

The Economics of Land Use



Final Report

Economic Impact Analysis Berryessa Snow Mountain National Monument Designation

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Winters Chamber of Commerce

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1. EXECUTIVE SUMMARY

This analysis considers the current and potential future regional economic impact of nature-based recreation within the proposed Berryessa Snow Mountain (BSM) National Monument. The goal of the study is to assess the magnitude of economic effects that are likely to stem from the elevation of these public lands to national monument status, a designation that would be made by the President of the United States under the Antiquities Act. The research effort entailed an assessment of existing conditions, estimation of baseline (i.e., current) economic activity, investigation into other similar national monument designations, and a prospective analysis of economic effects that may result from BSM designation.

The analysis finds that BSM National Monument has the potential to generate a gain of nearly \$50 million in economic activity and over \$800,000 in tax revenue for local communities during the five year period after designation. Gateway communities around the proposed National Monument stand to benefit greatly, particularly if local leaders and businesses mobilize to maximize the potential for new visitors to spend in their communities. The Research Summary below provides a digest of the study and its key findings.

Research Summary

1. *The primary economic impact associated with national monument designation likely will be from increased visitation.*

Academic and professional studies have consistently shown that elevating the status of public lands (e.g., National Park designation, Wilderness designation, National Monument designation) leads to higher levels of visitation and economic activity in the regional economy. This study did not identify any offsetting negative economic effects associated with BSM designation. Grazing on public lands within BSM would continue and while resource extraction (e.g., mining) likely would not be allowed, the area has seen minimal historical activity or interest. Further, the designation would not affect non-federal land within or adjacent to the national monument.

2. *The roughly 350,000 acres of federal land within the proposed BSM National Monument currently supports a variety of recreational pursuits and generates significant visitation to local counties.*

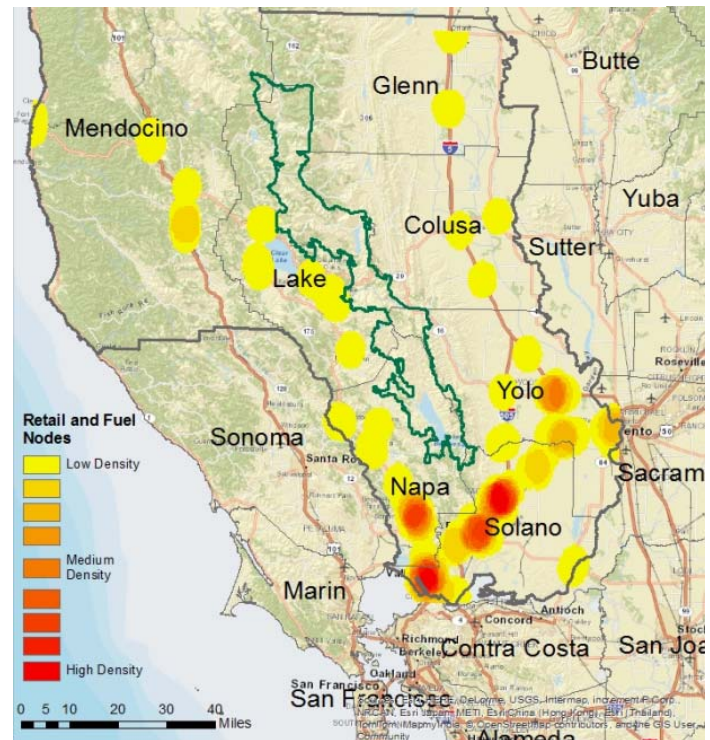
Federal lands within the proposed national monument include the US Forest Service, Bureau of Land Management, and Bureau of Reclamation units that support a variety of recreational activities, including camping, hunting, boating, fishing, off-highway vehicle usage, wildlife viewing, bicycling, and horseback riding, among others. Visitor statistics and input from federal land managers indicate that current visitation to proposed BSM National Monument lands is on the order of 1.1 million visits per year.

3. *Current recreational activity within the boundaries of the proposed national monument generates an annual impact of roughly \$55 million in economic output and \$900,000 in sales and lodging tax revenue within local counties.*

Based on current visitation and survey-derived trip-related spending estimates, this analysis estimates that BSM generates nearly \$160 million in spending per year. Non-local visitors

account for about 75 percent of this spending. Assuming that about half of non-local visitor spending occurs in local BSM counties, the analysis estimates that BSM is responsible for generating about \$60 million per year in spending, including \$900,000 in sales tax, that would not occur “but for” BSM recreation opportunities. This spending in the local economy by visitors from outside the local region supports \$26.3 million in direct economic output (i.e., local production value), which stimulates “multiplier effects” that occur as spending recirculates in the local economy. In total, this study estimates that including multiplier effects BSM recreation currently supports a total of 600 jobs and \$55.3 million in economic output in local counties.

BSM Gateway Communities



4. National monument designation on other western public lands is correlated with a range of outcomes, but the effect on visitation is overwhelmingly positive.

This study analyzes data concerning seven western national monument designations for which pre- and post-designation visitation data are available. The analysis finds evidence of both positive and negative visitation growth after designation, though five out of seven national monuments studied exhibited higher visitation five years after designation. The data show visitation increases of up to nearly 400 percent. In terms of absolute visitation counts, the most significant increase in annual visitation observed was about 130,000 more visits annually five years after designation. Though generally informative, none of the case studies is perfectly comparable to BSM, particularly because the national monuments studied are not similarly proximate to major metropolitan centers.

5. There will be a variety of opportunities to “leverage” the effect of national monument designation to better attract visitors and spending, including management, marketing, facilities upgrades, and service improvements.

National monument designation at BSM is likely to entail more than just a change in name. The BSM National Monument proposal calls for a management plan to be prepared jointly among the federal resource managers. With highly-coordinated management, resource programs and visitor services could be enhanced. In addition, managers and non-governmental entities could pursue a marketing and information campaign to boost the designation effect, as has been seen elsewhere (e.g., Organ-Mountains Desert Peaks National Monument). With additional funding from public and other sources, visitor facilities could be improved or developed to better attract and support additional visitation. Also, with

designation, increased law enforcement and ranger services could address safety issues and provide other visitor services that increase the appeal of the area.

