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## Economic impact of National Park designation of the Black Canyon of the Gunnison on Montrose County, Colorado

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*“National Park designation should result in 24,000 more visitors per year”*

*“Increases in tourist visits should result in \$2.4 million in additional economic activity and 63 jobs in Montrose County.”*

### Introduction

Public lands designations, in particular National Monuments and Parks, signal the significance and likely character of the potential visitors' experience, and thus may have substantial effects on visitation. Changes in designation may imply (real or perceived) differences in the availability of services, in promotional expenditures by the National Park Service (NPS), in allowable land uses, or in the uniquely attractive features of the site. Therefore, these changes in public lands designation may result in greater visitation to a given site.

Changes in visitation also are likely to have significant economic impacts on regions that contain such evolving public land uses. Using visitation as the driver, the economic impacts of visitation trends can be assessed through input-output models, clearly linking changes in land use designation with economic impact.

Here, we first estimate the effect of changes in designation from US National Monuments to National Parks on visitation. We then apply the estimate to the Black Canyon of the Gunnison and, using input-output analysis, provide an estimate of the economic impact of the anticipated increase in visitation on Montrose County, Colorado.

### Public Land Re-designation

The National Park Service employs a 16-category typology of public lands designations. Each of these categories carries information about the type and size of resource under protection and the permitted uses of the resources under each designation. National Park (Park) and National Monument (Monument) are perhaps the most significant of the 16 categories for visitation. Typically, Parks and Monuments differ in several important dimensions: Parks tend to be larger than Monuments. Parks are commonly important natural areas that may have historical relevance, while historical or scientific relevance is required of Monuments. Hunting, mining and other consumptive resource uses are not permitted in Parks, while they may be allowed on federal lands containing Monuments. Finally, Congress generally makes additions to the National Park System, while the

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President may establish Monuments on existing federal lands using the Antiquities Act of 1906 (National Park Service 2000, 2001c). Table 1 illustrates the year that the eight current National Parks used for this analysis were re-designated from their original National Monument status.

Table 1: National Monuments re-designated as National Parks, 1979 to 2000.

Site	Established as Monument (year)	Re-designated as Park (year)
Biscayne, Florida	1968	1980
Channel Islands, California	1938	1980
Great Basin, Nevada	1922	1986
Joshua Tree, California	1936	1994
Saguaro, Arizona	1933	1994
Death Valley, California	1933	1994
Black Canyon, Colorado	1933	1999
Great Sand Dunes, Colorado	1932	2000

Land re-designation of this sort should enhance the importance and interest in the site as a tourist destination. Changes in allowable uses, availability of services, and in the number of citations in promotions materials may influence these real or perceived differences in site quality or awareness. The effect of this adjustment in public perception can be measured through changes in annual visitors to the site holding all other factors constant. The motor vehicle character of most National Park visitation reinforces that dynamic, as many households target a series of parks for their vacations. Re-designation may add that site to potentially thousands of visitation lists.

