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From: Rebecca Moore
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[Rio Grande Del Norte Review 06 28 17 RMcomments.docx](#)
[Organ Moutains Desert Peaks - DRAFT 6-28-17 RMcomments.docx](#)
[Basin and Range review draft 6 28 17 RMcomments.docx](#)
[Gold Butte review draft 6 28 17 RMcomments.docx](#)

Rachel,
I've briefly reviewed the draft economic reports the 5 BLM National Monuments. Four are attached with comments. I had no comment on the Cascade-Siskiyou report.

Thanks,

-Rebecca

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# Basin and Range National Monument

Economic Values and Economic Contributions

*DRAFT*



Basin and Range  
National Monument

DRAFT June 28, 2017

### Introduction

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Basin and Range National Monument (BARNM) as well as to provide a brief economic profile of Lincoln County.<sup>1</sup>

### Background

Basin and Range National Monument was designated in 2015 to protect cultural, prehistoric, historic, paleontological, and geologic resources in the Great Basin between the Sierra Mountains and Colorado Plateau. Spanning a total of approximately 703,500 acres in southeastern Nevada, about 526,000 acres are in Lincoln County, Nevada, with the remaining 177,000 acres in a remote area of northeastern Nye County, Nevada.<sup>2</sup> Prior to designation, the land was managed by the Bureau of Land Management (BLM) Ely Field Office, with the exception of approximately 4,400 acres of private inholdings that continue to exist within Monument boundaries. The designation does not affect grazing operations in the Monument, including use of motorized vehicles, construction and maintenance of water infrastructure, and construction of fences and other range improvements relating to grazing operations. Additionally, the designation does not affect U.S. military uses of the airspace and allows continued military access for emergency response and training activities.

Since the passage of the Lincoln County Conservation, Recreation, and Development Act of 2004, there has been over 768,000 acres of designated wilderness as components of the National Wilderness Preservation System in the county.<sup>3</sup> One of these wilderness areas (Worthington Mountains Wilderness) is within the Monument boundaries.

### Public outreach

A public meeting regarding a proposal to withdraw land in the area from mining was held in February 2015. Since designation, six scoping meetings have been held in the surrounding communities to identify issues and planning criteria to be considered in the BLM

#### Basin and Range National Monument

Location: Lincoln County and Nye County, NV  
 Managing agencies: BLM  
 Adjacent cities: Ely, NV; Caliente, NV; Alamo, NV.  
 Tribes: Shoshone; Paiute  
 Resource Areas:  
☒ Recreation ☐ Energy ☐ Minerals  
☒ Grazing ☐ Timber ☒ Scientific Discovery  
☒ Tribal Cultural

Table 1. Lincoln County and State of Nevada Economic Snapshot

| Measure                                    | Lincoln County, NV | Nevada    |
|--------------------------------------------|--------------------|-----------|
| Population, 2016 <sup>a</sup>              | 5,194              | 2,798,636 |
| Employment, December 2016 <sup>c</sup>     | 1,234              | 1,307,813 |
| Unemployment rate, April 2017 <sup>b</sup> | 3.9%               | 4.6%      |
| Median Household Income, 2015 <sup>a</sup> | \$44,866           | \$51,847  |

<sup>a</sup>U.S. Census Bureau, 2011-2015 American Community Survey

<sup>b</sup><http://nevadaworkforce.com/>

<sup>c</sup>[https://data.bls.gov/cew/apps/data\\_views/data\\_views.htm#tab=Tables](https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables).

<sup>1</sup> The BLM provided data used in this paper.

<sup>2</sup> Approximately 4,400 acres (0.6% of the Monument) are private inholdings.

<sup>3</sup> <https://www.gpo.gov/fdsys/pkg/PLAW-108publ424/pdf/PLAW-108publ424.pdf>

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Resource Management Plan and as part of complying with the National Environmental Policy Act.<sup>4</sup> The approved RMP is anticipated to be published in late 2018.<sup>5</sup> In addition, in May 2017 the Nevada Legislature passed an assembly joint resolution (ARJ13) expressing support for the enactment and use of the Antiquities Act and the designation of the BARNM.<sup>6</sup>

### *Local Economy and Economic Impacts*

BARNM is located far from population centers and areas adjacent to the Monument are sparsely populated. The Monument has no facilities and few access roads. *Table 1* presents socio-economic metrics for Lincoln County and the state of Nevada. While 25% of the Monument is in Nye County, it is geographically not located near the areas of Nye County where the majority of the population resides.<sup>7</sup> Lincoln County is a remote and rural area of Nevada containing roughly 0.2% of the State's population. The population of the county increased about 25% from 2000 to 2015, compared to a 40% increase in State population. Compared to the State, the percentage of household income associated with labor earnings was lower while the percentage of household income resulting from Social Security or retirement income was higher.

### *Activities and Resources*

Information on the economic contributions associated with the activities occurring at Basin and Range National Monument are provided below.

- **Recreation:** A variety of recreation activities are available at BARNM including: dispersed camping, hiking, biking, OHV riding, rock climbing, wildlife and wild horse viewing, and viewing sites associated with cultural, prehistoric, and historic legacies. Hunting and trapping are also permitted as regulated by the State of Nevada. Visitor use has only been tracked through visitor registration sheets at the most popular petroglyph sites within the Monument, though BLM plans to install traffic counters in the fall of 2017 in order to more accurately track visitation. Estimates of visitation for FY 2016 range from 550 to 1,100 visitors. The value added associated with those recreation visits is estimated to be about \$35,000.
- **Energy:** There is no history of energy production in the area.
  - **Coal.** There have been no coal developments in the Monument area.
  - **Oil and gas.** There are currently no producing oil and gas wells within the Monument. The most recent well was drilled in 1996 and in the past 50 years, only four oil wells have been drilled; none were developed. There are several parcels with existing leases for oil and gas, and development on those existing leases could occur. Additionally, an application for permit to drill (APD) was approved in February 2016 for a lease that expires in 2020, though no wells have yet been drilled.<sup>8</sup>

<sup>4</sup> Basin and Range National Monument Resource Management Plan Scoping Report, 2016.

<sup>5</sup> <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=88819>.

<sup>6</sup> <https://www.leg.state.nv.us/App/NELIS/REL/79th2017/Bill/5507/Overview>.

<sup>7</sup> Over 80% of the population of Nye County resides in the Pahrump Census-designated place, which is an area bordering California to the west of Las Vegas.

<sup>8</sup> BLM data.

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- **Geothermal.** The area included in the Monument is within an area identified by USGS as having medium geothermal favorability.<sup>9</sup>
- **Non-fuel minerals.**
  - While there has been historic mining in the area by early European and American settlers, there has been no recent locatable mineral production on lands within the Monument boundaries.
  - There are three existing gravel pits that are used by Lincoln County for road maintenance but are not sold pursuant to any market activities. The sand and gravel permits were issued in 2012 to Lincoln County for ten years. They will expire in 2022.
- **Timber.** There is no commercial timber production in BARNM but timber harvest activities such as non-commercial Christmas tree cutting and collection of wood for posts and firewood are allowed by permit. The Monument proclamation allows for the continuation of all pre-designation timber activities.
- **Grazing.** The allotments that are wholly or partially contained within the boundaries of BARNM include approximately 32,000 permitted Animal Unit Month (AUMs).<sup>10</sup> About 10,200 AUMs were billed in FY 2016. Those AUMs were associated with economic output of about \$2.1 million and supported about 27 jobs. The Monument proclamation allows for the continuation of all pre-designation grazing activities, including use of motorized vehicles, construction and maintenance of stock watering facilities, and construction of fences and other range improvements related to grazing operations.
- **Tribal cultural, archeological, and historic resources.** Numerous tribes have ties to the BARNM area and the Monument contains resources that continue to be utilized by contemporary Native Americans. As over 90% of the Monument has not been inventoried for cultural resources, it is likely that there are many unknown cultural resources that have been neither documented nor evaluated for inclusion in the National Register of Historic Places.<sup>11</sup> Documented resources include prehistoric and historic artifacts and sites. There are two archaeological districts and several sites within the Monument to view petroglyphs. Traces of early Euro-American settlement, including mining structures, and the continuation of ranching lifestyles dating back to the late 19<sup>th</sup> century, also exist on the Monument. American artist Michael Heizer has been granted a Conservation Easement for his private land within BARNM, on which he is constructing a piece of art work that is similar in size to the National Mall. This work is expected to be completed in 2020 and has attracted interest in the art community.