- 6. The economies of the local counties around BSM are likely to enjoy a cumulative increase in economic output on the order of \$30 million to \$50 million (in constant 2014 dollars) over the five year period following designation, assuming that public- and private-sector efforts complement the designation.**

This study evaluates a range of potential economic effects from visitor growth to BSM, with increases in visitation spanning from 20 percent (215,000 additional visits annually) to 30 percent (322,500 additional visits annually) five years after designation. The estimates, which assume management improvements and capital investments occur, generate significant recurring economic activity in the local economy. By year five, the analysis estimates that higher levels of visitation would support between 120 and 180 new jobs. Local tax revenues accruing to local jurisdictions would increase by between roughly \$540,000 and \$810,000 during the first five years. While these economic effects reflect impacts within the seven-county local economy around BSM, gateway communities near BSM access points, including Winters, Clear Lake, and Williams, are likely to enjoy the most significant increases in direct visitor expenditures.

Figure 1 presents estimates of the economic impact of BSM designation. In the Low Estimate, designation increases awareness of the BSM for recreation and is accompanied by meaningful management, marketing, and basic facilities improvements to accommodate growth. In the High Estimate, the same management, marketing, and facilities improvements occur, but in addition private investment occurs (e.g., new retail offerings or lodging options open) in the gateway communities.¹

Figure 1 Summary of Findings

	Job Increase (Year 5)	Output Effect (5-Year Cumulative)	Local Tax Revenue (5-Year Cumulative)
Low Estimate	120	\$33.2 Million	\$538,000
High Estimate	180	\$49.8 Million	\$807,000

¹ Note that the analysis reflects operational (i.e., recurring) economic effects and does not estimate one-time effects that may result from capital investment.

2. INTRODUCTION

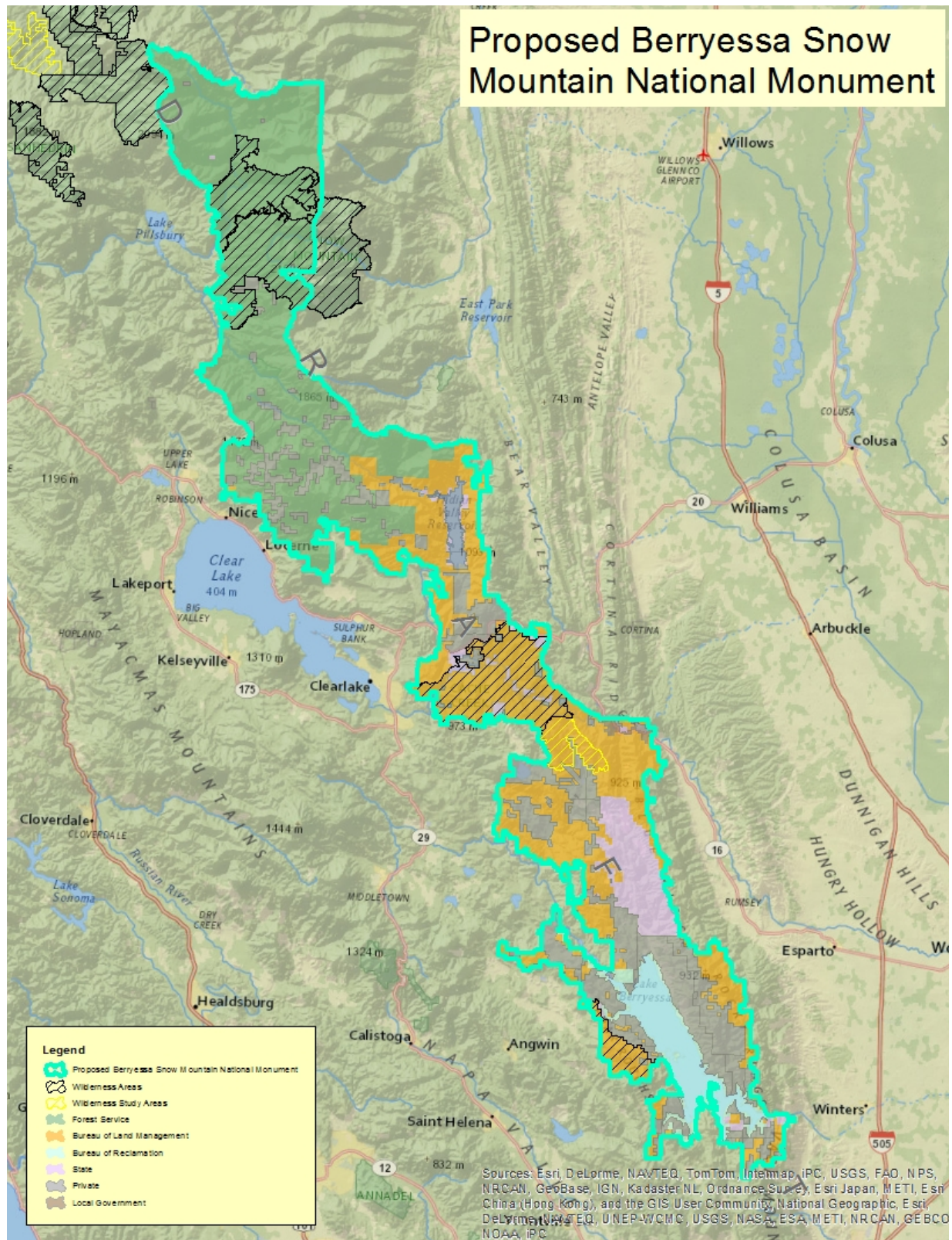
A diverse consortium of citizens and lawmakers seek to establish the Berryessa Snow Mountain National Monument in northern California. The public lands of the proposed BSM region include nearly 350,000 acres of federal holdings in the heart of California's inner Coast Range, north of San Francisco and west of Sacramento. These lands currently support a range of recreational activities, provide habitat and migration corridors for wildlife, and contain unique and rich plant diversity. The area is one of California's most ecologically important regions, and national monument designation will ensure appropriate management of these lands for future generations.²

National monument designation will increase the "visibility" (i.e., public awareness) of the BSM region and likely will increase the number of visitors. Increases in visitation generate additional spending in gateway communities and the regional economy more broadly. It is not anticipated that national monument designation would have any negative economic effects. Grazing would continue within the monument, there are no likely future mining or other resource extraction activities there, and non-federal land adjacent to the BSM designation area would not be affected.