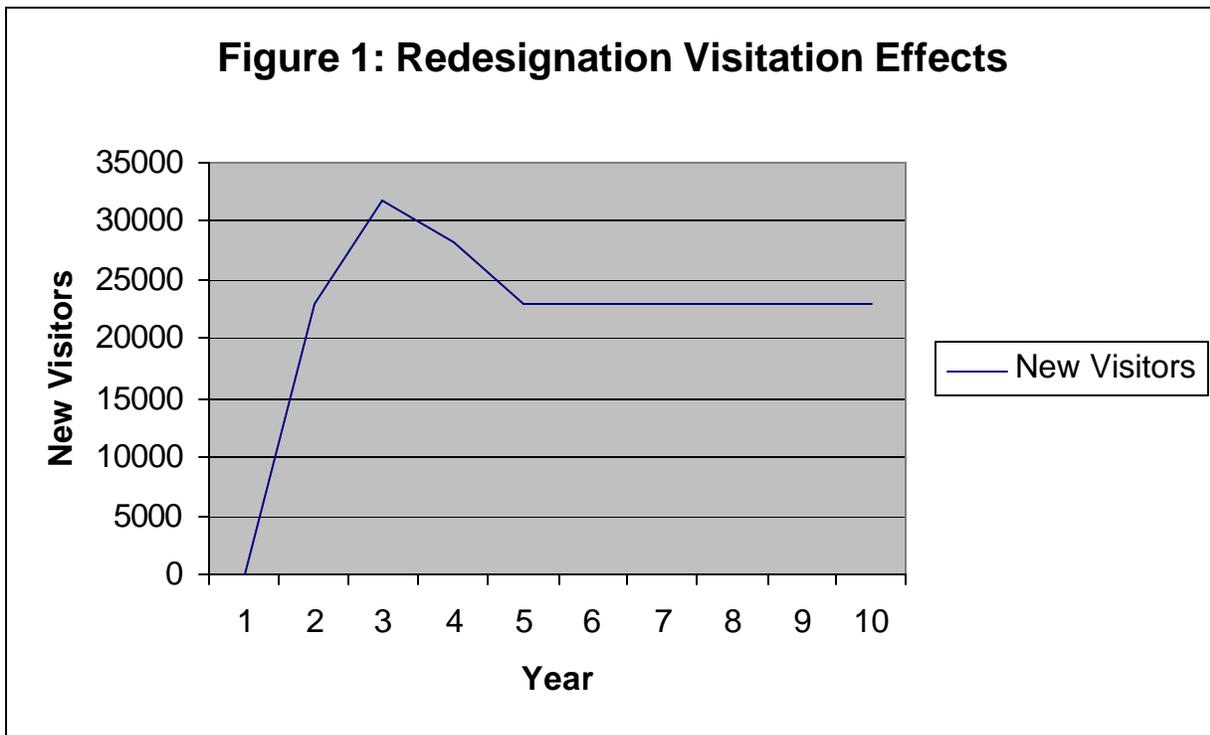
### Re-designation Visitation Effects: Results

Using data tracking the change in visitation after the conversion of seven previous National Monuments to National Parks, statistical estimates reveal that the change in public land designation from Black Canyon of the Gunnison National Monument to National Park should yield about 24,226 additional annual visitors. This difference in visitation is above and beyond expected increases due higher population, which is estimated at 3 additional visitors for every 1,000-person increase in the US population.

However, the increase in visitation is not expected to be instantaneous. As a result, further statistical exploration reveals the likely pattern of increase in visitation to the Black Canyon based upon the analysis of eight analogous Monument-to-Park re-designations (Figure 1). The first full year of park status yields 22,945 new visitors above the trend baseline. The following year produces an additional 8,827. However, this wave of excitement subsides, with the ensuing years yielding losses of 3,522 and 5,104 relative to the baseline. From the fifth year after re-designation onward, the expected increase due to the land use change should equilibrate around 24,000 additional visitors per year, all other factors remaining unchanged.

Changes in designation thus clearly increase visitation above the time trend baseline. However, this effect is not a simple jump in the first full year of National Park status. Such status changes lead to an initial wave of interest, overshooting the eventual long-term visitation increase, but finally settling to this higher trend level of visitation. This dynamic reinforces the likelihood that those most sensitive to the designation are external visitors who target National Parks. Interest accelerates rapidly in the years immediately following the opening, as extra visitors may target Black Canyon specifically, then fall back to the long-term trend as an annual pilgrimage of 24,000 new visitors add the Black Canyon to their list.

**Figure 1: Redesignation Visitation Effects**



#### **Economic impact analysis**

The Black Canyon of the Gunnison National Park is comprised of 27,500 acres of federal land and 112 acres of non-federal land in Montrose County, Colorado. The site boasts a unique and spectacular landscape with its narrow sheer Proterozoic crystalline walls and substantial depth. The Black Canyon hosts approximately 200,000 visitors annually and has a budget of about \$700,000 (NPS, 2001).

Montrose County has a population of about 34,000 people and is located on the Colorado's Western Slope, nestled between the I-70 corridor at Grand Junction and the SW Colorado tourism centers including Durango, Telluride, and Four Corners and Moab, Utah. Montrose County employs about 20,000 people across all industries including government. About 1 in 4 people are employed in the professional service sector and more than 1 in 4 work in retail trade, economic sectors traditionally important in economies driven by tourism. About 10% of the Montrose County population works in agricultural production and services and 8% are employed in the construction industry. Mining was also important until less than five years ago. Now, very few people are employed in mining. These proportions are similar to much of western Colorado, but show much greater emphasis on agriculture and somewhat less emphasis on professional services than the state as a whole. Cattle and calves and poultry are the most important commodities by value and hay is the most important commodity by area.