### *Multiple Use and Tradeoffs Among Resource Uses*

This section presents some information to help understand land management tradeoffs. Decision-making often involves multiple objectives and the need to make tradeoffs among those objectives. However, tradeoffs and decision making are often subject to constraints, such as Monument designations. In general, market supply and demand conditions drive energy and minerals activity; societal preferences

<sup>9</sup> <https://pubs.usgs.gov/fs/2008/3082/>.

<sup>10</sup> BLM measures an AUM as the amount of forage needed to sustain one cow and her calf, one domestic horse, or 5 sheep or goats for one month. <https://www.blm.gov/programs/natural-resources/rangelands-and-grazing/livestock-grazing/fees-and-distribution>.

<sup>11</sup> BLM data.

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and household disposal income affect recreation activity levels; and market prices and range conditions affect the demand for forage. Culturally important sites and unique natural resources, by definition, have limited or no substitutes and thus tradeoffs are typically limited. A particularly challenging component of any tradeoff analysis is estimating the nonmarket values associated with BARNM resources, particularly the nonmarket values associated with cultural and scientific resources.

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Planning for permitted resource use on National Monuments will involve trade-offs among different activities on the land area being managed in order to allow permitted activities that do not impair monument objects. In some cases, certain areas of the Monument may be appropriate for more than one use. After the careful consideration of tradeoffs, management decisions in those cases may prioritize certain uses over others. In other cases, land areas may be more appropriate for a particular use and activities could be restricted to certain areas of the Monument. Factors that could inform these tradeoffs include demand for the good or activity, prices, costs, and societal preferences. Other considerations might include the timeframe of the activity - how long the benefits and costs of a given activity would be expected to extend into the future. Trust responsibilities and treaty rights should also be considerations.

In considering any trade-offs, it is not just the level and net economic value associated with an activity that occurs in a given year that is relevant to decision making. Virtually all activities within the Monument occur over time and it is the stream of costs and benefits over a given period of time associated with each activity that is relevant. For example, recreation activities could continue indefinitely assuming the resources required for recreation remain intact and of sufficient quality for the activity. Likewise, the values associated with the natural and cultural resources could continue indefinitely provided they are not degraded by other activities. Grazing could also continue indefinitely as long as the forage resource is sustainably managed and remains consistent with the protection of monument objects. Timber harvest may also continue indefinitely as long as the timber resource is sustainably managed. The stream of costs and benefits associated with some other non-renewable resources would be finite, however (assuming these activities were consistent with the designation). For example, oil, gas, coal and minerals are all non-renewable resources and would only be extracted as long as the resource is economically feasible to produce.

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# Rio Grande del Norte National Monument

Economic Values and Economic Contributions

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Rio Grande del  
Norte National  
Monument

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## Introduction

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Rio Grande del Norte National Monument (RGDNM) as well as to provide a brief economic profile of Taos County.<sup>1</sup>

## Background

Rio Grande del Norte National Monument encompasses 242,455 acres in Taos County, NM and was established by Presidential Proclamation on March 25, 2013. The resources identified in the Proclamation include cultural and historic resources, ecological diversity, wildlife, and geology. Prior to designation, the area was managed by the BLM. Post designation, BLM continues to manage the area.

The Rio Grande Wild and Scenic River (designated in 1968, extended in 1994), a key component which covers 15,000 acres in the Monument, including 68 miles south of the Colorado border, is managed to protect Outstandingly Remarkable Values of cultural, fish and wildlife habitat, riparian and scenic values, geologic features, and recreation.<sup>2</sup>

Several legislative proposals have been introduced into the House and/or Senate to establish a National Conservation Area in areas covered by the current monument designation S.432, the Cerros del Norte Conservation Act, introduced in the Senate 02/16/2017, designates the Cerro del Yuta Wilderness (13,420 acres) and Rio San Antonio Wilderness (8,120 acres) within the Rio Grande del Norte National Monument in New Mexico as wilderness and as components of the National Wilderness Preservation System. The San Antonio Wilderness Study Area (7,050 acres) was established by Congress; other areas managed for wilderness characteristics include the unit adjacent to the San Antonio WSA (9,859 acres) and the unit within Ute Mountain (13,190 acres).

The National Historic Preservation Act (NHPA) requires cultural resources to be evaluated by the National Register of Historic Places (NRHP). The NRHP does not recognize all of the categories of cultural resources named in the 2013 Presidential Proclamation, which likely provides more “protection” than the NHPA.

The BLM manages the Monument for multiple use (hunting, fishing, recreation, grazing, woodcutting, and collection of herbs, pine nuts, and other traditional uses), while protecting the historic and scientific resources identified in the Proclamation, and providing opportunities for scientific study of those

### Rio Grande del Norte National Monument

*Managing agencies:* BLM

*County:* Taos

*Gateway communities:* Taos, NM; Questa, NM

*Tribes:* Taos and Picuris Pueblos; Jicarilla, Apache and Ute Tribes

#### Resource Areas:

☒ Recreation ☐ Energy ☐ Minerals  
☒ Grazing ☐ Timber ☒ Scientific Discovery ☒  
 Tribal Cultural

<sup>1</sup> The BLM provided data used in this paper.

<sup>2</sup> National Wild and Scenic Rivers System. <https://www.rivers.gov/rivers/rio-grande-nm.php>.

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resources. Taos and Rio Arriba County have claims under RS 2477, but none are contested or challenged.<sup>3</sup>

The BLM Taos Field Office is in the process of preparing a monument management plan. Until this plan is complete, the Taos Resource Management Plan (RMP-May 2012) remains the current land use plan for the Monument.<sup>4</sup>

*Table 1. Taos County and State of New Mexico Economic Snapshot*

| Measure                                        | Taos County | State of New Mexico |
|------------------------------------------------|-------------|---------------------|
| Population, 2015 <sup>a</sup>                  | 32,943      | 2.1 million         |
| Native American population as a % of the total | 7.6         | 10.3                |
| Employment, December 2015 <sup>c</sup>         | 8,741       | 626,284             |
| Unemployment rate, March 2017                  | 8.6         | 6.2                 |
| Median Household Income, 2015 <sup>a</sup>     | 36,582      | 44,963              |

<sup>a</sup>U.S. Census Bureau, 2011-2015 American Community Survey.

<sup>c</sup><https://www.census.gov/quickfacts/fact/map/taoscountynewmexico/BZA110215#viewtop>

### *Public outreach prior to designation*

Congressional delegations and community groups held multiple public meetings from 2007 to 2013 regarding the proposed national monument prior to designation. The BLM participated in these meetings as subject matter experts, and did not keep records of dates, attendees or content of these meetings. A coalition of sportsmen, ranchers, land grant members, water right holders, outfitters and guides, local business groups, local government bodies and others was formed in 2007. The coalition held public meetings, shared information, and created a website that describes this effort: [www.riograndedelnorte.org/monument-review](http://www.riograndedelnorte.org/monument-review).

During formal scoping from January 2014 to March 2014, the BLM received approximately 1,200 public comments (126 unique comments), as published in the 2014 scoping report.<sup>5</sup>

### *Local Economy and Economic Impacts*

Table 1 presents socio-economic information for Taos County. The population of Taos County increased about 43% from 1990 to 2015. For comparison, during the same period the population of New Mexico grew about 38%, and the U.S. population grew about 29%. About 8% of the County population is Native American, lower than the New Mexico State average. Over the last eight years, the unemployment rate in Taos County rose to about 10.7% in 2010 and has since declined to about 8.6% which is above the state average of 6.2%. Median household income is about 88% of the state average.

