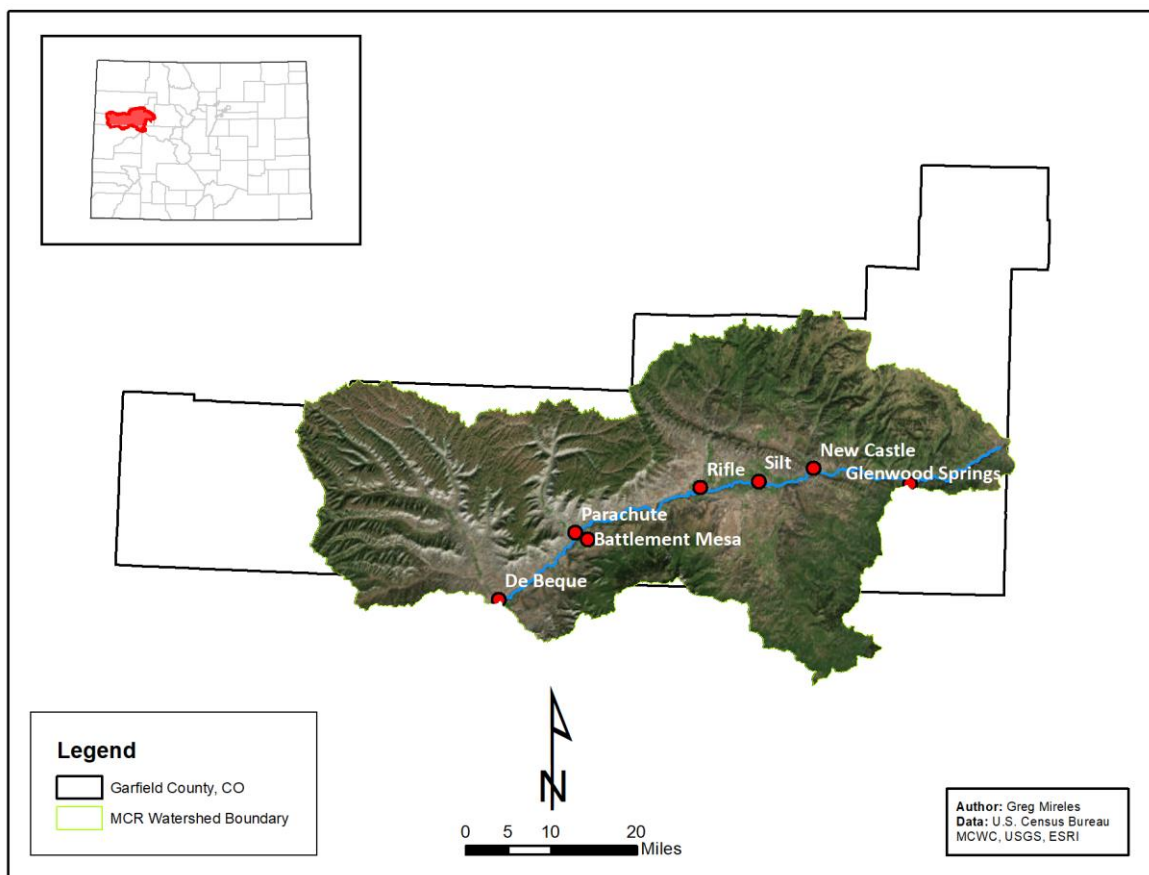


Figure 1. The Middle Colorado Watershed

Section 2. Recreation Participants

The Middle Colorado River Watershed provides recreation opportunities for all types of outdoor enthusiasts. Rafting through Glenwood Canyon, hiking in the White River National Forest, picnicking at a local park, jet boating on the Colorado, running along waterfront trails, and fishing at Rifle Gap State Park are just a handful of the possibilities available to local residents and out-of-town visitors. The beautiful mountains, canyons, and iconic Colorado River provide an ideal backdrop for these activities.

To quantify the economic contribution of outdoor recreation activities, this analysis begins with estimates of recreational use within the watershed. Recreation participation data varies in availability and quality, and depends on the collection methods of individual agencies and municipalities. The Middle Colorado River Watershed encompasses lands managed by multiple Federal, State, and Local agencies, including the United States Forest Service (USFS), BLM, Colorado Parks and Wildlife (CPW), and local parks districts. This analysis primarily quantifies recreation occurring on these public lands, but also includes activities spanning ownership such as big game hunting and river use.

