Economic Development Report

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Tourism directly accounts for 1/3 of the Gunnison County economy and 40% of the job base

Gunnison's public open space and private working landscapes contribute to the quality of winter tourism experience

Wholesale conversion of local ranch lands to tourism infrastructure and second homes may reduce winter tourism by as much as 40%

The impact of such a change could reach $14 million and 350 jobs per year

Winter Tourism and Land Development in Gunnison, Colorado

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Introduction

The quality of the natural resource base is an important economic driver in Rocky Mountain communities. First miners, then ranchers and now recreationists are attracted by the native resource endowments and raw beauty of the mountain environment. Over the past century, the Rocky Mountains have attracted new residents and visitors at an auspicious rate. In part due to the uniqueness of the Rocky Mountain environment, millions of acres of western lands are managed by the federal government. As a result, the remaining private land, mostly located in the valleys, must accommodate practically all human activity in the region, including commercial, residential, and agricultural land uses. Community economic health is dependent upon decisions made by both public and private land managers. Neither federal public lands management decisions nor individual private land use decisions necessarily take into account the community or county level implications of their actions. However, county and municipal leaders are often faced with evaluating what land use decisions are most likely to allow the locality to reach its economic development and quality of life objectives.

Like much of the Rocky Mountain region, the vast proportion of private lands in Gunnison County, Colorado is managed as low intensity cattle ranches. Cattle ranches are managed by ranchers in order to generate economic returns to beef cattle production. However, this low intensity land use of the Gunnison River Valley may simultaneously contribute to water quality, fishing quality, flood control, wildlife habitat, floral and faunal diversity, and the rural lifestyle in the county. Ranchers may be thought to jointly produce these important goods and services along with beef, but they do not typically receive compensation or other

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direct incentives to continue or nurture their provision. Increasingly, ranchers in Gunnison County face strong financial incentives to subdivide and develop their vast acreages into higher density uses to serve new residents, second home and tourism development (i.e. condominiums, all-inclusive resorts, residential subdivisions, etc.). Their land is becoming more valuable as Gunnison County is becoming more known as a vacation destination for world-class skiing, hiking, camping, and other recreational activities.

Current Gunnison County landowners and leaders face a decision regarding the potentially irreversible intensification of private land use in the county. At the crux of the issue is whether the private decision to convert agricultural lands into higher intensity land uses and built infrastructure is in the best interests of the county at large. Whether more tourism services at the loss of working farms and ranches and a more open landscape would result in more or less economic development and an improved or deteriorated quality of life in Gunnison County remains a central and open question.

The purpose of this study is to measure the economic benefit of ranch open space to winter tourism. Ranching and ranch lands clearly and directly contribute to demand for Gunnison County vacations in the summer, but it is somewhat less clear what contribution the county's working landscapes provide for winter ski tourists. Winter tourists do not often directly use private farm and ranch lands. But private lands may provide important winter habitat for wildlife that tourists value for passive use (viewing) or existence value, may contribute to the overall atmosphere in the Gunnison Valley, and may provide a desirable viewscape that is attractive (adds value) to the winter tourism experience. Information on the role of private working landscapes to the winter tourism industry will be useful as to whether preserving ranch lands in Gunnison County is in the best interest of businesses, residents, and local government. This study hopes to reveal the value that tourists place, directly or indirectly, on ranch open space, not the total economic value or the value to Gunnison County residents of working landscapes. Although important, the measurement of these values is beyond the scope of this research and our calculations must be considered conservative (or partial) estimates of the value of ranchland to Gunnison County.

In order to reach our goal, this study incorporates two methodological categories of economic valuation; revealed and stated preferences. First, visitors reveal their preferences for winter tourism in Gunnison County through expenditure behavior observed in actual visits and the travel costs associated with these visits. In addition, visitors to Gunnison County are asked to state their preferences and intention to pay to vacation in Gunnison County contingent on changes in the quality and quantity of extant ranch landscape. These two methods, known as the travel cost and the contingent behavior methods, are popular methods in economic valuation and have been used previously to value ranch open space to Colorado tourists (Rosenberger & Loomis, 1994).

Study Site

Gunnison County is relatively remote. It is located 200 miles southwest of Denver and 180 miles west of Colorado Springs, along an old artery highway, route 50. Gunnison County is large (3,239 square miles) and 85% of county lands are publicly held. Gunnison's public lands are managed by the Bureau of Land Management (355,350 acres), US Forest Service (1,220,035 acres), and the National Park Service (40,000 acres). This land is mostly mountainous, and is managed to preserve its ecological and picturesque qualities. The remaining 15% of land in Gunnison County is privately held and is located in the Gunnison River valley (Gunnison County Chamber of Commerce, 2004). This land is managed mostly as working farms and ranches, which naturally serve to protect the scenic and ecological diversity of the region.

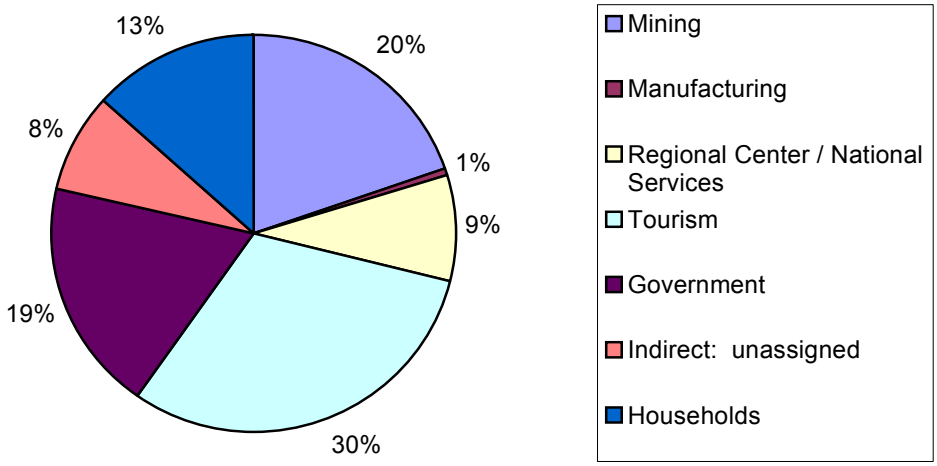
Characteristic of rural areas in the Intermountain West, tourism is now the most important industry in Gunnison County, Colorado, accounting for nearly 31% ($65 million) of the base industry income (Figures 1 & 2). In 2001, 3,580 jobs were classified as tourism-related, a 40% share of all jobs in base industry groups. Mining, the traditional economic driver, has become the second most important base industry, accounting for nearly 20% of county income (Demography Section, Colorado Division of Local Assistance, 2004). Each winter, the ski resort area of Crested Butte, located in Mt. Crested Butte, records well over 300,000 skier days, a 10% share of Colorado destination resort skier days (Colorado Ski Country USA, 2004). Gunnison County is home to Blue Mesa Reservoir, Colorado's largest body of water and Curecanti National Recreation Area, which accounted for 322,693 visitor days in 2000. Black Canyon of the Gunnison National Park is a few miles away in neighboring Montrose County and had 80,820 visitor days in 2000 (National Park Service, 2004). In addition, Gunnison National Forest offers miles of scenic hiking trails and camping opportunities. Gunnison County is fairly brimming with outdoor recreation opportunities.

With tourism accounting for more jobs and more revenue than any other sector, it is surprising that Gunnison County has not developed like other tourist economies in Colorado, namely Summit and Eagle counties, along the Interstate 70 Corridor. Gunnison County is not along a major national artery like Summit and Eagle counties, and it has not experienced the high volume weekend visitation by Front Range Coloradoans felt by many of the state's principal ski resorts. As a result, Gunnison County may occupy a unique niche market among destination tourists. Gunnison County currently appeals to a visitor who is not interested in crowds and ultra-modern, high-rise resorts of the Interstate 70 corridor and who is more interested in experiencing natural beauty, world-class skiing, and rural charm.