<sup>3</sup> Revised Statute 2477 is an 1866 law allowing construction of public access roads across public lands, repealed in 1976 under the Federal Land Policy and Management Act (FLPMA). RS 2477 claims are court cases about continuing use of these roads.

<sup>4</sup> The Taos RMP is available here:

[https://eplanning.blm.gov/epl-front-office/projects/lup/68121/86167/103325/Approved\\_Taos\\_RMP\\_-\\_5.16.12\\_\(print\\_version\).pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/68121/86167/103325/Approved_Taos_RMP_-_5.16.12_(print_version).pdf)

<sup>5</sup> [https://eplanning.blm.gov/epl-front-office/projects/lup/72807/97058/117224/RGdN\\_Scoping\\_Report\\_5.22.14\\_\(1\).pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/72807/97058/117224/RGdN_Scoping_Report_5.22.14_(1).pdf)

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Figure 1 shows percentage employment by sector in Taos County for 2015.<sup>6</sup> The largest sectors are accommodations and food service (22%), retail trade (18%), and health care (16%).

Information is provided below on two different types of economic information: “economic contributions,” and “economic values.” Both types of information are informative in decision making.

**Economic contributions** track expenditures as they cycle through the local and regional economy, supporting employment and economic output. Table 2 provides estimates of the economic contribution of activities associated with RGDNNM.

**Economic values**, in contrast to economic contributions, represent the net value, above and beyond any expenditures, that individuals place on goods and services. It is not appropriate to sum values for economic contributions and economic values because they represent different metrics. To the extent information is available, some economic values are presented in Table 3 along with information on the timing and drivers of future activity. For commodities bought and sold in markets (e.g., oil, gas, etc.), the economic values are closely related to the market prices of the commodities. For goods and services typically not bought and sold in markets the values are estimated based on surveys for estimating values individuals have beyond direct expenditures

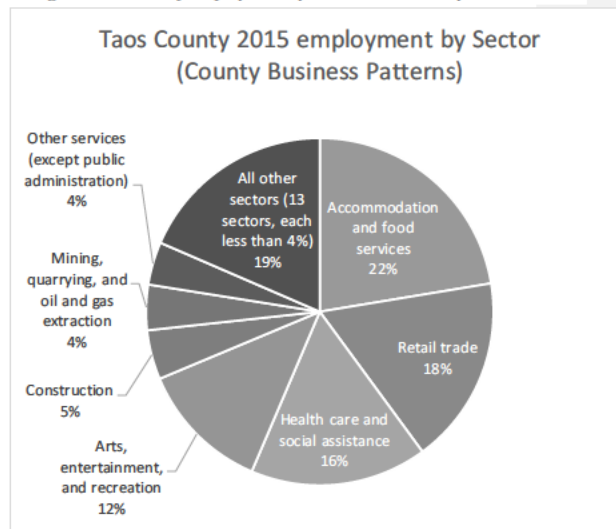
#### Definitions

**Value Added:** A measure of economic contributions; calculated as the difference between total output (sales) and the cost of any intermediate inputs.

**Economic Value:** The estimated net value, above any expenditures, that individuals place on goods and services; these are particularly relevant in situations where market prices may not be fully reflective of the values individuals place on some goods and services.

**Employment:** The total number of jobs supported by activities.

Figure 1. Percent of Employment by Sector, Taos County, 2015



<sup>6</sup> U.S. Census Bureau County Business Patterns, 2015.

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### Activities and Resources Associated with RGDNNM

Since designation, few changes have occurred to livestock grazing AUMs, rights-of-way restrictions, and forestry and wildlife activities.<sup>7</sup> Details on the activities occurring at RGDNNM are provided below.

- **Recreation:** Hunting, fishing, hiking, and general recreation all occur on the Monument. Annual visitation is shown in Figure 2. Average visitation has been about 162,000 over 2008-2016. While trends in the data are difficult to discern, with the exception of 2014, visitation in recent years has

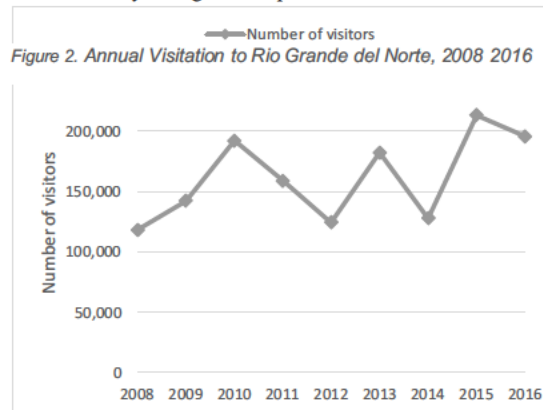
Table 2. Rio Grande del Norte Estimated Economic Contributions, 2016

| Activities          | Economic Output, \$millions | Value added (net additions to GDP), \$ millions | Employment supported (number of jobs) |
|---------------------|-----------------------------|-------------------------------------------------|---------------------------------------|
| Recreation          | 13.4                        | 7.4                                             | 169                                   |
| Non-energy Minerals |                             |                                                 |                                       |
| Grazing             | 1.9                         | N/A                                             | 42                                    |

generally been higher than pre-designation years. BLM indicates that there has been an increase of use at developed recreation sites. Recreation staff managing these developed sites in the lower part of the monument have reported that use increased at an average annual yearly rate of 20% since designation. Camp and day-use sites that were filled only a few times each year are now being used at capacity every weekend from May through mid-September. The Taos Plateau area west of the Rio Grande has also had a noticeable increase in visitation.

There is anecdotal information suggesting that the town of Taos has experienced an increase in economic activity associated with increased visitation to the Monument

- Fishing is an everyday occurrence along the Rio Grande in the monument, and accounts for about 13% of total visitor use each year. The New Mexico Department of



Game and Fish conducts a creel survey every five years. Information from the survey indicates that the Monument receives about 80,000 fishing visits per year. Hunting licenses are issued by the New Mexico Game and Fish Department for elk, mule deer, antelope, and bighorn. In 2016-

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<sup>7</sup> The 2012 Taos RMP established the Taos Plateau Area of Critical Environmental Concern (ACEC) which limited commercial or surface disturbing activities that had been occurring.

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2017, a total of 3,569 permits were issued for the three game management units covering the National Monument.<sup>8</sup>

- Recreation activities provide the opportunity for economic activity to be generated from tourism for an indefinite period of time. The economic contributions occur annually, and in cases where visitation increases over time, recreation generates additional activity each year. These contributions affect the regional and state economies.
- Recreation activities based on visitation to the Monument are estimated to contribute about \$7.4 million in value added (net economic contributions) and support 169 jobs.<sup>9</sup> The economic value associated with the 195,948 recreational visits in FY 2016 (valued at \$54.19 per visit, see Table 3) is estimated to be about \$10.6 million.

- **Energy:** There is no oil, gas, coal or renewable energy production within the monument. The volcanic history of the area eliminated the potential for hydrocarbons, so there is no oil and gas potential within the monument. There is no renewable energy production within the Monument (the 2012 Taos Resource Management Plan excludes wind and solar energy development). A BLM Solar Energy Zone (~16,000 acres) lies immediately north of the Monument in Colorado, east of US 285.
- **Energy transmission:** There are four transmission line rights-of-way for electricity (managed by BLM) and 12 distribution lines to end-users. There are no gas pipelines and no applications pending for new or upgraded lines.
- **Non-fuel minerals.** Mineral sales are not allowed within the monument under the current management plan, other than those associated with valid existing rights. However, there were no mining claims or operations at the time of designation so there are no valid existing rights for mining claims or mining operations in the RGDNNM.<sup>10</sup> There are no mineral developments or process facilities adjacent to or impacted by the monument designation. There are large scale perlite mining operations on private lands adjacent to or near the monument boundary. These are considered world-class perlite deposits in the No Agua Mining District. These operations include some on-site processing facilities. These operations are on private/patented land and are subject to the State of New Mexico, Mining and Mineral Division regulations. These existing perlite operations are minimally affected by the monument, if at all. Taos Gravel is an existing large-scale sand and gravel operation on BLM land adjacent to the monument boundary. Their operations might be minimally affected by the monument if noise and VRM issues apply to their existing operation.
- **Timber.** The Río Grande del Norte National Monument is not available for large scale timber harvesting or for commercial fuelwood harvest. All removal of fuelwood is for personal harvest; from 2008-2016 sales varied between about 200 and 800 CCF of green fuelwood. Since 2013 several hazardous fuels reduction and forest health treatments were completed by BLM, in partnership with other agencies (federal, state, and non-profit). In 2016 BLM began to permit the removal of dead and

<sup>8</sup> The New Mexico Game and Fish Department has continued to keep 10,903 acres, within the monuments 242,455 acres, closed to hunting, in coordination with the BLM, in a developed recreation area with high density use.