Further complicating participation estimates, the waters within the watershed, and specifically the Colorado River, are not consistently monitored. Without direct river ownership, federal land managers and local park personnel track boat launches and river use inconsistently. River use monitoring for the Upper Colorado Wild and Scenic application provides insight for this analysis by surveying recreation in Glenwood Canyon in greater detail. Based on these considerations the following estimates can be considered a low estimate for visitation and could be improved on as additional recreation use is captured.

Standardizing data from sources discussed above, this analysis presents an estimation of total annual *visits* for outdoor recreation in the Middle Colorado River Watershed. Where available, a five-year average was used to calculate annual visits for recreation activities. Otherwise visitation data represents the most recent monitoring year, which may vary between agencies. A visit is defined as a single trip to recreational lands and/or waters, participating in one or more recreational activities. Visits are then aggregated across agencies by primary recreation activity type. Table 1 displays all visits for recreation in the Middle Colorado River Watershed.

Table 1. Annual Recreation Visits in the Middle Colorado River Watershed

Recreation Type	Visits	Recreation Type	Visits
National Forests		Local Parks	
General Recreation	903,094	Walking	263,492
Camping	3,124	Picnicking	18,005
BLM Lands		Jogging/Running	153,637
Mountain Biking	5,650	Golf	36,872
Target Practice	617	Team or Individual Sports	22,964
OHV - ATV, Motorcycle	6,192	Various Public and Private Lands	
Picnicking	1,167	Big Game Hunting	71,448
Camping	20,844	Rivers	
Boat Launching	2,458	Rafting Commercial	57,824
Hiking/Walking/Running	28,655	Rafting Private	107,387
Social Gathering	11,462	Kayak/Dory/Float	77,746
Guided Hunting	700	Fishing	217,320
State Parks		Jet Boating	1,400
Hiking/General	413,589		
Camping In-State	12,540		
Camping Out-of-State	2,816		
Total Visits 2,441,004			

Section 3. Consumer Expenditures

When individuals participate in outdoor recreation activities, they spend money in the local economies surrounding their recreation destination. Estimating these trip-related expenditures is an important component of this analysis, linking recreation participant days detailed above to dollars spent in local economies.

In this analysis, visits are assigned trip-related expenditures (both total and by economic sector) depending the primary activity of the visit. Depending on the location and choice of recreation activity, participants spend money on a range of goods and services. Based on economic literature the average per-visit expenditures can be estimated for different kinds of trips, such as visiting a state park or kayaking on the river.¹ These participant expenditures are summed for all visits to arrive at total spending resulting from outdoor recreation in the Middle Colorado River Watershed. Table 2 provides a breakdown of visits, per visit expenditures, and total expenditures by activity type in the Middle Colorado River Watershed.

Table 2. Outdoor Recreation Expenditures by Activity Type

Activity	Visits	Per Visit Expenditures ⁱ	Total Expenditures
Wilderness Recreation	983,963	\$78.71	\$77,450,678
State Park Recreation	428,945	\$35.17	\$15,086,644
Local Park Recreation	494,971	\$16.14	\$7,990,120
Big Game Hunting	71,448	\$89.82	\$6,417,666
Rafting, Commercial	57,824	\$117.78	\$6,810,548
Rafting, Private	107,387	\$79.25	\$8,509,905
Kayaking, Rowing, Floating	77,746	\$51.28	\$3,987,117
Fishing	217,320	\$58.48	\$12,709,580
Jet Boating	1,400	\$117.78	\$164,893
Total	2,441,004		\$139,127,151

¹ Expenditures on “equipment” (e.g. clothes, binoculars, boots, and cameras) were not included in this analysis as it is difficult to separate equipment purchases made for exclusive use in the Middle Colorado River Watershed. Expenditures by public institutions for construction and maintenance were also not included.

Section 4. Economic Contribution Analysis

Outdoor recreation expenditures circulate through local economies – in this case, Garfield County – and result in economic effects. Economic effects can be described as the economic activity resulting from initial expenditures made within an economy. This analysis assesses economic effects, stated in terms of their contributions to GDP, state and local taxes, and jobs.