Data Collection Methods

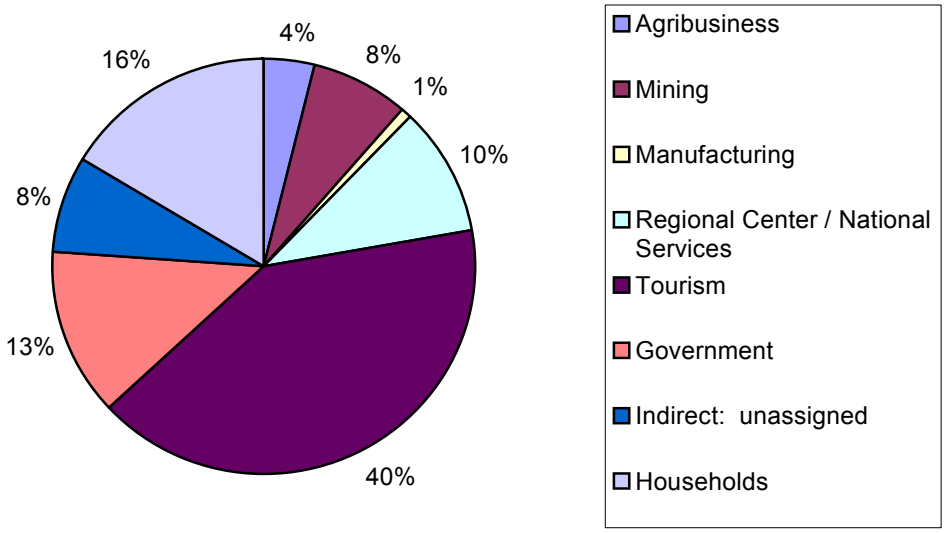
All data were collected via written surveys (Appendix 1). The final survey consisted of four sections: 1) Features of Gunnison County that may attract visitors; 2) Actual participation in outdoor recreation activities, trip expenditures and travel group characteristics; 3) Predicted response to potential changes in the Gunnison County landscape; And 4) demographic information. The survey was based upon previous studies conducted by Rosenberger and Walsh in Steamboat Springs, Colorado, and Richardson and Loomis in Rocky Mountain National Park. The survey was substantially refined and customized to local conditions through several iterations of e-mail correspondence and three person-to-person meetings with a local advising group. The advising group consisted of city and county elected officials, Colorado State University cooperative extension personnel, local land trust personnel, Colorado Division of Wildlife employees, local ranchers, and local business owners.

Figure 1: Gunnison County Base Industry Income (2001)



Source: Colorado Department of Local Affairs

Figure 2: Gunnison County Base Industry Employment(2001)



Source: Colorado Department of Local Affairs

Surveys were completed in and around the towns of Gunnison, Crested Butte, and Mount Crested Butte, Colorado. The overwhelming majority of surveys were completed on the premises of the Crested Butte Mountain Resort located in Mt. Crested Butte, CO. The surveys were handed out at the base of the mountain at various locations that included: the Hall of Fame Bar and Grill, the Avalanche Bar and Grill, the deck of the Gothic Cafeteria, Crested Butte Mountain Adventures (snowmobile outfitter), the Children's Ski and Snowboard School area, and on the Crested Butte public bus. Other locations included various restaurants in Crested Butte and selected hotels in Gunnison.

The surveys were conducted by personal interview by Colorado State University graduate students and Western State College undergraduate students between March 9, 2003 and March 15, 2003. Surveyors were instructed to approach males and females equally and to vary the respondent's age when practical. The sample was designed to represent adults on vacation. Local residents and minors under the age of eighteen were excluded from the survey, though several "locals" appear to have evaded our exclusion efforts. The survey can be classified as a stratified random sample—it represents a random group, from all socioeconomic classes and it excludes Gunnison County residents.

Respondent's willingness to pay for Gunnison County vacations contingent on rising travel costs was then computed. Respondents were asked whether they would still vacation in Gunnison County if their travel costs increased by a specified amount of money. The intervals were as follows: $25, $50, $100, $250, $400, $550, $700, $850, and $1,000. The bid amounts were randomized throughout the entire survey population; there was an equal chance of receiving each bid amount. Respondent's willingness to visit Gunnison County contingent on higher percentages of developed ranch land was also obtained by asking whether the respondent would still visit, knowing that there was less ranch open space. Visitors were asked if they would still visit if 25%, 50%, 75%, or all ranch lands were converted to higher density residential and commercial development and by how many days they would change their visit.

There are two components of this study; a valuation component and an impact component. Data from the valuation of ranch open space are used to estimate the direct economic effects of open space development. The impact component estimates how those direct economic effects will affect other sectors of the Gunnison County economy.

In the valuation component of the study, revealed and stated preference methods are used to determine if winter tourists value open space even if they do not directly use it. Respondents reveal their travel costs that were incurred while visiting Gunnison County. We then ask respondents how they would change their visits if the amount of open space changed, and how they would change their visits if travel costs rose according to the aforementioned bid amounts. We use the dollar amounts from the revealed preference (travel cost) section to quantify the potential gain/losses associated with the visitation data obtained from the stated preference section. This allows for an estimation of the potential direct economic effects of a loss in skier days as a result of increased ranch open space development.

The impact component entails estimating how the change in tourist visitation will affect other areas of the Gunnison County economy. An output loss to a substantial export sector, in this case tourism, will likely have significant effects on support industries. For example, if Gunnison County loses tourists, the lodging industry will suffer direct losses. Due to the anticipated direct losses in the lodging industry, support industries, like maintenance and repair service providers, lose business. This is known as an indirect effect. In addition, local workers in the lodging industry will likely work fewer hours and as a result have less income to spend in the local economy. These are known as the induced effects. The

combination of the direct, indirect, and induced effects represent the total effect on the Gunnison County economy of a shock to the tourism sector. This impact analysis is completed for both output/sales and employment impacts.

Results

Respondent Characteristics and Survey Response Rate

There were 551 survey attempts and a total of 337 completed surveys—a response rate of 61.2%. Of the 214 refusals, most people cited that they were too busy with their family/friends to take the survey. Table 1 shows that the ratio of men to women is nearly equal. The average age of 39.6 years is slightly younger than average age of 49 for the general population of the United States (US Census Bureau, 2004). This is expected since most respondents are skiers and snowboarders. The average group size is 8.3, which is large, and indicates the presence of more than just family groups. Several large church and secular groups were present during the survey period. The median size group was four, indicative of family units. The data were limited to people who chose Gunnison County as their sole destination to ensure that the reported travel costs were incurred on site. There is no reason to believe that the sample is unrepresentative of the winter tourist in Gunnison County.

There are two intriguing demographic facts about the sample: A high education level and a commensurately high annual household income level. A large majority (74.6%) of respondents completed a four-year college degree or higher, which is substantially higher than the general population (23.9%) (US Census Bureau, 2004). Annual household income levels are typically linked to education level. Here, an astounding 51.7% of respondents are in the top two household income brackets in the survey, earning over $100,000 annually.