<sup>9</sup> BLM data.

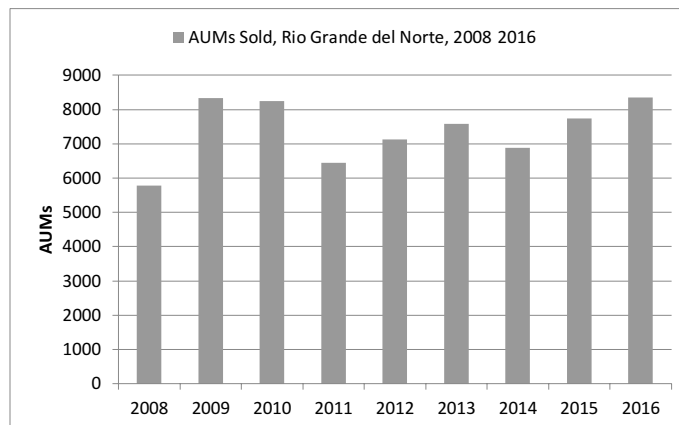
<sup>10</sup> The 2012 Taos Resource Management Plan designated the Taos Plateau Area of Critical Environmental Concern (ACEC) that covers most of the Río Grande del Norte National Monument. The ACEC and the Río Grande Wild and Scenic River were closed to salable mineral disposal and all leasable mineral entry. Locatable mineral entry was allowed in most of the area, with the exception of the San Antonio WSA (7,050 acres), the Ute Mountain area (13,190 acres), and the Wild Rivers zone of the Río Grande Gorge Recreation Area (about 10,000 acres).

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down fuelwood. It is anticipated in the future new areas will be available for green fuelwood cutting and removal.

- Grazing.** There are 71 grazing allotments within the monument:- 62 are active grazing allotments and 9 were closed to grazing before the designation. Within the monument there are currently 13,759 permitted AUMs. Figure 3 shows the number of AUMs used annually since 2008. Actual use fluctuates due to a combination of grazing permittee's herd sizes, weather conditions, and range conditions. The amount of permitted grazing use has not changed since the designation of the monument. In FY 2016, grazing supported an estimated 42 jobs and about \$2 million in economic output.

Figure 3. AUMs Sold, Rio Grande del Norte, 2008-2016



- Cultural, archeological, and historic resources.** Indigenous communities may utilize natural resources in ways and to an extent different from the general population, and the role that natural resources play in the culture of these indigenous communities may differ from that of the general population. Culturally important sites and unique natural resources, by definition, have limited or no substitutes. Recognizing this is a critical consideration in land management because it may affect consideration of tradeoffs. Activities currently undertaken by tribal members include hunting, fishing, gathering, wood cutting, and the collection of medicinal and ceremonial plants, edible herbs, and materials for crafting items like baskets and footwear, as well as transmitting knowledge and culture related to these resources and activities. The Ojo Caliente Area of Critical Environmental Concern (ACEC) (66,150 acres) contains relevant and important cultural resources, as well as scenic quality, sensitive ecological processes, riparian areas, and special status species and other critical wildlife habitat values. This ACEC includes some of the largest (200-to-2000 rooms) prehistoric and early historic period pueblo ruins in the Southwest. These individual sites and the attendant landscapes are important to the Tiwa and Tewa Pueblo people of the upper Rio Grande region and contain important religious and sacred sites. This BLM site is currently managed specifically for visitation and enhanced visitor experiences. Also within the Ojo Caliente ACEC is Mesa Prieta, a 6,500-acre tract of private land currently under consideration for acquisition by the BLM. Mesa Prieta contains over 80,000 petroglyph sites and other archaeological remains associated with prehistoric Tewa and Spanish Colonial cultures. It is unique to the region and exceeds the numbers of petroglyphs recorded

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to date within the Petroglyph National Monument near Albuquerque. The Ojo Caliente ACEC boundaries were expanded in the 2012 Taos Resource Management Plan (RMP) to include Mesa Prieta as a potential acquisition and addition to this management unit. Cultural landscapes extend beyond the confines of the current management boundary. Potential acquisition of adjacent lands from willing owners through purchase, exchange, or donation, or expansion of the monument boundaries to include adjacent BLM lands containing critical cultural resources and cultural landscape elements, would further provide management of the cultural resources within the contexts of its landscape.

### *Multiple Use and Tradeoffs Among Resource Uses*

This section presents some information to help understand land management tradeoffs. Designating the monument closed lands to mineral entry, so within the context of the Monument Designation, some tradeoffs are not relevant.

Decision-making often involves multiple objectives and the need to make tradeoffs among those objectives. In general, market supply and demand conditions drive energy and minerals activity; societal preferences and household disposal income affect recreation activity levels; and market prices and range conditions affect the demand for forage. Culturally important sites and unique natural resources, by definition, have limited or no substitutes and thus tradeoffs are typically limited. A particularly challenging component of any tradeoff analysis is estimating the nonmarket values associated with relevant resources, particularly cultural resources.

Planning for permitted resource use on National Monuments will involve trade-offs among different activities on the land area being managed so as to allow permitted activities that do not impair monument objects. In some cases, certain areas of the Monument may be appropriate for more than one use, and trade-offs must be considered and management decisions may be made that prioritize certain uses over others. In other cases, land areas may be more appropriate for a particular use and activities could be restricted to certain areas of the Monument. Factors that could inform these tradeoffs include demand for the good or activity, prices, costs, and societal preferences. Other considerations might include the timeframe of the activity - how long the benefits and costs of a given activity would be expected to extend into the future. Trust responsibilities and treaty rights should also be considerations.

In considering any trade-offs, it is not just the level and net economic value associated with an activity that occurs in a given year that is relevant to decision making. Virtually all activities within the Monument occur over time and it is the stream of costs and benefits over a given period of time associated with each activity that is relevant. For example, recreation activities could continue indefinitely, assuming the resources required for recreation remain intact and of sufficient quality for the activity. Likewise, the values associated with the natural and cultural resources could continue indefinitely provided they are not degraded by other activities. Grazing could also continue indefinitely as long as the forage resource is sustainably managed and remains consistent with the protection of monument objects. Fuelwood harvest may also continue indefinitely as long as the timber resource is sustainably managed. The stream of costs and benefits associated with some other non-renewable resources would be finite, however (assuming these activities were consistent with the designation). For example, oil, gas, coal and minerals are all non-renewable resources and would only be extracted as long

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*DRAFT June 28, 2017 Figures, values, and text are subject to revision*

as the resource is economically feasible to produce. Management costs would also be a consideration, over the same time period as the activities continue.

The RGDNNM Proclamation contains specific provisions for the protection of heritage objects and values extending beyond specific resources concerns. Alternative options available for protection of resources include authorities such as the Native American Graves Protection and Repatriation Act, Paleontological Resources Preservation Act, Archaeological Resources Protection Act, Historic Preservation Act and agency-specific laws and regulations. These could provide some options to protect specific resources found in the RGDNNM. Protection would likely occur on a site-by-site or resource-by-resource basis and also would take a significant amount of time to accomplish under these various laws. These laws may not provide a mechanism to protect all cultural or tribal resources in Monument.