This analysis considers the current regional economic impact of the BSM region and analyzes potential future economic effects that are likely to stem from national monument designation. The study commences with an overview of existing conditions, including current management, visitation, and recreation. The analysis then quantifies the economic impact of existing recreational activities within the regional economy. This initial analysis is followed by a case study assessment that looks at how visitation has changed at other locations where national monument designation has occurred in the past. The findings of the case study assessment are then applied to the case of BSM to determine the range of potential economic impacts that might occur from national monument designation there.

² For more information see "Berryessa Snow Mountain National Monument – Northern California's Hidden Treasure" Draft Proposal, July 28, 2014.

Figure 2 Map of the Proposed Berryessa Snow Mountain National Monument



Source: Tuleyome

3. *EXISTING CONDITIONS*

Land Management

The US Forest Service (USFS), Bureau of Land Management (BLM), and the Bureau of Reclamation (BOR) manage the federal lands within the proposed BSM National Monument. USFS is responsible for management of the Mendocino National Forest. BLM is responsible for a number of areas in the central and southwestern BSM region. BOR manages Lake Berryessa at the southern end of the proposed monument.

Mendocino National Forest

Mendocino National Forest primarily attracts visitors seeking wilderness and solitude. It is the only California national forest that is not crossed by a paved road or highway. While the remote and untamed nature of the Mendocino National Forest makes it a special place to visit and recreate, the area is primarily attractive to visitors with well-developed outdoors skills. According to the Mendocino National Forest Business Plan, “despite its proximity to the Bay Area, the Mendocino is one of the Nation’s least visited national forests.”³ Visitors commonly camp, hunt, fish, ride, drive, and enjoy nature viewing throughout this National Forest. The Forest also is a working resource that supports economic activities such as logging and grazing. The USFS manages approximately 180,000 acres that are proposed for national monument designation, including the majority of the Snow Mountain Wilderness (established by the Wilderness Act of 1984).

Bureau of Land Management Lands

The Ukiah Field Office of the BLM manages approximately 270,000 acres in northern California. The reach of the Ukiah Field Office’s management program includes public lands in Marin, Solano, Sonoma, Mendocino, Lake, Napa, Yolo, Colusa, and Glenn Counties. BLM lands proposed for inclusion in the BSM National Monument include:

- Cache Creek Wilderness (part of the Cache Creek Natural Area),
- Cedar Roughs Wilderness Area,
- Knoxville Recreation Area, and
- Indian Valley Recreation Area.

The Cache Creek Natural Area is a primitive area, closed to motorized vehicles. There are no developed campgrounds or facilities. The area is managed for wildlife habitat and rare plants, cultural resources, and to offer primitive recreation opportunities, including wildlife viewing, river rafting, hiking, equestrian use, hunting, and fishing. Approximately 27,000 acres within the Cache Creek Natural Area is Wilderness Area (designated in 2006).

³ Business Plan for the Mendocino National Forest, A Window of Opportunity (2006).

Cedar Roughs Wilderness Area is cooperatively managed by BLM and the California Department of Fish and Wildlife. The Northern California Coastal Wild Heritage Act (2006) designated Cedar Roughs a Wilderness Area and today the area offers exclusively non-motorized recreational activities.

The Knoxville Recreation Area comprises nearly 18,000 acres of steep and rolling hills with varying vegetation that includes woodlands and chaparral land covers. There are rare plant communities, particularly within the area's serpentine barrens. Popular activities within the Knoxville Area include off-highway vehicle (OHV) usage, hunting, mountain biking, camping, and nature viewing.

The Indian Valley Recreation Area offers chaparral hillsides ideal for hunting, camping, bicycling, hiking, equestrian use, and nature viewing. The nearby Indian Valley Reservoir supports fishing, boating, and swimming. However, in dry years, water-based recreation on and around the reservoir is limited.