This economic contribution analysis was conducted using input-output modeling with an industry standard platform, IMPLANⁱⁱ (IMpacts for PLANing). Given a level of expenditures in a region, the model generates economic contributions from a particular industry. Although outdoor recreation is not a separate industry in IMPLAN, Earth Economics created custom expenditure profiles for the different activity types within the model, as described in Section 2 above. The following are components generated through county-specific modelling:

1. **Direct Contributions:** Dollars spent at businesses by consumers while they engage in outdoor recreation. For example, visitors are likely to spend money at a restaurant in Glenwood Springs or New Castle after a day on the Colorado River.
2. **Indirect Contributions:** Payments made to supporting businesses by businesses who receive direct contributions. When visitors eat out at a restaurant as in the example above, a portion of the money that a restaurant charges its customers is used to pay the businesses that supply and transport its food.
3. **Induced Contributions:** Dollars returned to the economy by employees of businesses who benefit from direct and indirect contributions. Employees of a restaurant – and the businesses that supply that restaurant – earn an income, a portion of which is spent at other businesses in the local economy.

Total Economic Contribution (whether GDP, taxes, or jobs) is the sum of direct, indirect, and induced contributions. The economic structure of Garfield County, used to determine expenditure flows, is based on economic information from the U. S. Department of Commerce, the U.S. Bureau of Labor Statistics, and other agencies. These estimates are specific to Garfield County and have not been transferred from another region.

Indirect and induced economic effects vary in magnitude based on the sector of expenditures and composition of local or regional economies. Outdoor recreation expenditures generate high levels of secondary (local) spending compared to other industries, circulating dollars within the local economy. Additionally, economies that are less dependent on external resources overall see greater economic effects, as a higher proportion of expenditures remain circulating within the economy. For instance, take a restaurant that purchases vegetables from a local farmer. After the farmer recovers costs, a portion of the profit may be re-spent locally within the economy, creating additional economic effects. The same dollar may be re-spent several times within the economy depending on the diversity of industries present in the region.

On the other hand, if vegetables are purchased from outside the region, money leaves the economy and will not be re-spent locally. The regional economic effects end here, though they may continue at the state or national level. IMPLAN also calculates these “leakages” from the local economy, or money that exits the local economy. Money spent by local businesses in Garfield County to import goods from another region, such as Denver, would be considered leakages in this analysis.

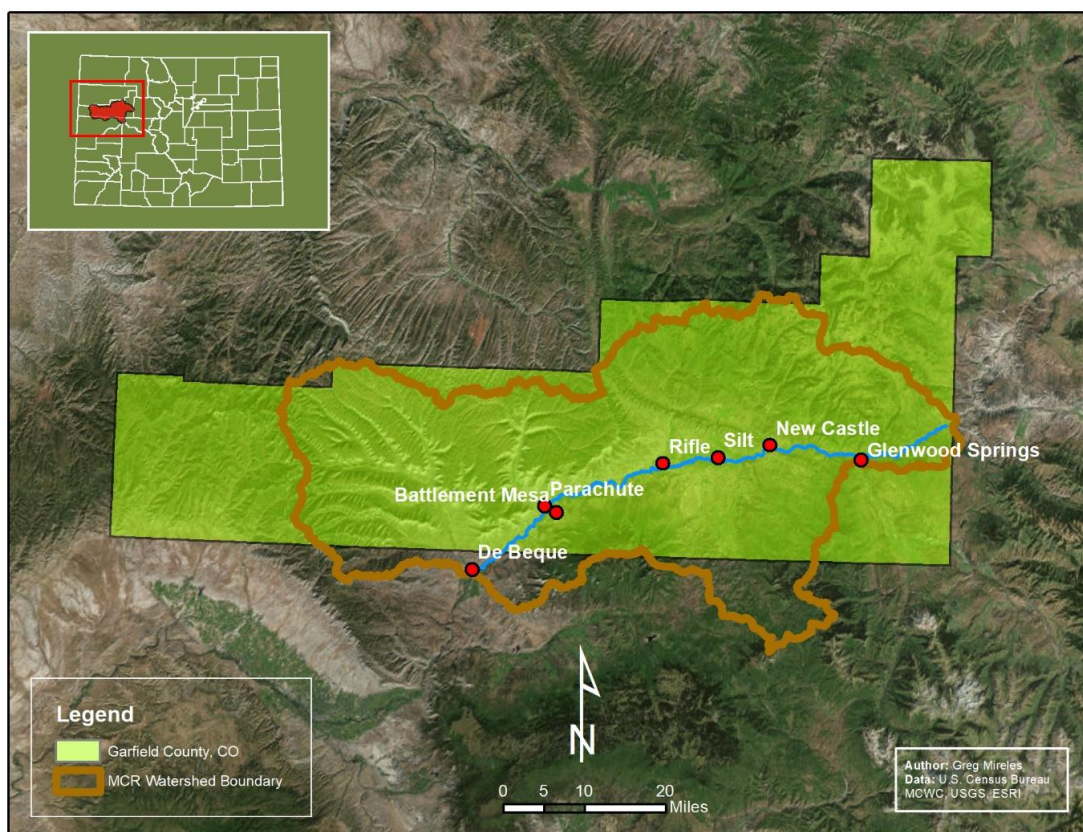


Figure 2. Spending effects of recreation activities occurring within the Middle Colorado Watershed are assessed at the scale of Garfield County, highlighted in this figure.