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Table 3 Summary of RGDNNM Activities and Economic Values, FY 2016

| Activities                                     | Level of annual activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Economic Value                   | Timing                                                                                                 | Drivers of current and future levels of activity                                                                                                         |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recreation                                     | FY 2016: 195,948 visitors (BLM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | \$54.19/visitor day <sup>a</sup> | Visitation could continue indefinitely if landscape resources remain intact and of sufficient quality. | Societal preferences for outdoor recreation; disposable income; changing individual preferences for work and leisure time                                |
| Oil, gas, coal production; Non energy minerals | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | n/a                              | n/a                                                                                                    | n/a                                                                                                                                                      |
| Grazing                                        | 2016 billed AUMs: 8,357 AUMs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2016 grazing fee: \$2.11/AUM     | Grazing could continue indefinitely if forage resources are managed sustainably.                       | Market prices for cattle and sheep and resource protection needs and range conditions (due to drought, fire, etc.) can affect AUMs permitted and billed. |
| Cultural resources                             | Indigenous communities often use natural resources to an extent and in ways that are different from the general population, and the role that natural resources play in the culture of these indigenous communities may differ from that of the general population. Culturally important sites and unique natural resources, by definition, have limited or no substitutes. Recognizing this is a critical consideration in land management because it may affect consideration of tradeoffs. MTNM contains substantial cultural resources that have not been fully surveyed. Tribes use the sacred sites within MTNM for hunting; fishing; gathering; wood cutting; and for collection of medicinal and ceremonial plants, edible herbs, and materials for crafting items like baskets and footwear. |                                  |                                                                                                        |                                                                                                                                                          |
| Benefits of nature                             | Services provided by nature underpin all sectors of a local economy. As many of these services are not sold in markets, we have limited information on their prices or values. Specific benefits related to RGDNNM include protection of crucial habitats for deer, elk, desert bighorn sheep, pronghorn, and endemic plant species that inhabit rare habitat types such as hanging gardens.                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |                                                                                                        |                                                                                                                                                          |

<sup>a</sup> This value represents the estimated consumer surplus associated with general recreation for the Intermountain region from the USGS Benefit Transfer Toolkit (<https://my.usgs.gov/benefit-transfer/>). Consume surplus represents values individuals hold for goods and services over and above expenditures on those goods and services.

<sup>b</sup> All prices are from EIA.gov.

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*DRAFT June 28, 2017*



# Organ Mountains - Desert Peaks National Monument

Economic Values and Economic Contributions

*DRAFT*

DRAFT June 28, 2017

### Introduction

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Organ Mountains Desert Peaks National Monument (OMDPNM) as well as to provide a brief economic profile of Doña Ana County.<sup>1</sup>

### Background

Organ Mountains-Desert Peaks National Monument (496,330 acres) was established by Presidential Proclamation on May 21, 2014. Prior to designation, the area was managed by the BLM and continues to be following designation. The BLM manages for multiple uses within the Monument (recreation, grazing, etc.), while protecting the vast array of historic and scientific resources identified in the Proclamation and providing opportunities for scientific study of those resources. The resources identified in the Proclamation include visual, cultural, geologic, paleontological, ecological, and scientific resources. Overall, multiple use activities are allowed in Organ Mountains-Desert Peaks National Monument that are compatible with the protection of resources and objects identified in the Presidential Proclamation. Multiple use activities are subject to decisions made in current and future BLM resource management planning efforts, which include public participation. National Monuments and other conservation areas managed by the BLM continue to allow for multiple uses according to the Federal Land Policy and Management Act (FLPMA).

### Public outreach prior to designation

Meetings hosted by Congressional delegations, the Secretary's office, and community groups were held prior to designation. BLM participated in these meetings as subject matter experts and did not keep records of dates, attendees or content of these meetings. Support for the creation of OMDPNM was expressed by New Mexico representatives and senators as well as elected officials of the county and nearby cities and towns (Mesilla, Las Cruces, El Paso) and various community members and groups.

#### *Organ Mountains Desert Peaks National Monument*

*Location:* Doña Ana County, NM

*Managing agency:* BLM

*Adjacent cities/towns:* Las Cruces, Mesilla

*Adjacent counties:* Luna County, NM (a small portion of the Monument is in Luna County)

#### **Resource Areas:**

- ☒ Recreation ☐ Energy ☒ Minerals
- ☒ Grazing ☐ Timber ☒ Scientific Discovery
- ☒ Tribal Cultural

<sup>1</sup> The BLM provided data used in this paper.

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### Local Economy and Economic Impacts

Table 1 presents socio-economic metrics for Doña Ana County and the state of New Mexico. The County contains roughly 10% of the State's population.

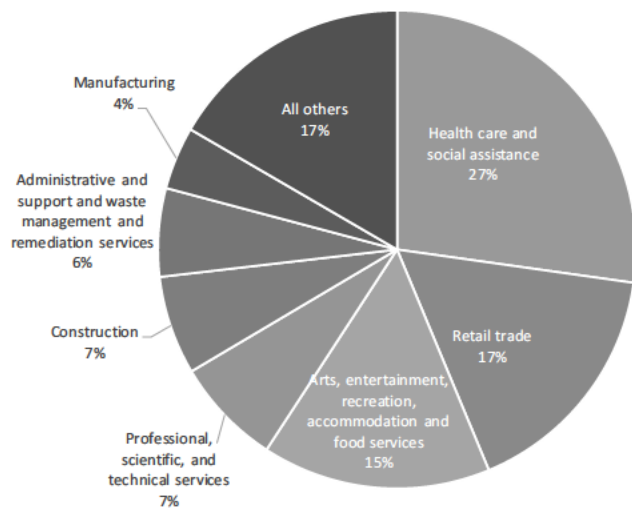
The top three sectors in Doña Ana County -- healthcare and social services, retail trade, and arts, entertainment, accommodation and food services -- make up nearly 60% of the total employment (see Figure 1).<sup>2</sup> In recent years, the county has experienced slightly higher rates of unemployment and lower levels of median household income compared to the state.

Table 1. Doña Ana County and State of New Mexico Economic Snapshot

| Measure                                    | Doña Ana County, NM | New Mexico |
|--------------------------------------------|---------------------|------------|
| Population, 2015 <sup>a</sup>              | 213,963             | 2,084,117  |
| Unemployment rate, May 2017 <sup>b</sup>   | 7.0%                | 6.6%       |
| Median Household Income, 2015 <sup>a</sup> | \$38,853            | \$44,963   |

<sup>a</sup> U.S. Census Bureau, 2011-2015 American Community Survey  
<sup>b</sup> <https://www.dws.state.nm.us/Portals/0/DM/LMI/TA2017.pdf>.

Figure 1. Percent of employment by sector in Doña Ana County, 2015



\*Other includes agriculture/forestry; mining, quarrying and oil extraction; utilities; wholesale trade; finance and insurance; real estate; information; educational services; and transportation and warehousing. Each of these represents less than 4% of total employment. Source: 2015 County Business Patterns, U.S. Census Bureau.

<sup>2</sup> 2015 County Business Patterns, US Census Bureau

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The figures provided below represent two different types of economic information: “economic contributions,” and “economic values.” Both types of information are useful for decision making. Economic contributions track expenditures as they cycle through the local and regional economy, supporting employment and economic output.

Economic values, in contrast to economic contributions, represent the net value, above and beyond any expenditures, that individuals place on goods and services.<sup>3</sup>

For commodities bought and sold in markets (e.g., oil, gas, etc.), the economic values are closely related to the market prices of the commodities. For goods and services such as recreation that are typically not bought and sold in markets, the values are estimated based on visitor surveys which attempt to capture individual values above and beyond their direct expenditures. The economic value in FY 2016 associated with recreation is estimated to be about \$X million.

#### Definitions

**Value Added:** A measure of economic contributions; calculated as the difference between total output (sales) and the cost of any intermediate inputs.

**Economic Value:** The estimated net value, above any expenditures, that individuals place on goods and services; these are particularly relevant in situations where market prices may not be fully reflective of the values individuals place on some goods and services.