Lake Berryessa

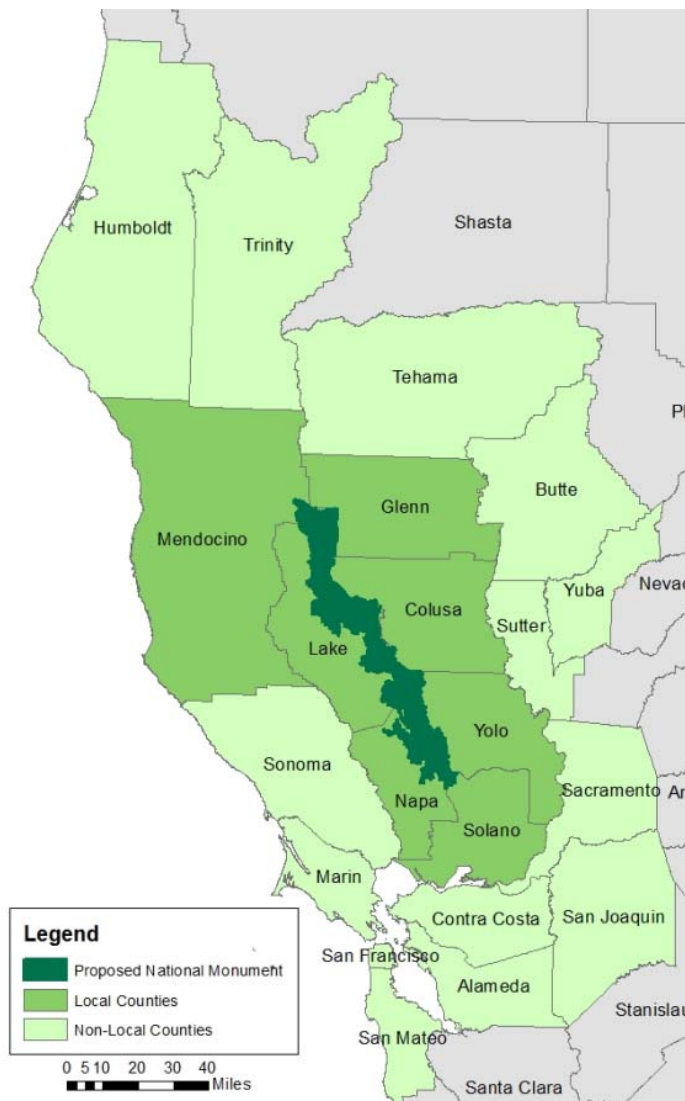
Lake Berryessa is part of a federal flood control and water supply project managed by the BOR. The lake is 23 miles long, three miles wide, with 165 miles of shoreline. BOR and the California Department of Fish and Wildlife jointly manage a 2,000-acre wildlife area along the east side of the lake. The water temperature can reach 75 degrees during summer months, making it an attractive resource for water-based recreation. Boating, fishing, and swimming are popular recreational pursuits at Berryessa. The area currently offers guest accommodations at two resorts, Pleasure Cove Marina and Markley Cove Marina (privately-operated concessions). BOR manages three other visitor use facilities that offer camping and limited services. BOR also manages a boat launch and day use areas for picnicking, swimming, and non-motorized boating.

Visitor Market

Based on survey research conducted at Lake Berryessa and information provided by USFS and BLM staff, this study identifies a "Primary Market Area" from which the majority of visitor trips to BSM are likely to originate. This 21-county area includes most of the Bay Area, Sacramento County, and more rural counties to the north. In total, nearly 8.5 million people live within this market area.

Figure 3 presents a map of the Primary Market Area and associated population data. The map depicts local counties (i.e., those counties that include BSM areas) and non-local counties from which visitors commonly travel. Undoubtedly visitors from other parts of California and the United States, as well as international visitors, do recreate within the BSM region, though these visitors account for a small portion of total visitation.

Figure 3 BSM Primary Market Area



County	Population 2010
Alameda	1,510,271
Butte	220,000
Colusa	21,419
Contra Costa	1,049,025
Glenn	28,122
Humboldt	134,623
Lake	64,665
Marin	252,409
Mendocino	87,841
Napa	136,484
Sacramento	1,418,788
San Francisco	805,235
San Joaquin	685,306
San Mateo	718,451
Solano	413,344
Sonoma	483,878
Sutter	94,737
Tehama	63,463
Trinity	13,786
Yolo	200,849
Yuba	72,155
Total	8,474,851

Source: US Census Bureau and EPS

4. *ECONOMIC IMPACTS FROM VISITATION*

This chapter evaluates the economic impact of visitor spending within the BSM local counties. Non-local visitor spending in the local economy generates economic impacts, with non-local visitors bringing “new spending” into the local counties that would not occur “but for” BSM. BSM visitors purchase goods and services from within the local economy, which in turn creates a multiplier effect as local businesses that supply inputs to production undertake successive rounds of spending. This analysis evaluates direct and secondary economic impacts based on common metrics such as employment, employee compensation, value added (i.e., gross regional product), and economic output. The section below details the methodological approach employed by this study.

Framework and Approach

To measure economic effects, this regional economic analysis relies on IMPLAN (Impact Analysis for Planning) software, an Input/Output (I/O) model that draws upon data collected by the Minnesota IMPLAN Group from several state and federal sources, including the Bureau of Economic Analysis, Bureau of Labor Statistics, and the Census Bureau. The analysis is specific to the BSM National Monument’s impact on the seven-county local area that includes and surrounds proposed national monument (see **Figure 3**).

Input-Output Analysis

Industries in a geographic region are interdependent, and therefore an initial direct economic change (e.g., an increase in sales) stimulates economic effects in various other sectors and generates a larger total economic effect. That is, the initial economic activity creates a multiplier effect that generates successive rounds of spending in other economic sectors within the economy. For example, consider the implications of a BSM visitor purchase at a local restaurant. The restaurant purchases foods from producers, who in turn purchase raw materials from their suppliers. Thus an increase in the demand at restaurants will stimulate an increase in output and employment in the interdependent secondary foodservice industries.

Regional economic impact analysis and I/O models in particular provide a means to quantify the economic effects stemming from a particular industry or economic activity. Specifically, I/O models produce quantitative estimates of the magnitude of regional economic activity resulting from some initial activity (e.g., hospital operations). I/O models rely on economic multipliers that mathematically represent the relationship between the initial change in one sector of the economy and the effect of that change on employment, income, economic output, and value added in other regional industries. These economic data provide a quantitative estimate of the magnitude of shifts in jobs and revenues within a regional economy.

Economic impact analysis begins with estimates of the direct effect of an economic activity (e.g., an initial change in spending). An I/O model then may be used to quantify the multiplier effects that result from the initial change. The multiplier effects are categorized as indirect or induced effects. Indirect effects represent economic impacts on supplier businesses while induced effects

represent economic impacts resulting from household income and spending. In this report, direct, indirect, and induced effects are defined as follows:

- The **Direct Effect** is a measure of the economic value of the initial injection of spending into the economy. In this study, visitor spending is the direct effect.
- The **Indirect Effect** is a measure of the economic value of “upstream” industry-to-industry transactions that supply inputs to the production of goods and services consumed by BSM visitors.
- The **Induced Effect** is a measure of the economic value of labor income that recirculates in the economy as a result of the initial expenditures made by BSM visitors.
- The **Total Impact** is the sum of the direct, indirect, and induced effects. The total impact measures the overall impact of BSM visitor spending on the economy.