Factors Influencing the Gunnison County Vacation Decision

Section 1 of the survey asks respondents what it is about Gunnison County that led them to decide to vacation here. Respondents were asked to rate a list of natural and human attributes using a five point Lickert scale where: 1= Irrelevant (very unimportant), 2= Unimportant, 3= Neither important nor unimportant, 4= Important, 5= Very Important. Table 2 compares the responses of those surveyed from Section 1. Attributes in the natural and tourism infrastructure categories are the most important features of Gunnison County that attract winter visitors with mean scores 4.13 and 4.20, respectively. The most important features of the natural attribute category are snow quality (4.56) and mountain views (4.62). Affordable lodging (4.37) and general affordability (4.42) contribute significantly to the draw of Gunnison County in the tourism infrastructure category. Social/cultural elements that are important to drawing visitors are solitude/lack of crowds (4.18) and friendly people (4.54). Farm and ranch attributes have a mean score collectively of 3.51. A little over half the respondents (51.2%) deemed farm and ranch attributes to be important to their choice of Gunnison County as their vacation destination.

Table 1. Demographic Information

Gender	N= 334	
Male		54.5%
Female		45.5%
Group Size	N= 335	
Mean		8.33
Median		4
Standard Error		0.692
Minimum		1
Maximum		92
Age	N= 334	
Mean		39.56
Median		41
Standard Error		0.653
Minimum		18
Maximum		79
Work Status	N= 333	
Retired		3.6%
Not Retired		96.4%
Highest Education Level	N= 331	
Graduate School		32.6%
Four Year College		42.0%
Junior College		10.9%
High School		14.5%
Junior High		0.0%
Do you work outside the home?	N= 333	
Yes		85.0%
No		15.0%
Do you vacation mostly on weekends/holidays?	N= 331	
Yes		77.6%
No		22.4%
Household Income ($1000s)	N= 321	
>150		29.6%
100-149		22.1%
90-99		7.5%
80-89		6.5%
70-79		6.2%
60-69		6.5%
50-59		4.4%
40-49		5.0%
30-39		4.0%
20-29		3.1%
19-09		2.5%
<9		2.5%

The survey shows that the overwhelming majority of respondents consider natural beauty as important to their vacation decision. All the mean scores in the natural category are 3.80 or higher. Tourism infrastructure is also important, but it is the aspects of the affordability of a Gunnison County vacation that gain the highest marks in this category. Although Farm/Ranch attributes have the lowest overall

mean scores (3.51), a majority of respondents believe green pastures (51.7%) and pastoral landscapes (62.2%) as important factors in their decision to choose Gunnison County as their vacation destination. Only a small proportion of respondents (16.7%) thought farm/ranch attributes to be unimportant in their decision to vacation in Gunnison County. A statistical test was conducted which established that all mean responses were statistically greater than the indifferent response at 95% confidence, except Western State College.

Table 2. Importance of natural and human attributes in the choice of Gunnison County as a vacation destination in March 2003.

Natural and Human Attributes	N	Mean	Standard Error	Important	Neutral	Unimportant
Natural	333	4.13	0.05	78.7%	15.7%	5.7%
Snow Quality	337	4.56	0.03	97.3%	1.5%	1.2%
Rivers, Lakes, Wetlands	332	3.80	0.06	63.9%	26.2%	9.9%
Abundant Wildlife	332	3.94	0.06	71.4%	20.8%	7.8%
Viewing Alpine Tundra	329	3.80	0.06	65.3%	23.4%	11.2%
Mountain Views	337	4.62	0.03	95.5%	4.2%	0.3%
Viewing Forested Landscapes	333	4.21	0.05	81.1%	14.7%	4.2%
Open Vistas	334	4.00	0.05	71.9%	21.9%	6.3%
Valley Views	333	4.14	0.04	83.2%	12.6%	4.2%
Wildlife Viewing	332	4.10	0.05	78.3%	15.7%	6.0%
Social/Cultural	333	3.80	0.05	63.5%	25.2%	11.4%
Friendly People	336	4.54	0.04	92.3%	6.3%	1.5%
Solitude or lack of crowds	334	4.18	0.05	80.5%	15.6%	3.9%
Rural Lifestyle	334	3.73	0.05	61.7%	28.7%	9.6%
Historic Buildings	331	3.63	0.06	56.2%	32.9%	10.9%
Western State College	331	2.94	0.07	26.6%	42.3%	31.1%
Farm/Ranch	330	3.51	0.06	51.2%	32.1%	16.7%
Green Pastures	327	3.49	0.06	51.7%	30.9%	17.4%
Pastoral Landscapes	331	3.74	0.06	62.2%	26.3%	11.5%
Working Farms & Ranches	333	3.31	0.06	39.6%	39.0%	21.3%
Tourism Infrastructure	335	4.20	0.05	79.8%	16.8%	3.4%
High Quality Restaurants	332	4.00	0.05	70.2%	25.3%	4.5%
High Quality Lodging	334	3.99	0.05	71.0%	25.1%	3.9%
Affordable Lodging	337	4.37	0.04	87.5%	9.5%	3.0%
General Affordability	337	4.42	0.04	90.5%	7.4%	2.1%

Question: Please rate the importance of the following natural and human attributes in your decision to visit Gunnison County, Colorado during the year. Rated on a 5-point scale where 5= very important, 3=neither important nor unimportant, and 1=very unimportant.

Activity Participation

Table 3 shows the participation rate of traditional activities enjoyed in Gunnison County. Alpine skiing (which includes snowboarding) has the highest participation rate (91.7%), expected since the survey was given at and around a ski resort during high ski season. Other activities with high participation rates include sightseeing/photography (41.8%), driving for pleasure (29.3%), hiking/walking (23.7%), and wildlife viewing (20.7%), all of which are dependent on the scenic beauty of the area whether on public or private land.

Table 3. Participation rate by activity during a Gunnison County vacation, March 2003.

Activity	Participation Percentage	Number of Participants (N=337)
Alpine Skiing	91.7%	309
Sightseeing/Photography	41.8%	141
Driving for Pleasure	29.3%	99
Hiking/Walking	23.7%	80
Wildlife Viewing	20.7%	70
Snowmobiling	18.3%	62
Visiting Historic Sites	11.8%	40
XC Skiing	10.3%	35
Snowshoeing	9.7%	33
Fishing	8.6%	29
Picnicking	6.8%	23
Other	4.7%	16
Visiting Blue Mesa	4.7%	16
Alpine Tundra/Flower Viewing	4.7%	16
Bird watching	4.4%	15
Camping	3.8%	13
Bicycling/Mt. Biking	3.8%	13
Backpacking	3.8%	13
Visiting Black Canyon	3.2%	11
Horseback Riding	2.3%	8
Mountain/Rock Canyon	2.3%	8
Big Game Hunting	1.7%	6

Question: Please check the primary activities you participated in ***during this most recent trip*** to Gunnison County, Colorado (check all that apply).

Trip Expenditures

Respondents were asked to report how much money they spent in Gunnison County (Table 4), and how much they spent in total to visit Gunnison County (Table 5). These travel costs will be used to estimate the value of developing land in Gunnison County and also to consider how much Gunnison County might gain or lose from allowing private farms and ranches to subdivide their land.

Some 93% of respondents provided total expenditure information, generating a mean expenditure of approximately $1550, but a substantially lower median of $1250. Responses in this section ranged from $20 for the person just stopping through, to $7,950 for the extremely high-end visitor. A sum of just under $500,000 was spent in Gunnison County by our sample of 313 respondents. A majority (59%) of those surveyed spent a mean of $825 on lodging in Gunnison County; this means that most Gunnison County visitors are destination tourists. A large proportion (80%) of people surveyed spent money on ski passes during their time in Gunnison County with a mean response of $340. Answers ranged from $39 for the single, one-day user, to $2000 for the family that stayed for the week. Many visitors (81%) visited restaurants and bars while in Gunnison County, spending a mean amount of $313. Responses in this category ranged from $10 to $1500.

Table 4. Respondents' Trip Expenditures in Gunnison County, Colorado, March 2003.