The economic effects associated with all recreation expenditures, \$140 million, are outlined in Table 3. These results are specific to Garfield County, not including leakages to the larger economy.

Table 3. Total Economic Effects from Middle Colorado River Watershed Recreation Expenditures.

All Watershed Outdoor Recreation Expenditures	\$139,127,000
Garfield County Jobs Supported	972 jobs
GDP Contribution	\$42,927,000
State and Local Tax Revenue	\$5,967,000

In addition, this analysis segmented the portion of recreation expenditures related to river recreation activities in the Middle Colorado River Watershed. Table 4 displays these results, which are a subset of Table 3 and should not be added to the above results.

Table 4. Economic Effects of River Recreation Expenditures, Subset of Table 3.

River Recreation Expenditures	\$32,182,000
Garfield County Jobs Supported	321 jobs
GDP Contribution	\$15,189,000
State and Local Tax Revenue	\$2,472,000

Section 5. Discussion of Results

Outdoor recreation is a significant industry in the state of Colorado and in Garfield County. A recent Outdoor Industry Association (OIA) analysis attributed \$28 Billion in consumer spending to recreation in the state of Colorado, resulting in 229,000 direct jobs.ⁱⁱⁱ The Middle Colorado River Watershed analysis presented here works to provide local context to these contributions, assessing the spending effects on the Garfield County economy.

This analysis finds that Middle Colorado River Watershed recreation opportunities support over 950 jobs in Garfield County each year, in addition to \$43 million in GDP contribution and \$6 million in tax revenue. Acknowledging these contributions is an important component of sustaining and growing the local recreation industry in the face of competing priorities. This analysis likely underestimates the economic contribution of recreation, as estimates of participation are unable to capture the full population of recreationists. In addition, this analysis does not consider the overall economic impact of the current and future residents who move Garfield County because of the abundant outdoor recreation opportunities, spurring new businesses, jobs, innovation, and supporting tax revenue.

The state of Colorado is known nationwide as a premier destination and home for all manner of outdoor enthusiasts. Positioned uniquely to draw both east-west travelers as well as visitors to local resort destinations, the Middle Colorado River Watershed supports a vibrant outdoor recreation industry with continued growth potential. As surrounding populations grow, more individuals will venture to recreation destinations in the Middle Colorado River Watershed to enjoy the outdoors. Maintaining healthy lands and waters for recreation is critical to keeping and attracting outdoor recreationists, who in turn contribute to sustainable local economies.

References

ⁱ Per Visit Expenditure Profiles:

Wilderness Recreation:

White, Eric M. 2017. Spending patterns of outdoor recreation visitors to national forests. Gen. Tech. Rep. PNW-GTR-961. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 70 p.

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Rafting, Private:

Shultz, S., 2009. Economic & Social Values of Recreational Floating on the Niobrara National Scenic River. University of Nebraska at Omaha.

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White, Eric M. 2017. Spending patterns of outdoor recreation visitors to national forests. Gen. Tech. Rep. PNW-GTR-961. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 70 p. [Used non-motorized water expenditure profile]

Fishing:

White, Eric M. 2017. Spending patterns of outdoor recreation visitors to national forests. Gen. Tech. Rep. PNW-GTR-961. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 70 p. [Used fishing water expenditure profile]

Jet Boating:

English, D., Bowker, J., 1996. Economic Impacts of Guided Whitewater Rafting: A Study of Five Rivers. Water Resources Bulletin. American Water Resources Association 32:6 [Assumed to be the same as commercial rafting]

ⁱⁱ IMPLAN V3.1.1001.12, 2013. Impacts for PLANing. Minnesota Implan Group, Inc. Accessible at: www.implan.com

ⁱⁱⁱ Outdoor Industry Association, 2017. Accessible at: www.outdoorindustry.org/state/Colorado/