This report measures economic significance using common economic metrics, including employment, employee compensation, output, and value added, as defined below.

- **Employment** is equivalent to jobs, a headcount that includes part-time and full-time workers.
- **Employee Compensation** represents payments to labor in the form of both income and fringe benefits paid by the employer (e.g., health, retirement).
- **Value Added** represents the contribution to gross regional product and equals the market value of the final goods and services produced within a particular region. Value added is equal to economic output, as defined below, less the value of intermediate goods and services.
- **Economic Output** represents a measure of economic activity, calculated as production value including intermediate inputs (i.e., the goods and services used in the production of final products). Output includes spending on employee compensation as well as the production value of intermediate inputs.

Economic Impacts from Current Recreation

This section discusses the I/O analysis of current visitation to BSM, including direct and indirect impacts. The following discussion details data inputs and analytical findings. The analysis is based on data collected by EPS from various sources, including federal land managers, and the IMPLAN I/O model.

Visitation Estimates

EPS conducted phone interviews with USFS, BLM, and BOR resource managers familiar with recreation trends and visitation levels on federal land within the proposed BSM National Monument. Managers highlighted popular recreation activities and provided guidance concerning available data and other resources. The interviews and subsequent research into existing conditions on federal lands within the proposed national monument indicate that current visitation is on the order of 1.1 million visits per year.

In general, the resource managers indicate that recreation within BSM has been declining, in particular at Lake Berryessa, which currently offers fewer lakeside resorts and visitor amenities than in the past.⁴ While visitation to Berryessa peaked at about 1.8 million visits annually during the late 1980s, current visitation is estimated at roughly 500,000 visits per year. In the Mendocino National Forest, visitation has been flat to declining. Though detailed time-series data are unavailable, USFS staff indicates that recreation dropped during the 2008 recession and has been slow to recover. In addition to the recent recession, USFS budgetary constraints have led to deferred maintenance of campgrounds and other park infrastructure, which may be affecting visitation levels. **Figure 4** presents current visitation estimates for the proposed national monument area.

Figure 4 Current Visitation to the Proposed National Monument

Recreation Area (NM sub-areas only)	Annual Visitation Estimate
Mendocino National Forest (USFS)	400,000
Cache Creek Natural Area (BLM)	20,000
Indian Valley Recreation Area (BLM)	140,000
Knoxville Recreation Area (BLM)	15,000
Lake Berryessa (BOR)	500,000
Total NM Area	1,075,000

Sources: *Assessment of Market Conditions for Outdoor Recreation Facilities and Services at Lake Berryessa (2014)*; *USFS National Visitor Use Monitoring Program*; *Personal communications with BOR, BLM, and USFS staff.*

The economic impact of recreation in the BSM region is determined by the non-local visitors. As is typical in economic analysis of recreation and leisure activities, this analysis assumes that local visitors would continue to spend on recreation-related goods and services in the local economy, even in the absence of BSM. It is the non-local visitors to the BSM region who bring new money to the economy that create an economic impact attributable to BSM. This analysis relies on existing visitor studies and interviews to determine appropriate assumptions regarding local and non-local visitation levels, shown in **Figure 5**.

⁴ BOR is currently involved in a commercial services planning process that will culminate in identifying the preferred development and management of necessary and appropriate long-term recreation facilities and services at Lake Berryessa. For more information see <http://www.usbr.gov/mp/ccao/berryessa/updates/index.html>

Figure 5 Non-Local Visitation Estimate

Recreation Area (NM sub-areas only)	Non-Local Visitation (% of Total)	Annual Non-Local Visitation Estimate
Mendocino NF	70%	280,000
BLM Areas	70%	123,000
Lake Berryessa	80%	400,000
Total NM Area	75%	803,000

Sources: *A Study of Boater Recreation on Lake Berryessa (1998)*; Personal communications with BOR, BLM, and USFS staff.

Visitor Spending

Available visitor survey data supply the assumptions regarding visitor spending for this analysis. Specifically, the analysis relies on a survey of visitors to Lake Berryessa, conducted in the late 1990s, and 2011 data from the US Fish and Wildlife Service National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (California state report). All spending estimates are inflated to 2014 dollars based on the US consumer price index. Spending attributable to visits to the Mendocino National Forest reflect a typical two-day hunting trip in California while spending attributable to visits to BLM lands within BSM reflect a typical two-day trip for wildlife viewing.

The survey data concerning visitor spending reflect total trip-related spending, including spending near home, along the way to BSM, and at gateway communities within the local BSM counties. None of the surveys considered as part of this study reveal the proportion of spending that occurs locally. However, interviews with the resource managers reveal that many BSM visitors do shop for their trip before leaving on their trip (i.e., at their point of origin). Food and supplies commonly are brought into the local economy by BSM visitors. This analysis assumes that 50 percent of total trip-related purchases are made within the BSM local economies. **Figure 6** presents visitor spending estimates.

Figure 6 Trip-Related Visitor Spending Estimates

Recreation Area	Per-Visit Total Spending	Per-Visit Gateway Spending
Mendocino NF	\$156	\$78
BLM Areas	\$129	\$64
Lake Berryessa	\$149	\$74

Sources: A Study of Boater Recreation On Lake Berryessa (1998); 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation; Personal communications with BOR, BLM, and USFS staff.

This analysis estimates that current visitation to BSM supports about \$119 million in spending on trip-related expenditures annually. This analysis assumes that half of that spending, approximately \$59 million, occurs within the local counties. Lake Berryessa visitation accounts for half of this spending, about \$30 million. Mendocino National Forest and BLM lands within the proposed national monument also support about \$30 million in local spending (\$22 million and \$8 million, respectively).