Montrose County has begun to experience growth typical of high natural amenity areas of rural Colorado. The number of farms and ranches in the county increased from 812 to 866 and the amount of land in farms decreased from 447 to 372 thousand acres between 1992 and 1997. While more than 80% of farms are owned by individuals or families, less than half had sales of more than \$10,000 in 1997, and slightly more than half of the operation's principle occupation is reported as farming. These data combined are indicative of the subdivision of working ranches into ranchettes and "lifestyle" farms so common in the West. The community impacts of private land use decisions are amplified when a large county (almost 1.5 million acres) lies mostly in federal hands (70% in this case).

The importance of the tourist economy and federal land stewardship to Montrose County underscores the importance of understanding the potential impact of the Black Canyon of the Gunnison National Monument conversion to a National Park. Using survey data on visitor expenditures from both primary and secondary sources, we can translate these visitor numbers into local economic impacts through input-output analysis.

New visitors are likely to emanate from outside the region, since the change in designation is unlikely to change local citizens' views of an already well-known resource. Such new external visitors and their spending generate new (export) sales of retail and services in Montrose County, creating the initial direct effects of new economic activity. These direct effects are "multiplied" through the regional economy via indirect and induced local expenditures. The indirect effects represent additional economic activity in the economy from local suppliers to these directly affected establishments. New induced economic activity through increases in local household income and spending is also likely to occur. These induced effects are reflected in the new local goods and services purchased by residents who now have extra income from the Black Canyon's new economic activity. The combination of these direct, indirect, and induced effects yield the total economic impact on the Montrose County from the new visitation.

Visitor expenditure data specific to the Black Canyon of the Gunnison was not available. However, a recent survey by the Great Sand Dunes staff in Colorado's San Luis Valley (SLV) showed that the average visitor spends approximately \$68 in the SLV for a given trip (GSD, 2001). These data did not provide the opportunity to undertake a detailed breakdown of these expenditures. As a result, expenditure proportions were gathered from the Grand Teton National Park, due to its similarities to the Black Canyon and the Great Sand Dunes as a single major gateway destination, and applied to the \$68 estimated daily expenditure figure derived from the GSD survey (Weiler et al., 2001).

Using the combined data gathered from these two surveys, estimated per visitor local expenditures were divided among six sectors: lodging (\$27), eating/drinking establishments (\$12), travel (\$11), equipment/miscellaneous retail (\$11), recreation services (\$4) and food stores (\$3). Since visitation drives the final demand in these sectors, the spending by typical visitors will produce impact estimates on affected sectors in the areas of output, employment, and income.

Direct impacts would occur in the six directly affected industries. The increase in activity in these industries would result in some indirect impacts on related supply industries, such as restaurant supply and wholesale trade / transportation. However, given the size and relative isolation of this community, most of these indirect effects would likely occur outside the local area. In addition to these indirect supplier effects, induced impacts reflect the increased income (and thus spending) of households themselves, which generate additional cycles of local economic activity. The combined direct, indirect, and induced effects produce the final changes in output, income, and employment for the local economy.

### **Economic Impact: Results**

Combining the visitation analysis estimate (24,226 additional visitors) with the GSD results (\$68 per visitor), an estimated direct effect of \$1,647,368 in new export sales due to the re-designation of the Black Canyon from National Monument to National Park. When the direct effects are combined with the indirect and induced effects, the estimated total economic impact of the change of designation is more than \$2.4 million (Table 2).

The output multipliers for most retail goods and services directly affected by tourism are between 1.4 and 1.5, indicating that \$400,000-500,000 worth of additional economic activity takes place in Montrose County for each million dollars of direct export sales. Table 2 details the estimated output impacts on the eleven most affected regional economic sectors, comprising approximately 84% of the total anticipated impact. Logically, the direct effects of tourism expenditures are largest in Hotels (\$654 thousand) and Eating and Drinking establishments (\$291 thousand). Together, these two sectors are expected to feel more than 40% of the total change in economic activity due to the re-designation of the Black Canyon. The greatest indirect effects are in Real Estate and construction related industries and the induced effects are largest in the highly compensated Real Estate industry and the highly employed Eating and Drinking establishments.