**Employment:** The total number of jobs supported by activities.

#### Activities and Resources Associated With Organ Mountains-Desert Peaks National Monument

Information on the economic contributions associated with the activities occurring at Organ Mountains-Desert Peaks National Monument are provided below.

- **Recreation:** Opportunities for recreation include hiking, camping (both developed and dispersed), climbing, viewing prehistoric and historic sites, viewing geologic sites, horseback riding, mountain biking, and use of OHVs on existing roads and trails. Hunting and trapping is also permitted as regulated by the New Mexico Department of Game and Fish.

Table 2. OMDPNM Estimated Economic Contributions, 2016

| Activities | Economic output (\$millions) | Value added (net addition to GDP), \$ millions | Employment supported (number of jobs) |
|------------|------------------------------|------------------------------------------------|---------------------------------------|
| Recreation | \$23.6                       | \$13.0                                         | 306                                   |
| Grazing    | \$11.7                       | Grazing value-added is not available           | 250                                   |

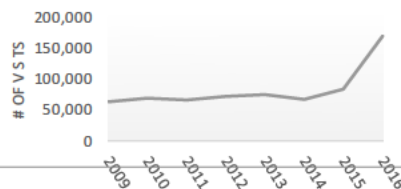
<sup>3</sup> It is not appropriate to sum values for economic contributions and economic values because they represent different metrics.

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Annual recreation visitation data is available for specific recreation sites of the Mimbres Field Office that are now within OMDPNM (see *Figure 2*). The Monument has four separate units which, along with the dispersed recreation use across the Monument, makes gathering visitation statistics challenging; pedestrian and vehicle counters have recently been installed but these data are not yet available. The estimates of visitation should be considered a lower bound. In FY 2016 BLM estimated that there were xx recreation visits to the Monument. BLM believes that the increase in visitation in FY 2016 is a result of the media attention the area received in 2015 for Monument designation.<sup>4</sup>

Recreation activities provide the opportunity for economic activity to be generated from tourism for an indefinite period of time. The economic contributions occur annually, and in cases where visitation increases over time, recreation generates additional activity each year. These contributions affect the regional and state economies. Recreation activities based on visitation to BLM-managed land are estimated to contribute about \$13 million in value added (net economic contributions) and support 306 jobs.<sup>5</sup>

*Figure 2. Recreation Visits to BLM Mimbres Field Office, 2009-2016*



- **Energy:** In general, the scope, magnitude, and timing of energy and minerals activities are closely related to supply and demand conditions in world markets and the market prices of mineral commodities. Local or regional cost considerations related to infrastructure, transportation, etc. also may play a role in defining the supply conditions. There has been no energy production from coal, oil and gas, or renewables since at least five years prior to designation. The majority of the Monument area has prior designations that prohibit leasing that date back at least 20 years prior to designation. There have been no nominations for coal, oil, or gas leasing in Doña Ana County in at least 10 years and there are no leases in OMDPNM.<sup>6</sup>
  - **Coal.** There have been no coal developments in the Monument area.
  - **Oil and gas.** A USGS study of mineral resources of approximately 7,300 acres of the Organ Mountains found the mineral resource potential for oil and gas to be low throughout the study area.<sup>7</sup> A USGS study of mineral resources of a large portion of the Potrillo Mountains area of the Monument found low energy resource potential.<sup>8</sup>
- **Non-fuel minerals.** The last known mineral production within the Monument was in 2008 from a designated Common Use Area, which contains travertine boulders. Mineral resource studies of areas within the Organ Mountains and Potrillo Mountains found common varieties of carbonate rock and sand and gravel, as well as volcanic cinder, but low potential for near-surface base (copper, lead, zinc, tin) and precious (gold, silver, platinum) metals. Relics of historic mining exist but there has been no active mining in over two decades.

<sup>4</sup> BLM data.

<sup>5</sup> BLM data

<sup>6</sup> BLM data.

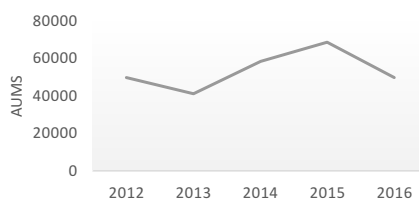
<sup>7</sup> <https://pubs.usgs.gov/bul/1735d/report.pdf>

<sup>8</sup> <https://pubs.usgs.gov/bul/1735b/report.pdf>, note that what was known as the West Potrillo Mountains-Mount Riley WSA roughly coincides with what is now the Potrillo Mountains area of OMDPNM.

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- **Timber.** The Monument contains a desert ecosystem and therefore does not have any timber resources.
- **Grazing.** The Monument proclamation allows for the continuation of all pre-designation grazing activities, including maintenance of stock watering facilities. The 38 grazing allotments that are wholly or partially contained within the boundaries of OMDPNM include approximately 86,300 permitted Animal Unit Month (AUMs)<sup>9</sup>. In 2016, there were about 49,900 billed AUMs (see Figure 3). This level of grazing activity is estimated to support about 250 jobs and about \$11.7 million in economic output.<sup>10</sup>

Figure 3. BLM AUMs Billed, 2012-2016



- **Cultural, archeological, and historic resources.** OMDPNM contains 344 recorded archaeological sites spanning various eras of human history, including Paleoindian, Archaic, Formative, Protohistoric, and Historic period sites. The records of these sites were mostly documented in the 1970s and 1980s and contain little information. As of the FY2014 Manager's Report, only about 6,300 acres (about 1.3% of the Monument) had been inventoried for archaeological resources.<sup>11</sup>

Artifacts common to the area include rock art, ceramics, and basket fragments. Remnants of ancient dwellings include those at La Cueva and a ten room pueblo in the Robledo Mountains. The La Cueva rock shelter was occupied from almost 5,000 BC through the historic period that followed the arrival of the Europeans. Approximately 100,000 artifacts have been recovered from this rock shelter.<sup>12</sup> The Monument also contains sites relevant to modern history such as Spanish colonization, the Civil War and the Euro-American exploration of the West. The ruins of the Dripping Springs complex, a mountain resort constructed in the last 1800s that was later converted to a sanitarium, lay scattered in a canyon in the Organ Mountains, while Outlaw Rock contains the inscription of Billy the Kid. More recent historical sites include bombing targets that were used to train WWII pilots.

Paleontological resources are also available at OMDPNM, predominantly Permian Age fossil material. The primary resources include the fossilized tracks of the ancient animals whose fossil remnants can be found in the adjacent Prehistoric Trackways National Monument. Sites within OMDPNM also include fossil remnants of ancient giant ground sloths, birds, and voles. Additionally, OMDPNM contains unique geologic resources as the area has a violent geologic history of seismicity and volcanism. Kilbourne Hole is a low-relief volcanic crater over a mile wide and over 300 feet deep that was designated as a National Natural Landmark in 1975 and was

<sup>9</sup> BLM measures an AUM as the amount of forage needed to sustain one cow and her calf, one domestic horse, or 5 sheep or goats for one month. <https://www.blm.gov/programs/natural-resources/rangelands-and-grazing/livestock-grazing/fees-and-distribution>.

<sup>10</sup> BLM data.

<sup>11</sup> Organ Mountains-Desert Peaks National Monument FY2014 Manager's Annual Report, BLM

<sup>12</sup> [https://www.blm.gov/nlcs\\_web/sites/nm/st/en/prog/NLCS/OMDP\\_NM/omdp\\_recreational.html](https://www.blm.gov/nlcs_web/sites/nm/st/en/prog/NLCS/OMDP_NM/omdp_recreational.html)

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used for training the Apollo astronauts due to its lunar landscape. The Monument's volcanic fields contain other smaller volcanic craters, as well as cinder cones up to 1 million years old, lava tubes, steep-walled depressions, and pressure ridges. These various volcanic features have served as research sites for geology and volcanology. Other mountain ranges in the Monument have served as sites for research on desert soils, sedimentary rock, sedimentation, and stratigraphy.