Because fuel and most retail goods are not produced within the local economy, the economic output (production) associated with visitor purchases is somewhat lower than the gross sales value. This analysis measures the local output associated with fuel and retail purchases based on estimates of the retail margin (i.e., markup value achieved by the local sales entity). Accounting for local production (i.e., excluding pass-through value attributable to goods made elsewhere), the analysis estimates that direct economic output from non-local BSM visitor spending in the local counties is about \$26 million, as shown in **Figure 7**.

Figure 7 Annual Non-Local Visitor Spending and Output in the Local Counties

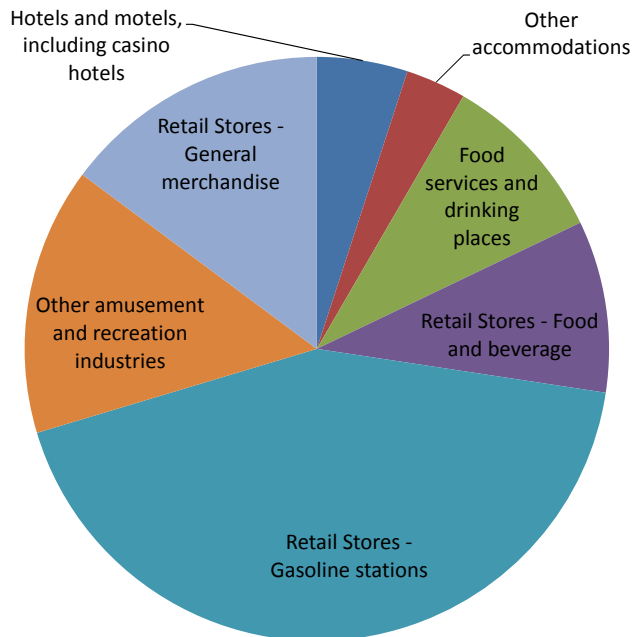
Recreation Area (NM sub-areas only)	Total Spending	Gateway Spending	Direct Output
Mendocino NF	\$43.6 M	\$21.8 M	\$9.2 M
BLM Areas	\$15.8 M	\$7.9 M	\$4.5 M
Lake Berryessa	\$59.5 M	\$29.8 M	\$12.6 M
Total	\$118.9 M	\$59.4 M	\$26.3 M

Source: IMPLAN and EPS

Economic Gateways to BSM

Visitors to BSM are likely to seek fuel, recreation goods and services, general merchandise, restaurants, food stores, and overnight accommodations in the communities that surround BSM. Based on the available survey data, visitor spending is coded to IMPLAN industry categories for the I/O analysis. **Figure 8** presents the distribution of visitor spending by industry category.