Expense	N	Mean	Median	Standard Error	Minimum	Maximum
Total	313	1546.62	1250.0	70.96	20	7950
Other	33	969.70	500.0	261.17	20	6000
Hotel/Motel	195	810.75	550.0	54.87	3	4800
Airline Tickets	2	425.00	425.0	75.00	350	500
Ski Passes	269	340.53	300.0	16.60	39	2000
Restaurant/Bars	274	313.35	200.0	16.38	10	1500
Rental Car	3	283.33	200.0	109.29	150	500
Camping	2	237.50	237.5	162.50	75	400
Supplies/Equip. Rental	188	218.81	195.0	12.88	20	1000
Outfitter	16	191.75	175.0	34.08	1	500
Retail/Gifts	149	167.58	100.0	16.59	6	2000
Grocery Stores	217	139.65	100.0	8.29	4	700
Guide/Horseback	4	89.00	77.5	41.17	1	200
Hunting/Fishing License	14	86.43	50.0	32.25	5	450
Gasoline/Auto-Related	176	67.98	50.0	4.94	10	500
Park Entrance Fees	35	38.57	20.0	13.93	5	500

Question: Please record the dollar you personally spent to visit Gunnison County, Colorado on your most recent trip (amount spent in Gunnison County only)

Table 5. Summary of Respondents' Total Trip Expenditures, March 2003

Expense	N	Mean	Median	Standard Error	Minimum	Maximum
Total	313	1984.91	1600	90.13	20	10550
Other	33	987.27	500	262.35	20	6000
Airline Tickets	102	880.85	600	67.23	20	3000
Hotel/Motel	198	825.33	600	54.27	3	4800
Ski Passes	269	346.03	300	16.50	30	2000
Rental Car	50	341.20	300	31.36	75	1000
Restaurant/Bars	274	333.61	250	16.95	10	1700
Supplies/Equip. Rental	187	221.94	200	13.64	20	1350
Outfitter	18	198.17	175	28.31	50	500
Camping	3	190.00	150	111.51	20	400
Retail/Gifts	154	182.88	100	20.18	10	2050
Grocery Stores	217	145.69	100	8.24	4	700
Gasoline/Auto-Related	208	120.66	100	5.96	10	500
Guide/Horseback	3	118.33	80	40.86	75	200
Hunting/Fishing License	16	87.31	50	28.19	5	450
Park Entrance Fees	36	44.86	20	14.76	5	500

Question: Please record the dollar amount you personally spent to visit Gunnison County, Colorado on your most recent trip. (total vacation expenditures)

The key difference between Tables 4 and 5 is that Table 5 includes all pertinent travel expenditure information, from the respondent's doorstep to the lift line, whereas Table 4 only includes expenditures within Gunnison County. Table 5 provides a better representation of total revealed preference for winter tourism in Gunnison County, while Table 4 is better used to estimate county level economic impact of tourism expenditures. Total travel expenditures had a mean amount of just under $2,000. The median

amount spent for a Gunnison County vacation was $1,600, and answers ranged from $20 to $10,550. A majority (61%) of respondents spent a mean amount of $121 on gasoline and other auto-related expenses. Responses ranged from $10 to $500. Approximately one-third (30%) of respondents chose airlines as their preferred mode of travel, spending a mean of $880 and a median of $600 on airline tickets, implying Gunnison County attracts people from just across county lines to people from across oceans.

Other important components to travel cost data include travel time, travel distance, and time spent at destination (Table 6). The opportunity cost of time spent vacationing in Gunnison County is computed using these components. The mean time spent in Gunnison County is 5.47 days. The median and mode are both 5 days and answers showed little variation (standard error = 0.18). This statistic will prove useful in the discussion of visit changes contingent on land development. The mean one-way travel time to Gunnison County is 11.8 hours in transit. The median transit time is 12 hours, and the mode is 14 hours. Answers ranged from 1 to 60 hours in transit. The mean one-way travel distance to Gunnison County is 1085.5 miles. The median travel distance is 950 miles and the mode is 1000 miles. The standard error is 44.5—meaning that approximately 66% of visitors to Gunnison County comes from within 1000-1200 miles away. Answers ranged from 55 miles to 9000 miles. The mean response for the distance to the next best recreation area if Gunnison County were not available is 508.9 miles; the average person travels an additional 500 miles to recreate in Gunnison County when compared to the mean travel distance. The median response is 300 miles and the mode is 100 miles (standard error = 32.4).

Table 6. Other travel cost components

Travel Component	N	Mean	Median	Standard Error	Min	Max
Time Spent in Gunnison County (Days)	334	5.47	5	0.18	1	40
One-Way Travel Time (Hrs.)	337	11.80	12	0.37	1	60
One-Way Travel Distance (Mi.)	330	1085.50	950	44.51	55	9000
Distance to Next Best Recreation Area (Mi.)	252	508.91	300	32.36	2	4000

Contingent Behavior

Respondents were asked to state how their Gunnison County vacation consumption behavior would change contingent on rising travel costs. The expected trend of responses is that higher travel costs correspond with fewer vacationers visiting Gunnison County. So we would expect to see a low percentage of people coming to Gunnison County at the $1000 bid amount, and a high percentage of people coming to Gunnison County at the $25 amount. Actual results strayed from expectations somewhat (Table 7).

At the highest bid level 43% of those polled said they would still vacation in Gunnison County if the travel cost rose by $1000, while most people (57%) said they would not come to Gunnison County. At the $850 bid level even fewer (37.5%) respondents would still come to Gunnison County while a similar majority (57.5%) would not come. A few respondents (5%) did not answer this question on surveys with the $850 bid amount. At the $700 bid amount the responses were very similar to the $850 bid. The $550 bid amount marks the turn to higher affirmative responses and responses follow according to expectations. Some 68% of respondents would still vacation in Gunnison County if travel costs increased by $550, while 32% would not. The rest of the bid amounts follow in this manner: the lower the bid amount, the higher the percentage of affirmative responses. A reason for such a high affirmative

response rate for high bid amounts can be found in the demographics section; an inordinately high annual household income.

Table 7. Vacation consumption behavior contingent on rising travel costs

Bid Amount ($)	Yes (%)	No (%)	No Response (%)
1000	43.24%	56.76%	0.00%
850	37.50%	57.50%	5.00%
700	36.11%	58.33%	5.56%
550	68.42%	31.58%	0.00%
400	52.63%	44.74%	2.63%
250	78.38%	21.62%	0.00%
100	94.74%	5.26%	0.00%
50	89.74%	10.26%	0.00%
25	97.06%	2.94%	0.00%

Question: As you know, some costs of travel have been increasing. If the travel cost of this most recent visit to Gunnison County had been $_____* higher, would you have made this visit? * = Bid amount.

Effect of Ranchland Open Space on Visitation

Table 8 shows that visitors are significantly split on whether changes in all ranch land to higher density development would affect their visitation patterns to Gunnison County. When asked if all Gunnison farms and ranches were converted to higher density development (condos, resorts, etc.) would affect future visits, more than half (58.4%) say they would decrease their visits to Gunnison County. Nearly 4 out of 10 (39.5%) say the development would have no impact on their visitation, and a small minority (2.1%) would be attracted to such changes.

Table 8. Effect of commercial and residential development of ranch land on tourist visitation March 2003.

If ranch land were converted I would…	N=332
…decrease my visits to Gunnison County	58.4%
…not change my visits to Gunnison County	39.5%
… increase my visits to Gunnison County	2.1%

Question: If ALL Gunnison farms and ranches were converted to higher density development would you A) *increase* B) *decrease* or C) *not change* your visits to Gunnison County

The nearly 60% of respondents who chose to decrease their visits said they would do so by a mean of 4.97 days. This figure, when compared to the average length of stay in Gunnison County (5.47 days) is startling and ostensibly equivalent. Essentially, nearly 60% of respondents would not come to Gunnison County if all farm and ranch lands were developed.