### *Multiple Use and Tradeoffs Among Resource Uses*

This section presents some information to help understand land management tradeoffs.

Decision-making often involves multiple objectives and the need to make tradeoffs among those objectives. However, tradeoffs and decision making are often subject to constraints, such as Monument designations. In general, market supply and demand conditions drive energy and minerals activity; societal preferences and household disposal income affect recreation activity levels; and market prices and range conditions affect the demand for forage. Culturally important sites and unique natural resources, by definition, have limited or no substitutes and thus tradeoffs are typically limited. A particularly challenging component of any tradeoff analysis is estimating the nonmarket values associated with OMDPNM resources, particularly the nonmarket values associated with cultural resources.

Planning for permitted resource use on National Monuments will involve trade-offs among different activities on the land area being managed in order to allow permitted activities that do not impair monument objects. In some cases, certain areas of the Monument may be appropriate for more than one use. After the careful consideration of tradeoffs, management decisions in those cases may prioritize certain uses over others. In other cases, land areas may be more appropriate for a particular use and activities could be restricted to certain areas of the Monument. Factors that could inform these tradeoffs include demand for the good or activity, prices, costs, and societal preferences. Other considerations might include the timeframe of the activity - how long the benefits and costs of a given activity would be expected to extend into the future. Trust responsibilities and treaty rights should also be considerations.

In considering any trade-offs, it is not just the level and net economic value associated with an activity that occurs in a given year that is relevant to decision making. Virtually all activities within the Monument occur over time and it is the stream of costs and benefits over a given period of time associated with each activity that is relevant. For example, recreation activities could continue indefinitely assuming the resources required for recreation remain intact and of sufficient quality for the activity. Likewise, the values associated with the natural and cultural resources could continue indefinitely provided they are not degraded by other activities. Grazing could also continue indefinitely as long as the forage resource is sustainably managed and remains consistent with the protection of monument objects. The stream of costs and benefits associated with some other non-renewable resources would be finite, however (assuming these activities were consistent with the designation). For example, oil, gas, coal and minerals are all non-renewable resources and would only be extracted as long as the resource is economically feasible to produce.

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Table 3. Summary of OMDPNM Activities and Economic Values, FY 2016

| Activities                | Level of annual activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Economic Value                                                                                                                        | Timing                                                                                                                                                                                                                            | Drivers of current and future levels of activity                                                                                                                          |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recreation                | FY 2016: 530,892 visitor days (BLM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | \$54.19/visitor day <sup>a</sup>                                                                                                      | Visitation could continue indefinitely if landscape resources remain intact and of sufficient quality.                                                                                                                            | Societal preferences for outdoor recreation; disposable income; changing individual preferences for work and leisure time                                                 |
| Oil, gas, coal production | Little or none to date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | FY 2016 average prices <sup>b</sup> :<br>crude oil (WTI): \$41.34/bbl<br>natural gas: \$2.29/mcf<br>coal (subbituminous): \$12.08/ton | Development of energy and non energy minerals is subject to market forces (worldwide supply and demand, prices). Mineral extraction is non renewable and occurs only as long as the resource is economically feasible to produce. | Market prices of energy commodities affect both supply and demand. Local and regional cost considerations related to infrastructure and transportation are also relevant. |
| Grazing                   | 2016 billed AUMs: 49,861                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2016 grazing fee: \$2.11/AUM                                                                                                          | Grazing could continue indefinitely if forage resources are managed sustainably.                                                                                                                                                  | Market prices for cattle and sheep and resource protection needs and range conditions (due to drought, fire, etc.) can affect AUMs permitted and billed.                  |
| Cultural resources        | Indigenous communities often use natural resources to an extent and in ways that are different from the general population, and the role that natural resources play in the culture of these indigenous communities may differ from that of the general population. Culturally important sites and unique natural resources, by definition, have limited or no substitutes. Recognizing this is a critical consideration in land management because it may affect consideration of tradeoffs. BENM contains substantial cultural resources that have not been fully surveyed. Tribes use the sacred sites within BENM for hunting; fishing; gathering; wood cutting; and for collection of medicinal and ceremonial plants, edible herbs, and materials for crafting items like baskets and footwear. |                                                                                                                                       |                                                                                                                                                                                                                                   |                                                                                                                                                                           |
| Benefits of nature        | Services provided by nature underpin all sectors of a local economy. As many of these services are not sold in markets, we have limited information on their prices or values. Specific benefits related to BENM include protection of crucial habitats for deer, elk, desert bighorn sheep, pronghorn, and endemic plant species that inhabit rare habitat types such as hanging gardens.                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                       |                                                                                                                                                                                                                                   |                                                                                                                                                                           |

<sup>a</sup> This value represents the estimated consumer surplus associated with general recreation for the Intermountain region from the USGS Benefit Transfer Toolkit (<https://my.usgs.gov/benefit-transfer/>). Consume surplus represents values individuals hold for goods and services over and above expenditures on those goods and services.

<sup>b</sup> All prices are from EIA.gov

<sup>c</sup> Reported average production of 21,396 cubic yards converted to tons using a conversion factor of 1.63 cu yards/ton.

<sup>d</sup> USGS Mineral Commodity Survey [https://minerals.usgs.gov/minerals/pubs/commodity/sand & gravel construction/mcs-2017-sandc.pdf](https://minerals.usgs.gov/minerals/pubs/commodity/sand&gravel/construction/mcs-2017-sandc.pdf).



# Gold Butte National Monument

Economic Values and Economic Contributions

*DRAFT*



Gold Butte National  
Monument

DRAFT June 27, 2107

### *Introduction*

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Gold Butte National Monument (GBNM).<sup>1</sup>

### *Background*

Gold Butte National Monument was designated in 2016 for purposes of protecting an array of historic and scientific resources, including critical habitat of the threatened desert tortoise, the once-thought-extinct relic leopard frog, archaeological sites, areas of spiritual significance to Native American tribes, historic ranching and mining sites, rare endemic plants, and dinosaur tracks. The monument covers roughly 297,000 acres in Clark County, NV and lies between the eastern boundary of Lake Mead National Recreation Area and the western boundary of Grand Canyon-Parashant National Monument; it is bordered by these Federal lands to the east, west, and south. Prior to designation, all land within the Monument was Federal land, the majority of which was managed by the BLM's Las Vegas Field Office with the exception of approximately 11,800 acres that had been managed by the Bureau of Reclamation. In addition, nearly all of the land had been protected under an Area of Critical Environmental Concern (ACEC) designation since the corresponding Resource Management Plan (RMP) was updated in 1998. Parts of the Monument were also designated as Wilderness or Wilderness Study Areas prior to Monument designation.

### *Public outreach*

Legislation for protecting the Gold Butte area has been introduced repeatedly since a proposal to designate it as a National Conservation Area was made in 2008. In 2015, a public meeting hosted by Nevada Senator Harry Reid and Representative Dina Titus was attended by representatives of DOI. The Nevada State Legislature passed a joint resolution (ARJ13) expressing support for the designation of the GBNM.<sup>2</sup>

### *Local Economy and Economic Impacts*

GBNM is located in Clark County, NV. The economy in Clark County is dominated by Las Vegas, where the most important industries are gaming, entertainment, and tourism. The nearest populated area and access point to GBNM, Mesquite, NV, has an economic profile similar albeit significantly smaller -

#### **Gold Butte National Monument**

*Location:* Clark County, NV

*Managing agency:* BLM

*Adjacent cities/towns:* Mesquite, NV

*Adjacent Federal lands:* Grand Canyon-Parashant National Monument; Lake Mead NRA.

#### **Resource Areas:**

☒ Recreation ☐ Energy ☐ Minerals  
☒ Grazing ☐ Timber ☒ Scientific  
 Discovery ☒ Tribal Cultural

<sup>1</sup> The BLM provided data used in this paper.