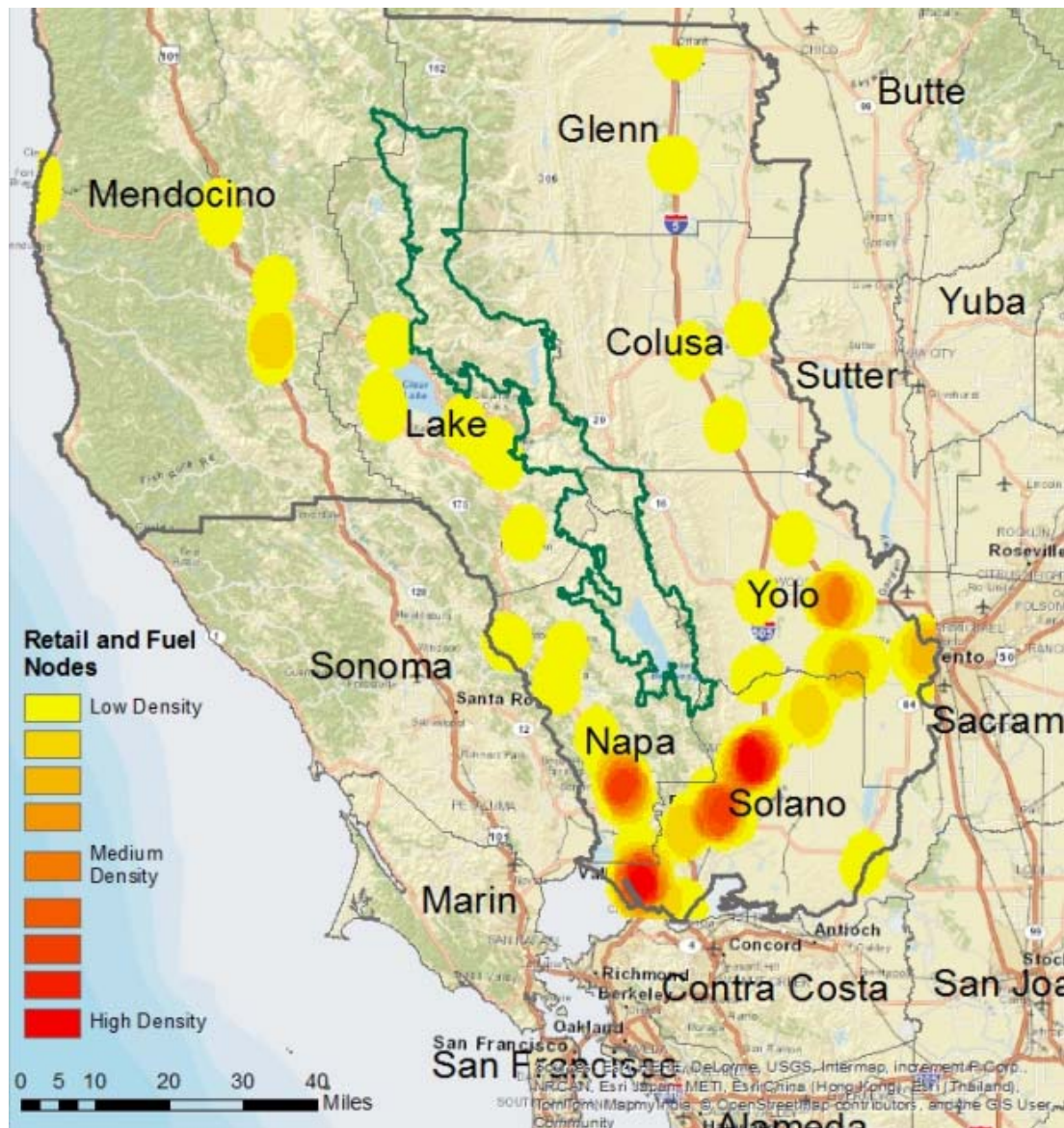
Figure 8 Visitor Spending by Industry



Sources: Visitor surveys, interviews, IMPLAN, and EPS

Visitor spending in the local counties is likely to occur at the economic centers that currently exist within the local counties. According to resource managers, gateway communities such as Winters, Clear Lake, and Williams are particularly well positioned geographically to capture visitor spending. In addition, other communities and shopping nodes, including along the I-80 corridor, I-5 corridor, US 101 corridor, benefit from spending by visitors traveling to and from BSM. **Figure 9** presents a density map (a “heat map”) that illustrates the primary fuel and shopping nodes within the local counties.

Figure 9 Economic Gateways



Sources: CoStar Group; ESRI; and EPS

Economic Impact Estimates

Using the estimates of non-local visitor spending in the local counties and the associated direct economic output, this analysis relies on the IMPLAN model to generate estimates of employment, employee compensation, and multiplier effects (i.e., indirect and induced effects). **Figure 10** presents these economic impact estimates. As described above, the jobs figure includes part-time and full-time positions, value added is comparable to gross regional product, and output measures the local production sales value. The analysis finds that BSM lands currently support over 600 jobs and more than \$55 million annually in economic impact in the local counties.

Figure 10 Economic Impact of Current Visitation Spending

Economic Impact	Jobs	Value Added	Output
Direct Effect	370	\$17.2 M	\$26.3 M
Indirect Effect	38	\$2.9 M	\$4.9 M
Induced Effect	196	\$16.3 M	\$24.1 M
Total Effect	603	\$36.5 M	\$55.3 M

Sources: IMPLAN and EPS

Local Tax Revenue Estimates

Using the visitor spending estimates, this analysis also includes a calculation of the tax revenue benefit attributable to BSM visitation. In particular, spending on overnight accommodations and retail goods is taxable. A review of the transient occupancy tax (TOT) rates in the local counties indicates that the tax on overnight accommodations is typically about 10 percent. The local portion of the retail tax rate is one percent. **Figure 11** presents estimates of TOT and sales tax that accrue to local jurisdictions due to current visitation to BSM. The analysis finds that BSM lands currently support nearly \$900,000 annually in tax revenue for local governments.

Figure 11 Annual Tax Benefit of Current Visitation Spending

Spending Type	Gateway Spending	Local Tax Rate	Local Tax Revenue
Hotels, Motels and Other Accommodations	\$5.0 M	10%	\$497,000
Taxable Retail Purchases	\$40.0 M	1%	\$400,000
Total	\$45.0 M		\$897,000

5. *ECONOMIC IMPACT OF DESIGNATION*

The Designation Effect

Professional and academic research efforts point to positive regional economic effects attributable to national monument designation. BSM National Monument would be established under the Antiquities Act, which allows the president to protect America's wildlands and historical sites as national monuments. Thus, the designation provides an indication of the natural or historic significance of an area. With the President's designation of a national monument, visitation to the designated area often increases. This effect is largely due to the increased "visibility" of the site in news media, and public awareness of the site's national importance. In some cases, visitation increases are magnified ("leveraged") by well-coordinated resource management. Recreation can increase more dramatically when the designation is complemented by marketing efforts performed by both public and private sector actors (e.g., resource managers and local Chambers of Commerce).

In addition to technical research and analysis, local reporting on recent national monument designations clearly indicates a positive economic effect associated with designation. For example, one year after designation of Rio Grande del Norte National Monument, local sources reported on evidence of an early economic bump. In particular, the local Chamber of Commerce reports indicate that the Town of Taos lodging tax revenue increased by 21 percent and gross-receipts revenue to businesses in Taos County in the Accommodations and Food Service sector was 8.3 percent higher (in the second half of 2013 compared to the same period of 2012) after designation.⁵

Case Study Analysis

To assess the potential for national monument designation to increase visitation at BSM, this research identifies seven national monuments for study. The selected monuments are large western public land units designated during the early 2000s. The early 2000s designation offers sufficient post-designation data for evaluation of visitation effects. The analysis considers post-designation visitation trends at the following national monuments:

- Canyons of the Ancients, CO
- Carrizo Plain, CA
- Grand Canyon-Parashant, AZ
- Kasha-Katuwe Tent Rocks, NM
- Sonoran Desert, AZ
- Upper Missouri River Breaks, MT
- Vermillion Cliffs, AZ

⁵ Press Release: Business, civic leaders celebrate Rio Grande del Norte National Monument's One-Year Anniversary, New Mexico Green Chamber of Commerce, March 20, 2014.

It is important to note that while these are the most comparable recently-created national monuments for which data are available, not one is a perfect comparable. Most importantly, none of the case study monuments is as close to multiple major population centers as BSM. Further, visitation at the case study monuments (before and after designation) is dramatically lower than at BSM. However, the case studies are informative about the range of outcomes that may occur after designation of a national monument. **Figure 12** presents a comparison of the case study national monuments to the proposed BSM National Monument. **Figure 13** and **Figure 14** present the visitation trends and post-designation growth outcomes at the case study monument.

The case study analysis finds that the range of outcomes includes positive and negative visitation growth post designation. The data show the greatest percentage increase in annual visitation post designation at Kasha-Katuwe Tent Rocks (387 percent) and the most significant absolute increase in annual visitation at Upper Missouri River Breaks (132,000 additional visits), five years after designation.

