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this is the version as of now (Friday 9:50pm eastern). I plan to do a bit more on this tomorrow.

Ben

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Rio Grande del Norte National Monument

Economic Values and Economic Contributions

DRAFT



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 (RGDNNM) as well as to provide a brief economic profile of Counties.¹

Background

Rio Grande del Norte National Monument encompasses 242,455 acres and was established by Presidential Proclamation on March 25, 2013. Prior to designation, the area was managed by the BLM and continues to be following designation. 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,

The BLM manages for multiple use within the Monument (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 resources. The resources identified in the Proclamation include cultural and historic resources, ecological diversity, wildlife, and geology. Overall, multiple use activities are allowed in the Rio Grande del Norte 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.

The 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.²

The boundary was adjusted within T29N. R11E; Section 29 in 2013 due to better survey information. The result was to reduce the Monument by three acres.

Taos and Rio Arriba County have RS 2477 claims, but none are contested or challenged.

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. BLM participated in these meetings as subject matter experts and did not keep records of dates, attendees or content of

¹ The BLM provided data used in this paper.

² 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)

Rio Grande del Norte National Monument

- Managing agencies: BLM
- Counties
- Gateway communities: Taos, NM; Questa, NM
- Tribes: xxx

Resource Areas:

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

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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/.

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

Measure	Taos County	State of New Mexico
Population, 2015 ^a	32,943	2.1 million
Native American population as a % of the total	7.6	10.3
Employment, December 2016 ^c		
Unemployment rate, March 2017	8.6	6.2
Median Household Income, 2015 ^a	36,582	44,963

^aU.S. Census Bureau, 2011-2015 American Community Survey.

^chttps://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables.

Local Economy and Economic Impacts

Table 1 presents socio-economic metrics for

The population of Taos County increased about 43% from 1990 to 2015. About 8% of the County population is Native American. 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.

Figure 1 shows percentage employment by sector in Taos County for 2015.³

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 MTNM. It is estimated that recreation activities in the MTNM area supported about 460 jobs and provided about \$23 million in value added in FY 2016.

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.

³ U.S. Census Bureau County Business Patterns, 2015.

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

*Other includes agriculture/forestry; utilities; wholesale trade; finance and insurance; real estate; professional, scientific and technical services; admin and support services; waste management; educational services; arts and entertainment; and transportation and warehousing. Each of these represents less than 4% of total employment. Source: 2015 County Business Patterns, U.S. Census Bureau.

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 such as recreation which 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 \$30 million.

Table 2. MTNM Estimated Economic Contributions, 2016

Activities	Value added (net additions to GDP), \$ millions	Employment supported (number of jobs)
Recreation	7.4	169

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Activities and Resources
Associated With Mohave Trails
National Monument

Non-energy
Minerals
Grazing

Since designation few changes occurred to livestock grazing AUMs, rights-of-way restrictions, and forestry and wildlife activities.⁴ Details on the activities occurring at Mohave Trails National Monument are provided below.

- **Recreation:** Annual visitation has averaged 180,000 visitors since the March 2013 designation. However, 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 began increasing 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 to the monument. The New Mexico Game and Fish Department has continued to keep 10,903 acres, within the monument's 242,455 acres, closed to hunting, in coordination with the BLM, in a developed recreation area with high density use.

2008 118,255 visitors
2009 142,359 visitors
2010 192,337 visitors
2011 159,045 visitors
2012 124,477 visitors
2013 182,501 visitors
2014 128,026 visitors
2015 213,390 visitors
2016 195,948 visitors

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. The survey provides an estimate that the NM receives about 80,000 visits per year. Hunting licenses are issued by the New Mexico Game and Fish Department for elk, mule deer, antelope, and bighorn. In 2016-2017, a total of 3,569 permits were issued for the three game management units covering the National Monument.

In comparison, visitation to National Monuments and NCAs that have tracked unit-level visitation since 2005 has grown at an average rate of about 5.4% per year.