Table 9 shows a sensitivity test to ranch land conversion. Respondents were asked at what percentage of farm and ranch land conversion would you begin to change your visits to Gunnison County. A majority (54.3%) chose the most sensitive option (25%). A large proportion (42.9%) chose the middle option (50%). This results in the overwhelming majority (97.2%) indicating that their choice of Gunnison County for their winter recreation experience is highly sensitive to its current, relatively undeveloped and open, rural and agricultural characteristics.

Table 9. Respondents' sensitivity to ranch land conversion.

At what percentage conversion of ranchland would you begin to change your visits?	N=184
25% Developed	54.3%
50% Developed	42.9%
75% Developed	2.7%

Question: Please estimate at what percentage of ranch land conversion you would begin to change your visits to Gunnison County.

Econometric Model

In model estimation, a probit model was chosen and several potentially defensible functional forms were used including linear, log-linear, log-cost, and quadratic cost, all with random effects error components to account for the panel nature of the data. Regressions were also conducted using a standard binary probit model with the aforementioned functional forms. The chosen model is as follows:

$$V_{ijk}=\beta_{0i}+\beta_1(TC_{ik})+\beta_2(EQ_{ij})+ \beta_3(AGE_i)+ \beta_4(SEX_i)+ \beta_5(RET_i) +\beta_6(Y_i)+ \beta_7(ED_i)+ \beta_8(CR_i)+\varepsilon_{ijk},$$

where V_{ijk} is the visit/no visit decision for group *i* with *j* being either ranch open space as it currently is, or with no ranch open space, and *k* representing higher travel costs corresponding to the appropriate bid amount. TC is the total observed travel costs including such expenses as lodging, lift tickets, food and drink, etc. EQ is a dummy variable with 0 representing present environmental quality and 1 representing the conversion of all ranch open space to higher density development. AGE is the age of the respondent and SEX is a dummy variable with 1=male and 0=female. RET is a dummy variable with 1=retired and 0=not retired. Y is household income and is a categorical variable with 12 income categories. ED is education level and is also categorical with 1= Junior High or less and 5=Graduate or Professional School. CR is a dummy variable with 1= a Colorado resident and 0=an out-of-state tourist. ε_{ijk} is the error term and is assumed to be an independent identically distributed random variable with mean zero and variance σ_μ^2.

The linear binary probit model was chosen as the best fit, as it performs the strongest when tested for explanatory power. The McFadden R-squared of 0.17 shows that this regression explains just under 20% of variation in the dependent variable (V) (Table 10).

Travel costs (TC) are significant at the 0.90 confidence level and are negatively related to the probability of vacationing in Gunnison County, consistent with expectations. Several treatments were given to this variable during estimation including the addition of the opportunity cost of vacation time to the overall travel cost. This additional cost component was not significant in the model, possibly since a large portion of respondents had paid vacations (73%).

Environmental quality (EQ) is significant at the 0.99 confidence level and is also negatively related to the likelihood of visiting Gunnison County. The large coefficient relative to the other explanatory variables indicates that consumers of Gunnison County vacations are sensitive to environment quality changes. The negative relationship indicates that if 100% of ranch open space is developed tourists are less likely to vacation in Gunnison County.

Table 10. Regression Results

Variable	Coefficient	Std. Error	Z-stat
TC	-0.0001	0.000	-1.71
EQ	-1.3013	0.114	-11.43
SEX	0.0146	0.115	0.13
AGE	-0.0018	0.006	-0.28
RET	-0.0175	0.435	-0.04
ED	-0.0403	0.065	-0.62
Y	0.0136	0.012	1.11
CR	-0.1085	0.254	-0.43
Constant	1.2424	0.289	4.30
Log-Likelihood	-334.5006		
McFadden R-Squared	0.1719		

From a policy perspective it is important to realize and measure the possible benefits and costs of different land uses, especially when policy alternatives for land use may have an impact on the largest industry in the region, tourism. As shown by the results above, probability of visitation is sensitive to environmental quality, namely the presence of ranch open space. While it is certainly true of summer tourists to mountain communities (Rosenberger & Walsh, 1997), the regression results point out that it is also true of winter tourists.

Visitors typically arrive in Gunnison, the County Seat and location of the regional airport, and proceed to drive or shuttle 30-40 minutes to Crested Butte or Mt. Crested Butte. Along the way, winter visitors are exposed to the views and landscapes of ranch open space. Visitors who arrive in Denver and continue to Crested Butte by car are exposed to Colorado open space on the five-hour drive (in good weather) from Denver International Airport. Other areas of winter tourist exposure to open space occur while skiing on Crested Butte Mountain. Skiers, snowshoers, and snowmobile enthusiasts enjoy breathtaking views of sparsely developed valley floors from mountaintop perches. Winter tourists have direct exposure to ranch open space, and it shows in the large coefficient of EQ in the regression results.

Economic Impact Analysis: Methods

While the econometric results are quite substantial in their own right, a decline in tourism in an economy that relies heavily upon it as an export will likely have impacts that spillover into other sectors of the economy. To estimate how a shock to one sector of a regional economy will ripple through other sectors of the economy, an input-output analysis is an appropriate tool (Schindler, Israilevich, & Hewings, 1997). Although input-output models do have limitations including the use of fixed coefficient production functions that assume no substitution between different production factors (Gazel & Schwer, 1997), this method of economic impact analysis is capable of tracing the "ripples" of a shock to one sector of a regional economy, the service sector in this scenario, to other sectors of the economy including real estate, banking, and wholesale trade. Regional input-output models have been used to evaluate the impacts of recreational land use as an export (Bergstrom, Cordell, Watson, & Ashley, 1990), but few studies have evaluated the impacts of ranch open space to indirect or passive users (ski tourists).

These "ripples" are known as the indirect effects of a shock to one sector of the economy on another sector. If Gunnison County suffers substantial losses in skier days during a winter tourist season, there

will be direct losses to several sectors of the regional economy. The direct losses to these industries lead to indirect losses in local industries that produce inputs for them. There now is less income induced economic activity from households since there are decreases in household income ands spending. These induced effects are reflected in a decline in local goods and services purchased by Gunnison County residents whose household income is decreasing as a result of the overall decrease in economic activity in the region. The combined direct, indirect, and induced effects are the total economic impact of a shock to the service industry in Gunnison County.

A few studies have used the confidence interval approach where, due to the stochastic nature of spending estimates, a 95% confidence interval is formed around the exogenous input shock. This allows for a similar confidence interval around final demand (Weiler, Loomis, Richardson, & Shwiff, 2002). These confidence intervals can increase the information content of IO analyses and their contribution toward making optimal resource allocation decisions (English, 2000). The input estimates use the endpoints of the confidence interval as the upper and lower bounds, which give output estimates in the form of a range of likely local economic effects (Weiler et al., 2002).

Output multipliers are used to measure total sales in an economy per dollar of export sales. Exports in this study are defined as income entering the county from outside sources. A visitor from outside Gunnison County purchasing merchandise or services while on vacation is considered an export. Employment effects are also measured with a similar technique, with employment multipliers measuring total jobs per dollar of export sales. Estimation was conducted using IMPLAN, a popular input-output analysis tool.

Economic Impacts: Results

The survey provides information about visitor expenditures by sector as well as information about the length of their visit to Gunnison County. The survey also provides information about the predicted change in visitation due to a change in the amount of ranch open space. From this information, a percentage change in visitor days was calculated. Total visitor days to Gunnison County in the winter are proxied through skier-days information obtained from Crested Butte Mountain Resort. The percent change in skier days predicted by the survey is then projected on the total skier days from the county for the 2002-2003 winter tourist season to obtain an estimate of predicted total skier days lost for the entire winter season. The shock to skier days as a result of open space conversion causes a parallel loss in overall visitor spending.