<sup>2</sup> <https://www.leg.state.nv.us/App/NELIS/REL/79th2017/Bill/5507/Overview>

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- to Las Vegas based on U.S. Census Bureau estimates of employment by industry, with over a third of civilians employed in the arts, entertainment, recreation, accommodation, and food service industries.<sup>3</sup>

#### Definitions

**Value Added:** A measure of economic contributions; calculated as the difference between total output (sales) and the cost of any intermediate inputs.

**Economic Value:** The estimated net value, above any expenditures, that individuals place on goods and services; these are particularly relevant in situations where market prices may not be fully reflective of the values individuals place on some goods and services.

**Employment:** The total number of jobs supported by activities.

#### Activities and Resources

Information on the economic contributions associated with the activities occurring at Gold Butte National Monument are provided below.

- Recreation.** The opportunities for outdoor recreation in GBNM include camping and hiking, although there are no designated or marked hiking trails and no developed campgrounds or other facilities within the Monument. Most vehicle routes are unmaintained dirt roads and recommended for 4-wheel drive only. The temperatures in the area can be extreme. Hunting is permitted and is regulated by the State of Nevada. For the period including FY 2016 and the first half of FY 2017, it is estimated that there have been around 21,000 visits. During the years 2012-2015 there were an average of 88,576 visits annually. This level of annual visitation is associated with an estimated \$4.3 million in value added and supported about 71 jobs. Economic values, in contrast to economic contributions, represent the net value, above and beyond any expenditures, that individuals place on goods and services. It is not appropriate to sum values for economic contributions and economic values because they represent different metrics. The economic value associated with the average number of visits over FY 2012-2015 is estimated to be about \$5 million.<sup>4</sup>
- Energy.** There is no energy transmission infrastructure or recent history of energy production in the area and the land within the Monument has not been surveyed by the USGS for potential for coal or oil and gas.<sup>5</sup> The production of coal, oil, gas, and renewable energy was restricted when these areas were designated as ACECs in the 1998 RMP. Prior to this, there were leases or lease applications for oil and gas on the "Gold Butte A" ACEC, part of which is now within Monument boundaries, but no producing wells were drilled. This is the only portion of the Monument that was formerly open to fluid mineral leasing subject to no surface occupancy stipulations; the rest of the Monument had been closed to leasable minerals (e.g., coal, oil, gas, and geothermal resources) prior to designation of the Monument.
- Non-fuel Minerals.** While there has been historic mining in the area by early European and American settlers, there has been no recent locatable mineral production on lands within the

<sup>3</sup> 2015 ACS 5-Year Estimates, Comparative Economic Characteristics

<sup>4</sup> The estimate of economic value is based on the general recreation value for the Intermountain Region from the USGS Benefits Transfer Toolkit (<https://my.usgs.gov/benefit-transfer/activity/display/6980#averageValues>).

<sup>5</sup> USGS data.

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Monument boundaries. Two historic mining districts occupied parts of what is now GBNM, and the mining history of these districts is characterized by “much development and exploration but little production”. Limited amounts of copper, nickel, cobalt, platinum, tungsten, mica, and beryllium were produced in one mining district and minor amounts of gold, silver, copper, lead, zinc, and mica were produced in the other. USGS mineral resource assessments found varying degrees of potential for other minerals, including uranium, gypsum, low-sulfide gold-quartz, vermiculite, crushed-rock aggregate, and sand and gravel aggregate. Nearly all of the land within the monument was closed to mineral materials in the 1998 Las Vegas RMP and then withdrawn from mineral entry in 2002 by the Clark County Conservation of Public Land and Natural Resources Act. There are two mining claims currently located in GBNM that could potentially be developed in the future but production would first require a validity exam due to the 2002 mineral withdrawal.<sup>6</sup>

- **Timber.** There are no commercial timber resources in GBNM. Seed collection is allowed by permit in areas that are not desert tortoise habitat.
- **Grazing.** Livestock grazing has not been permitted in the monument area since 1998, and the proclamation does not allow for any new grazing permits or leases within the monument. Grazing allotments for all ACECs in the area under management by the Las Vegas Field Office were bought out by Clark County in the 1990s.<sup>7</sup> There are, however, two allotments administered by the Arizona Strip Field Office that are also partially within Monument boundaries. One allotment is ephemeral and one has less than 15% of its acreage within Monument boundaries<sup>8</sup>. It is estimated that the number of billed AUMs for this portion of the monument in recent years is fewer than 500; the economic contributions for this level of grazing are not significant.<sup>9</sup>
- **Tribal cultural, archeological, scientific, and historic resources.** There are a variety of non-commodity resources in GBNM that the Monument designation sought to protect. This includes sites of spiritual significance and ancestral grounds of the Moapa Band of Paiute, rock art and petroglyphs, the abandoned mining town of Gold Butte and other pioneer-era structures, unique and endemic plants such as the Las Vegas bearpoppy, and critical habitat for the desert tortoise. The previous designation as an ACEC was specifically for the purpose of protecting historic and prehistoric archeological resources, including rock shelters and caves, roasting pits, campsites, stone tools, projectile points, rock art, lithic scatters, pottery fragments, historic mining artifacts, historic mining towns, and historic mines. In recent years, rock faces, including those containing prehistoric petroglyphs, have been found defaced with graffiti and bullet holes. Parts of pioneer-era structures, including historic stock corrals, have been stolen and even burned for firewood, as well as sustained damage due to bullet holes. An illegal water system has been found trenched throughout terrain that is considered protected habitat for the threatened Mojave Desert tortoise, the development of which was done without the necessary NEPA compliance.

<sup>6</sup> BLM data.

<sup>7</sup> EA for Route Designations for Selected ACECs Located in the North East Portion of Clark County within the Las Vegas BLM District, 2007

<sup>8</sup> BLM data.

<sup>9</sup> BLM measures an AUM as the amount of forage needed to sustain one cow and her calf, one domestic horse, or 5 sheep or goats for one month. <https://www.blm.gov/programs/natural-resources/rangelands-and-grazing/livestock-grazing/fees-and-distribution>.

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### *Multiple Use and Tradeoffs Among Resource Uses*

This section presents some information to help understand land management tradeoffs.

Decision-making often involves multiple objectives and the need to make tradeoffs among those objectives. However, tradeoffs and decision making are often subject to constraints, such as Monument designations. In general, market supply and demand conditions drive energy and minerals activity; societal preferences and household disposal income affect recreation activity levels; and market prices and range conditions affect the demand for forage. Culturally important sites and unique natural resources, by definition, have limited or no substitutes and thus tradeoffs are typically limited. A particularly challenging component of any tradeoff analysis is estimating the nonmarket values associated with GBNM resources, particularly the nonmarket values associated with cultural and scientific resources.

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Planning for permitted resource use on National Monuments will involve trade-offs among different activities on the land area being managed in order to allow permitted activities that do not impair monument objects. In some cases, certain areas of the Monument may be appropriate for more than one use. After the careful consideration of tradeoffs, management decisions in those cases may prioritize certain uses over others. In other cases, land areas may be more appropriate for a particular use and activities could be restricted to certain areas of the Monument. Factors that could inform these tradeoffs include demand for the good or activity, prices, costs, and societal preferences. Other considerations might include the timeframe of the activity - how long the benefits and costs of a given activity would be expected to extend into the future. Trust responsibilities and treaty rights should also be considerations.

In considering any trade-offs, it is not just the level and net economic value associated with an activity that occurs in a given year that is relevant to decision making. Virtually all activities within the Monument occur over time and it is the stream of costs and benefits over a given period of time associated with each activity that is relevant. For example, recreation activities could continue indefinitely assuming the resources required for recreation remain intact and of sufficient quality for the activity. Likewise, the values associated with the natural and cultural resources could continue indefinitely provided they are not degraded by other activities. Grazing could also continue indefinitely as long as the forage resource is sustainably managed and remains consistent with the protection of monument objects. Timber harvest may also continue indefinitely as long as the timber resource is sustainably managed. The stream of costs and benefits associated with some other non-renewable resources would be finite, however (assuming these activities were consistent with the designation). For example, oil, gas, coal and minerals are all non-renewable resources and would only be extracted as long as the resource is economically feasible to produce.

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