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Table 2: Estimated annual output impact of Black Canyon of the Gunnison re-designation

Industry	Direct	Indirect	Induced	Total
<i>Total</i>	<i>1,647,368</i>	<i>434,717</i>	<i>341,419</i>	<i>2,423,504</i>
Hotels and Lodging Places	654,102	8,884	4,883	667,869
Eating & Drinking	290,712	5,814	23,726	320,253
Automotive Dealers & Service Stations	266,486	1,386	13,890	281,761
Miscellaneous Retail	266,486	1,165	11,673	279,323
Real Estate	0	75,236	25,993	101,228
Amusement and Recreation Services- N.E.C.	96,904	0	4,207	101,111
Food Stores	72,678	1,380	13,830	87,888
Electric Services	0	43,604	10,800	54,404
Banking	0	34,485	18,466	52,950
Wholesale Trade	0	21,893	18,540	40,433
Maintenance and Repair Other Facilities	0	34,277	4,453	38,730

Such additional output also produces additional employment, with a total impact of 63.3 jobs, or approximately 0.3% of Montrose County's current total employment. Table 3 details the range of employment impacts on the 9 industrial sectors most affected by the change in public land designation, accounting for some 88% of the total expected employment impacts. These effects come uniquely from the change in designation, and can be used to assess the relative costs of status changes against the regional benefits. About 80% of the direct employment impacts and 67% of the expected total employment benefits are expected to benefit three sectors: Hotels and Lodging, Retail, and Eating and Drinking Establishments (Table 3).

Table 3: Estimated annual employment impact of the Black Canyon re-designation (FTE)

Industry	Direct	Indirect	Induced	Total
<i>Total</i>	<i>51.1</i>	<i>6.1</i>	<i>6.1</i>	<i>63.3</i>
Hotels and Lodging Places	18.3	0.2	0.1	18.7
Miscellaneous Retail	12.7	0.1	0.6	13.3
Eating & Drinking	9.5	0.2	0.8	10.5
Automotive Dealers & Service Stations	5.6	0.0	0.3	5.9
Amusement and Recreation Services- N.E.C.	3.1	0.0	0.1	3.3
Food Stores	1.8	0.0	0.3	2.2
Wholesale Trade	0.0	0.4	0.3	0.7
Maintenance and Repair Other Facilities	0.0	0.6	0.1	0.7
Accounting- Auditing and Bookkeeping	0.0	0.5	0.1	0.6

A complete social accounting of even these benefits needs to be evaluated against the alternative uses of resources, especially the labor and land that would be used in new economic activity. In urban areas, where resource use is already high, new benefits are likely to be counterbalanced by the cost of conversion of already utilized production factors. However, since many of these conversions occur in rural areas, labor and land are likely to have much lower values in alternative uses. In Montrose County, the considerable unemployment and low-use land suggests that the social returns of new tourist activity are likely to be high (Weiler et al., 2000). Note that a full accounting should include the environmental enhancement and deterioration effects, use and existence values, and crowding and congestion effects from both residents and nonresident perspectives, as well as an assessment of potential local disenfranchisement and cultural change due to the increasing role of tourism in the local economy.

## Conclusions

Designations of public lands are a particularly powerful policy tool that can dramatically alter land usage patterns and resource exploitation. While federal land use decisions are understandably non-local, such designations and re-designations are likely to have sizable local and regional economic implications. The Black Canyon of the Gunnison, like many of these public lands, resides in the rural Intermountain West, where tourism income is a vital component of the local economy. Measuring the impact of such conversions should become an important part of the benefit/cost analysis of such policy decisions.

In this paper we combine a number of analytical techniques to reveal the likely economic impact of changing the designation of the Black Canyon of the Gunnison National Monument to a National Park. This status change results in 24,226 new long-term visitors, which is shown to have a sizable economic impact on Montrose County. While the employment impact is only about 0.3% of current total employment (63 jobs) and the output impact is an estimated \$2.4 million, such impacts are likely to bring substantial social returns in such struggling areas, as the opportunity cost of resources are generally exceptionally low.

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