Our survey indicates that the decline in open space will lead to a 42% decrease in skier days to Crested Butte Mountain Resort. It was assumed that a 42% decrease leads to a loss 42% in export sales in the six sectors that are directly affected by a visitation loss. Skier days would decrease from a level of 342,416 to 197,913, a loss of 144,503 total skier days.

Average spending per skier day are found in the following categories: Eating and Drinking Establishments ($3.67), Food Stores ($5.95), Amusement and Recreation Services ($40.99) (includes ski lift tickets, snowmobile outfitters, etc.), Gas/Service Stations ($2.55), Hotels and Lodging ($15.35), and Miscellaneous Retail Merchandise ($4.00). Confidence intervals were constructed around each spending category to obtain the upper and lower bounds of spending information (Table 11). This is done due to the stochastic nature of the spending estimates. The spending range was multiplied by total Crested Butte skier days to obtain the baseline spending scenario. The spending range was also multiplied by the total skier days in the hypothetical development scenario to obtain the estimated income loss as a result

of a loss in skier days. Since visitation drives the overall demand in these sectors, a decrease in skier days will impact both output and jobs.

Indirect effects will occur in industries that supply or provide services to the six industries experiencing direct effects, for example, maintenance and repair, real estate, and business consulting services. A rural county as isolated as Gunnison County will likely have many indirect effects occurring outside the county since many factor inputs are imported. Induced impacts on households and business that directly provide services to households, like doctors, are reflected through a decrease in spending and income. The combination of direct, indirect, and induced effects produce the total impact on the local economy.

The output multipliers for most of the directly affected industries range between 1.2 and 1.4, which indicates that $200,000-$400,000 in additional income is lost in Gunnison County for each million dollars of direct export sales. Indirect multipliers range from 0.05 in Food Stores, which receive few supplies locally, to 0.22 in Hotels and Lodging Places that have more local suppliers. Induced effects multipliers are higher in Food Stores (0.20) since they have better paid and unionized employees than in a low paying sector like Eating and Drinking Establishments (0.13). The combination of these two multipliers gives the total regional multiplier.

The estimated visitation loss would likely cause losses to income in export sectors of the Gunnison County economy. Since the spending estimates had 95% confidence intervals applied to them, they represent the highest and lowest predicted spending activity due to the exogenous shock in visitation. Incorporating these bounds into the IMPLAN model can create output impacts with the same 95% confidence interval (Table 11).

Confidence intervals around baseline spending scenario and the open space development scenario are shown in Figure 3. The confidence interval for the baseline spending scenario has a maximum of $30.3 million and a minimum of $19.3 million. Hypothetical spending losses gathered from the survey results were entered into the IMPLAN model. The losses were estimated at between $11.4 and $17.9 million with 95% confidence, so the results of the losses are spending levels of between $7.9 and $12.4 million after direct, indirect, and induced effects are taken into account. The employment shock that will result from the open space development is estimated to be between 270 and 430 jobs at 95% confidence. The purpose of confidence interval construction is to see if this visitation shock will provide statistically discernable results between the two scenarios. Since the confidence intervals do not overlap, the results are statistically distinct.

Table 12 shows the output impact of a total loss of ranch open space in Gunnison County when evaluated as the difference of spending between the mean baseline level and the mean development level. The loss in skier days causes a total direct loss to Gunnison County of nearly $10.5 million. When the direct effects are combined with the indirect and induced effects, the estimated total loss to Gunnison County as a result of developing all ranch open space is approximately $14.6 million.

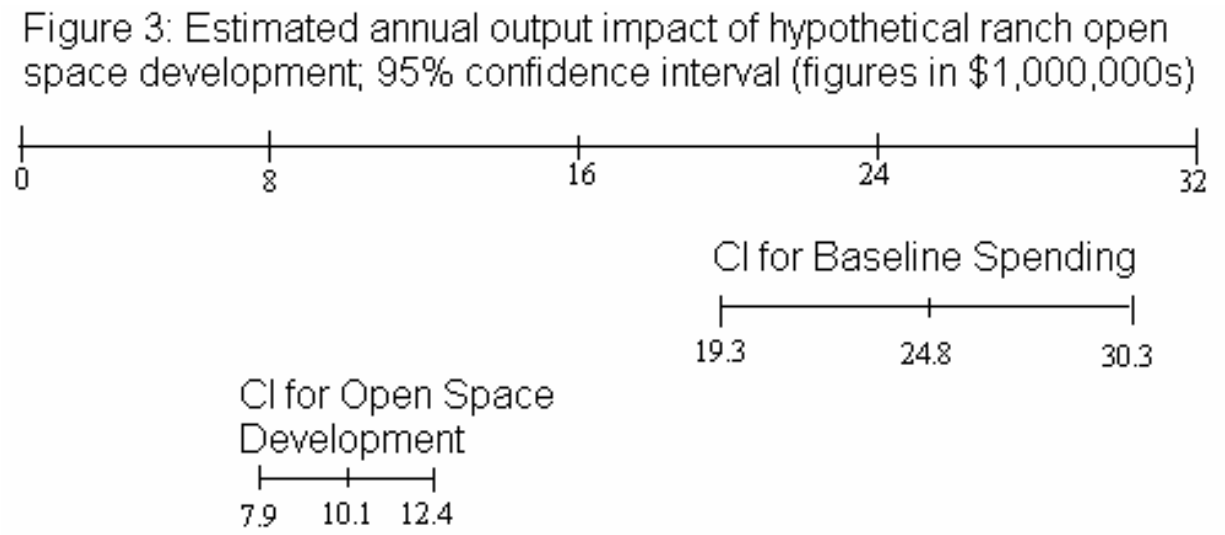


Table 12 shows the top twelve affected sectors, which accounts for approximately 87% of the total predicted impact. The largest direct and total impact is anticipated in the Amusement and Recreation services sector, while the second and third greatest direct and total impacts occur in the Hotels and Lodging places sector and the Food stores sector, respectively. Together these three sectors absorb 63% of overall estimated losses in Gunnison County.

These losses in overall output lead to losses in employment, as jobs in Gunnison County are dependent on export income. The total impact is estimated to be a loss of approximately 349 jobs, or approximately 3.1% of Gunnison County total employment base.

Table 13 details the range of employment impacts on the 12 industrial sectors most affected by the hypothetical reduction in ranch open space, accounting for some 92% of the total expected employment impacts. About 84% of the direct employment impacts and 72% of the expected total employment losses are expected in three sectors: Amusement and Recreation Services, Hotels and Lodging, and Miscellaneous Retail (Table 13).

These output and employment effects come uniquely from an overall decrease in skier days. A loss in overall visitation has broad output spillover effects that can be as large as 40% of the original direct impact (Table 6). Estimated spillover employment impacts are 21% of the direct employment loss (Table 7). These effects are quite large in Gunnison County since tourism accounts for 40% of employment and 30% of income in all base industry groups.