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

⁴ 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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BLM-managed land are estimated to contribute about \$7.4 million in value added (net economic contributions) and support 169 jobs;⁵

- **Energy:** There is no oil, gas, coal or renewable energy production within the monument. There is no oil and gas potential within the monument. 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 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 allowed within the monument under the current management plan. 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 monument. 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 in 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.
- The 2012 Taos Resource Management Plan designated the Taos Plateau Area of Critical Environmental Concern that covers most of the area designated as the Rio Grande del Norte National Monument. The ACEC and the Rio Grande Wild and Scenic River were closed to salable mineral disposal; 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 Rio Grande Gorge Recreation Area (about 10,000 acres).
- **Timber.** The Rio 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. 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 down fuelwood. It is anticipated in the future new areas will be available for green fuelwood cutting and removal. Since the Monument designation in 2013, the following numbers of cords of fuelwood have been sold.

2008 - 314 cords	402.5 CCF
2009 - 300 cords	384 CCF
2010 - 210 cords	270 CCF
2011 - 150.5 cords	193 CCF
2012 - 271 cords	347 CCF
2013 - 622 cords	797 CCF
2014 - 464.5 cords	595.5 CCF
2015 - 343 cords	440 CCF
2016 - 431.5 cords	553 CCF

⁵ BLM data.

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- 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. The AUMs actually used since designation:

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2008 - 5780 AUMs
 2009 8334 AUMs
 2010 8243 AUMs
 2011 6449 AUMs
 2012 7122 AUMs
 2013 7574 AUMs
 2014 6875 AUMs
 2015 7746 AUMs
 2016 8357 AUMs
 2017 6829 AUMs (only for current use, final number will be similar to 2016)

Actual use fluctuates due to a combination of grazing permittee's herd sizes, weather conditions, etc. The amount of permitted grazing use has not changed since the designation of the monument.

- **Cultural, archeological, and historic resources.** Indigenous communities may utilize 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. 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.
- The Ojo Caliente Area of Critical Environmental Concern (ACEC) (66,150 acres) contains relevant and important cultural resources, as well as scenic quality, fragile ecological processes, riparian, 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 to 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 to date within the 7,236 acre 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

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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.

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Multiple Use and Tradeoffs Among Resource Uses

This section presents some information to help understand land management tradeoffs. The designation of the monument has closed lands to certain types of development 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 MTNM 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 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. 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.

In the 2011 Final Management Plan

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MTNM Proclamation contains specific provisions for the protection of heritage objects and values extending beyond specific resources concerns. This emphasis on protection rather than mitigation, is a critical distinction in the preservation of significant historic objects within the MTNM. The MTNM proclamation states that the MTNM contains “exceptional objects of scientific and historic interest” and that the purpose of this designation, and the provisions it contains, is the “protection of these objects”. This protection is largely derived through the extra regulatory proclamation provisions for limitations on uses which are known to impact heritage objects and values and requirements that the BLM shall implement the purposes of the proclamation to protect these resources.

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 Mohave Trails National Monument. 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 Mohave Trails National Monument.

The available information is insufficient to allow a full understanding of management tradeoffs, such as how expanding mineral development would affect recreational visitation and cultural resources. A comprehensive evaluation of trade-offs would require a significant amount of research and additional analysis.

Mineral and archeological surveys could be updated and completed for the entire Monument. However, it is clear that: significant cultural resource values are present; statement about oil and gas; and recreation use has been increasing over this xxxperiod.

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Table 3 Summary of MTNM 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: xxxx visitor days (BLM)	\$54.19/visitor day ^a	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		FY 2016 average prices ^b : crude oil (WTI): \$41.34/bbl natural gas: \$2.29/mcf 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.
Non energy Minerals)			Market prices of non energy commodities affect both supply and demand. Mineral production is limited to 200,000 cubic yards over a 10 year period per the existing resource management plan.
Grazing	2016 billed AUMs: xxxx 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 MTNM 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.			

^a 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.

^b All prices are from EIA.gov.

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