Table 11. Spending and Confidence Interval Information

	Gas Stations	*Lift Tickets*	*Outfitter*	*Equipment Rentals*	*Amusement Services^*	*Lodging*	*Restaurants*	*Food Stores*	*Retail*	*Total*
Mean ($)	2.55	14.45	0.33	26.20		15.35	3.67	5.95	4.00	72.51
Standard Error	0.3385	0.8459	0.1173	4.1607		1.3057	0.2516	0.4835	0.6251	
Confidence Level (95.0%)	0.6664	1.6652	0.2310	8.1907		2.5703	0.4954	0.9518	1.2306	
Upper Bound ($)	3.22	16.12	0.56	34.39		17.92	4.17	6.91	5.23	
Lower Bound ($)	1.88	12.79	0.10	18.01		12.78	3.17	5.00	2.77	
Mean* Baseline SD ($)	873,119	4,948,868	114,053	8,972,059	14,034,981	5,255,615	1,256,685	2,039,015	1,368,555	24,827,969
Upper Bound *Baseline SD ($)	1,101,310	5,519,070	193,136	11,776,682	17,488,889	6,135,732	1,426,307	2,364,916	1,789,931	30,307,085
Lower Bound *Baseline SD ($)	644,928	4,378,666	34,970	6,167,437	10,581,072	4,375,498	1,087,063	1,713,114	947,179	19,348,853
Width ($)	456,383	1,140,405	158,166	5,609,246	6,907,816	1,760,235	339,244	651,802	842,752	10,958,233
Mean* Devpt SD ($)	504,655	2,860,400	65,922	5,185,768	8,112,089	3,037,697	726,352	1,178,532	791,012	14,350,337
Upper Bound *Devpt SD ($)	636,547	3,189,972	111,631	6,806,814	10,108,416	3,546,397	824,392	1,366,900	1,034,563	17,517,216
Lower Bound *Devpmt SD ($)	372,762	2,530,828	20,212	3,564,722	6,115,762	2,528,997	628,312	990,164	547,460	11,183,458
Width ($)	263,785	659,143	91,418	3,242,092	3,992,654	1,017,399	196,080	376,736	487,103	6,333,757
Mean loss ($)	368,464	2,088,468	48,131	3,786,292	5,922,891	2,217,918	530,333	860,483	577,543	10,477,632
Upper loss ($)	464,763	2,329,099	81,505	4,969,869	7,380,472	2,589,336	601,915	998,016	755,367	12,789,870
Lower loss ($)	272,165	1,847,837	14,758	2,602,715	4,465,310	1,846,500	458,751	722,950	399,718	8,165,394

^ Amusement Services spending is the sum of lift tickets, outfitter, and equipment rentals spending.

Table 12. Estimated annual output impact of hypothetical ranch open space development (Evaluated at Mean of Confidence Interval)

Industry	Direct	Indirect	Induced	Total
Total	*-10,477,632*	*-1,820,025*	*-2,345,236*	*-14,642,893*
Amusement and Recreation Services	-5,922,891	0	-33,063	-5,955,954
Hotels and Lodging Places	-2,217,918	-36,824	-39,380	-2,294,123
Food Stores	-860,483	-1,017	-83,638	-945,138
Eating & Drinking	-530,333	-20,821	-177,693	-728,846
Miscellaneous Retail	-577,543	-3,432	-121,228	-702,203
Real Estate	0	-298,244	-191,678	-489,923
Automotive Dealers & Service Stations	-368,464	-8,088	-99,174	-475,726
Banking	0	-158,249	-156,575	-314,825
Owner-occupied Dwellings	0	0	-303,698	-303,698
Doctors and Dentists	0	0	-212,093	-212,093
Maintenance and Repair Other Facilities	0	-153,139	-34,539	-187,678
Electric Services	0	-90,013	-73,655	-163,667

Table 13. Estimated annual employment impact of hypothetical ranch open space development (Evaluated at Mean of Confidence Interval)

Industry	Direct	Indirect	Induced	Total
Total	*-288*	*-22.5*	*-38.3*	*-348.8*
Amusement and Recreation Services	-173.5	0	-1	-174.4
Hotels and Lodging Places	-45.1	-0.7	-0.8	-46.6
Miscellaneous Retail	-23.8	-0.1	-5	-28.9
Food Stores	-23.6	0	-2.3	-25.9
Eating & Drinking	-16.6	-0.7	-5.6	-22.9
Automotive Dealers & Service Stations	-5.4	-0.1	-1.4	-7
Doctors and Dentists	0	0	-3.3	-3.3
Maintenance and Repair Other Facilities	0	-2.6	-0.6	-3.2
Accounting- Auditing and Bookkeeping	0	-2.2	-0.5	-2.7
Real Estate	0	-1.5	-1	-2.5
Laundry- Cleaning and Shoe Repair	0	-1	-0.7	-1.7
General Merchandise Stores	0	0	-1.6	-1.6

Conclusion

The purpose of this study is to investigate whether winter tourists value ranch open space even if they do not directly use it for recreation. That is, we investigate whether the private land market for tourism infrastructure fails with regard to the contributions of open working landscapes to the winter tourism experience. Moreover, in a county dominated by public lands, we attempt to reveal whether private working lands complement or are substitutes for public lands in the eyes of visitors. The econometric results show that winter tourists do value private ranch lands, even in the presence of substantial public open space, and that they would decrease their visitation were all ranch open space converted to residential and commercial tourism infrastructure. This decrease in visitation is shown to have

substantial and potentially serious impacts that span across the much of the Gunnison County local economy. Our estimates indicate that this effect is on the order of $14.5 million and 350 jobs per year.

It is important for a rural area with a wealth of natural amenities, like Gunnison County, to understand the potential economic and ecological tradeoffs between preservation and development when evaluating how to address community objectives with regard to economic development and welfare. In many cases, the tradeoff in question is not "jobs OR the environment," rather it is "jobs AND the environment." The natural landscape is a major factor that draws both residents and visitors, and therefore exports, to Gunnison County, and it is imperative to discover how to find an amicable solution among the potentially competing land uses. Economic information such as is provided in this study can help to inform local decision making regarding the potential implications of their public and private land use decisions and development strategies.

It should be clarified that this analysis reflects the anticipated changes in visitation to Gunnison County due to a change in open space given the current profile of visitors. The analysis does not take into account potential influences on winter tourism visitation to the county such as weather, income change, population change, or the effects of potential changes in substitute sites, for example. As such, this analysis should not be considered a cost-benefit analysis of economic development alternatives. It can be expected, perhaps, that appealing to a different cadre of ski tourists might mitigate these effects were the built tourism infrastructure to be increased. However, whether or not this is true is beyond the scope of this analysis.

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Your visit to Gunnison County, Colorado
What do you think?

Colorado State University

Knowledge to Go Places

Introduction

Colorado State University is conducting a survey of Gunnison County tourism. You have been selected from among visitors to Gunnison County to provide information about your trip and what you are looking for in recreational visits to Gunnison County. It should take you 20-30 minutes to complete this survey. The information you provide will help Gunnison County in its comprehensive planning process.

While your participation in this survey research is of great importance to us, we would like to ensure you that your participation is voluntary, your contact information will not be collected (you will not be contacted or receive anything in the mail as a result of your participation), your responses will be held in strict confidence and reported only in aggregated form. There are no known risks or direct personal benefits to your participation in this survey. It is not possible to identify all potential risks in research procedures, but the researcher has taken reasonable safeguards to minimize any known and potential, but unknown, risks. The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury. Questions about participants' rights may be directed to Celia S. Walker at (970) 491-1563.

If you have any questions or comments on this Gunnison County Private Land Use & Tourism Quality research project, please contact Dr. Andrew Seidl, Department of Agricultural and Resource Economics, Colorado State University, Ft. Collins, CO, 80523-1172. T: 970-491-7071; F: 970-491-2067; E: Andrew.Seidl@colostate.edu. This research is partially funded by the Colorado Conservation Trust and Colorado State University Cooperative Extension. Thank you for your participation in this research.

I. Please rate the importance of the following natural and human attributes in your decision to visit Gunnison County, Colorado during the year.

Please circle one number for each item	Importance for your visit to Gunnison County, Colorado				
	Very Important	Important	Neither important nor unimportant	Unimportant	Irrelevant (Very unimportant)
Snow quality	5	4	3	2	1
Rivers, lakes & wetlands	5	4	3	2	1
Green pastures/irrigated lands	5	4	3	2	1
Abundant wildlife	5	4	3	2	1
Viewing alpine tundra/flowers	5	4	3	2	1
Mountain views	5	4	3	2	1
Viewing forested landscapes	5	4	3	2	1
Open vistas	5	4	3	2	1
Pastoral landscapes (fields, cattle & horses)	5	4	3	2	1
Valley views	5	4	3	2	1
Wildlife viewing	5	4	3	2	1
Friendly people	5	4	3	2	1
Solitude or lack of crowds	5	4	3	2	1
Rural lifestyle	5	4	3	2	1
Working ranches & farms	5	4	3	2	1
Historic buildings	5	4	3	2	1
Western State College	5	4	3	2	1
High quality restaurants	5	4	3	2	1
High quality lodging	5	4	3	2	1
Affordable lodging	5	4	3	2	1
General affordability	5	4	3	2	1
Other (specify) _____	5	4	3	2	1

II. Tell us about your most recent trip to Gunnison County, Colorado.

Please check the primary activities you participated in ***during this most recent trip*** to Gunnison County, Colorado (check all that apply).

_____ Horseback riding	_____ Visiting historic sites	_____ Snowmobiling
_____ Hiking/walking	_____ Bicycling/Mt. Biking	_____ Snowshoeing
_____ Picnicking	_____ Driving for pleasure	_____ Fishing
_____ Sightseeing/photography	_____ Birdwatching	_____ Visiting Black Canyon
_____ Wildlife viewing	_____ Alpine tundra/flower viewing	
_____ Camping	_____ Backpacking	_____ Mountain/rock climbing
_____ Cross country skiing	_____ Alpine skiing	_____ Big game hunting
_____ Visiting Blue Mesa Res.	_____ Other, please describe _____	

Are there activities that you would like to enjoy in Gunnison County, but were unable to?

_____ Yes _____ No

If yes, please specify _____

3) Trip expenditures

Please record the dollar amount you personally spent to visit Gunnison County (for example, Crested Butte, Sapinero/Blue Mesa, Powderhorn, Gunnison, Somerset), Colorado on your most recent trip for:

Trip Expense	Amount Purchased in Gunnison County	Total Amount Spent
Gasoline/related automobile costs	$	$
Park entrance fees	$	$
Hunting/fishing license fees	$	$
Ski passes	$	$
Guide/horseback riding fees	$	$
Outfitter fees	$	$
Hotel/motel	$	$
Camping	$	$
Food/drink: restaurants & bars	$	$
Food/drink: grocery stores	$	$
Supplies/equipment rental	$	$
Other retail purchases/gifts	$	$
Airline ticket	$	$
Rental car	$	$
Other _____	$	$

4) As you know, some of the costs of travel have been increasing. If the travel cost of this most recent visit to Gunnison County had been $_____ higher, would you have made this visit?
Please, check one: _____ Yes _____ No

5) Was this most recent visit from home to Gunnison County (check only one):
5a) _____ the sole destination (you came directly to Gunnison County and then back home)?
5b) _____ the primary purpose (but not the sole purpose of your trip from home)?
5c) _____ one of many equally important reasons or destinations for your trip from home?
5d) _____ just an incidental or spur of the moment stop on a trip taken for other purposes or to other destinations?

If you checked 5c or 5d, did the trip from home to Gunnison County also involve visiting family or friends? _____ Yes _____ No

6) Did you plan this visit to Gunnison County (check only one):
_____ 6 or more months in advance of the trip? _____ 1-6 months in advance of the trip?
_____ 1-4 weeks in advance of the trip? _____ less than 1 week in advance of the trip?

7) What was the amount of time you spent in Gunnison County on this trip?
_____ # of hours or _____ # of days

8) What was the one-way travel time of your trip from home to Gunnison County?
_____ # of minutes _____ # of hours.

9) What was the one-way travel distance from home to Gunnison County?
_____ # of one way miles.

10) What is the distance from your home to the next best recreation area you would go to if you could not go to Gunnison County? _____ # of one way miles.

11) Including yourself, how many people were in your group that traveled on this most recent trip?

_____ # of people in your group.

12) How many trips did you take to Gunnison County in the last 12 months (including this trip?) _____ # of trips.

13) If you visited Gunnison County **in the past 12 months** prior to this most recent visit, please check the primary activities you participated in (check all that apply).

_____ Horseback riding	_____ Visiting historic sites	_____ Snowmobiling
_____ Hiking/walking	_____ Bicycling/Mt. Biking	_____ Snowshoeing
_____ Picnicking	_____ Driving for pleasure	_____ Fishing
_____ Sightseeing/photography	_____ Birdwatching	_____ Visiting Black Canyon
_____ Wildlife viewing	_____ Alpine tundra/flower viewing	
_____ Camping	_____ Backpacking	_____ Mountain/rock climbing
_____ Cross country skiing	_____ Alpine skiing	_____ Big game hunting
_____ Visiting Blue Mesa Res.	_____ Other, please describe _____	

14) As you may know, Colorado experienced a severe drought and wildfires in the summer of 2002. Did the drought and fires *A) increase, B) decrease, or C) have no effect* on your visit? (circle one). If A) or B), please estimate by how many days you changed your visit. _____ days.

III. How would your visitation change with changes in land use?

About ¾ of Gunnison County, including most of the mountainous areas, are found on public land. Gunnison's private lands are mostly managed as ranches and farms and make up much of the county's lower lying hills, river corridors, and valleys. A traditional way of life, ranches and farms also provide open space, winter wildlife habitat, hunting and fishing guides and outfitters, and contribute to biological diversity, among other things. When ranches and farms are converted (subdivided) for higher density commercial or residential development, these traditional contributions of private lands are diminished.

1) If ALL Gunnison farms and ranches were converted to higher density development would you A) *increase* B) *decrease* or C) *not change* your visits to Gunnison County (Circle one).

2) If you circled A) or B), please estimate by how many days you would change your visit. _____ days.

3) If you circled A) or B), please estimate at what percentage of private land conversion you would begin to change your visits to Gunnison County? (circle one)

1. 25% of private land converted.
2. 50% of private land converted.
3. 75% of private land converted.

IV. Please tell us something about yourself.

These last few questions will help us in evaluating how well our sample represents visitors. Your answers will be kept strictly confidential and will only be used for the analysis of this study. You will not be identified in any way.

1) Are you? _____ Male _____ Female

2) What is your age? _____ Years

3) Are you retired? _____ Yes _____ No

4) What is your home zip code? _____

5) Your highest level of formal education completed. (Please circle one)

a) Jr High or less *b) High School* *c) Jr College or Technical School*

d) 4 yr College *e) Graduate or Professional School*

6) Do you work outside of the home? _____ Yes _____ No

7) When you recreate, do you almost always go on weekends, holidays, vacations or other non-work days?

_____ Yes _____ No

8) How many weeks of paid vacation do you receive each year? _____ weeks

9) How many members are in your household? _____ people

10) How many of these people contribute to paying household expenses _____ people

11) Including these people, what was your approximate household income from all sources (before taxes) last year?

_____ less than $10,000 _____ $40,000-$49,999 _____ $80,000-$89,999
_____ $10,000-$19,999 _____ $50,000-$59,999 _____ $90,000-$99,999
_____ $20,000-$29,999 _____ $60,000-$69,999 _____ $100,000-$149,999
_____ $30,000-$9,999 _____ $70,000-$79,999 _____ over $150,000

Thank you for completing the survey!