Interviews with representatives at the national monuments generally supported the notion that the national monument designation played an important role in the observed visitation trend, but also reveal other key determinants of visitation. For example, representatives at Upper Missouri River Breaks indicate that the bicentennial anniversary of the Lewis and Clark Expedition had a notable positive impact on visitation during the period after designation. At Carrizo Plain National Monument, representatives indicate that visitation is highest during good wildflower years and the quality of the wildflower seasons during the early 2000s may have been a more significant factor affecting visitation than the designation.

Figure 12 Comparison of Case Study National Monuments

National Monument	State	Established	Acres	Nearby Metro Area
<i>Berryessa Snow Mountain</i>	CA	<i>Proposed</i>	<i>350,000</i>	<i>2.25 hrs. from San Francisco 1.5 hrs. from Sacramento</i>
Canyons of the Ancients	CO	2000	164,000	4.5 hrs. from Albuquerque
Carrizo Plain	CA	2001	204,107	3.25 hrs. from Los Angeles
Grand Canyon-Parashant	AZ	2000	1,054,264	5 hrs. from Las Vegas
Kasha-Katuwe Tent Rocks	NM	2001	4,148	1 hr. from Albuquerque
Sonoran Desert	AZ	2001	486,149	1.75 hrs. from Phoenix
Upper Missouri River Breaks	MT	2001	377,346	2 hrs. from Billings
Vermilion Cliffs	AZ	2000	293,000	5.75 hrs. from Las Vegas

Figure 13 Comparison of Case Study Visitation Trends

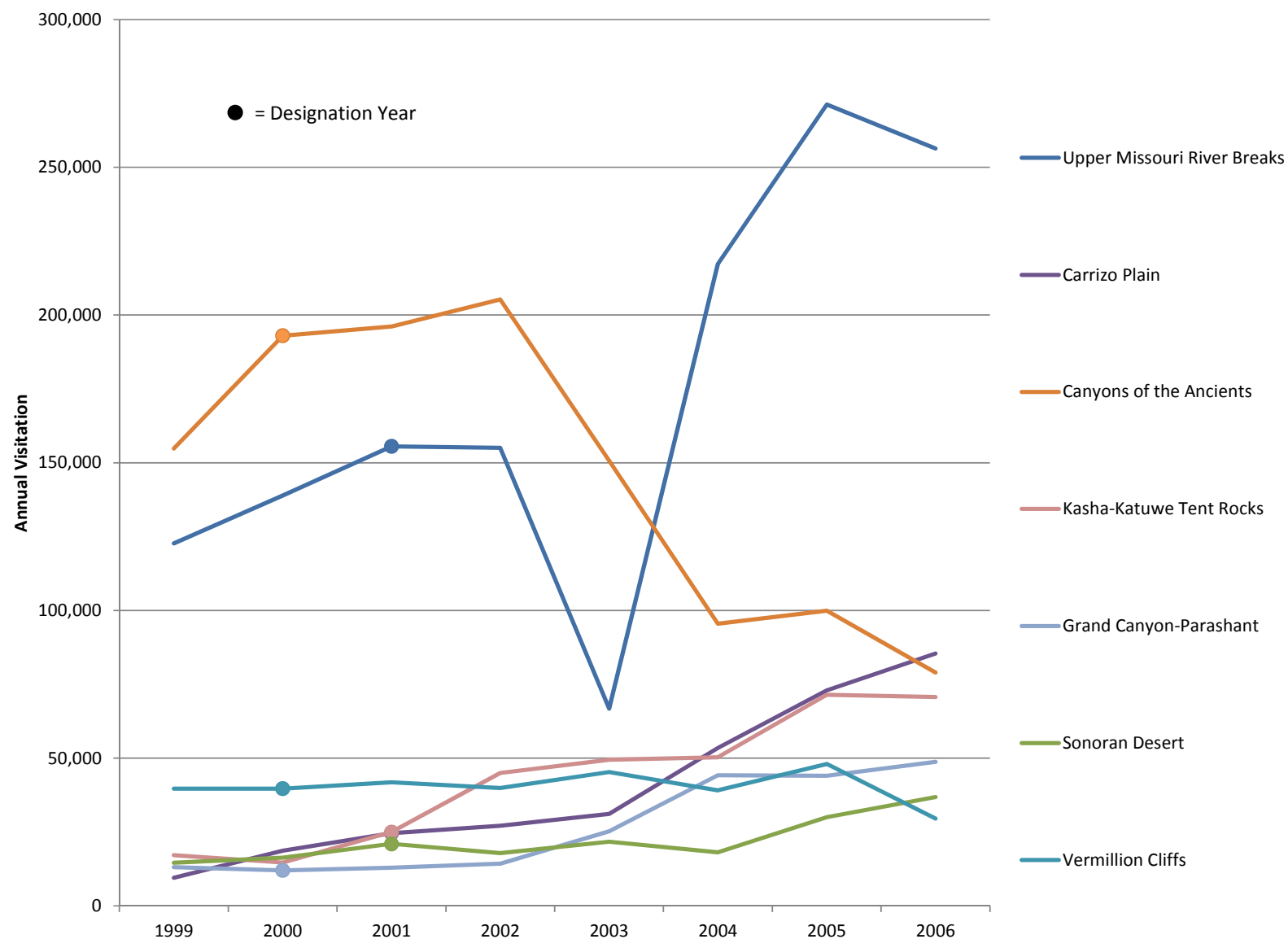


Figure 14 Case Study Visitation Change Post Designation

National Monument	Year 5 Visitation Change	Year 5 Visitation Change (%)
Canyons of the Ancients	-59,275	-38%
Carrizo Plain	54,314	291%
Grand Canyon-Parashant	31,150	238%
Kasha-Katuwe Tent Rocks	56,823	387%
Sonoran Desert	13,724	84%
Upper Missouri River Breaks	132,314	95%
Vermillion Cliffs	-611	-2%

Source: BLM Visitation Data and EPS

While numerous case study monuments enjoyed visitation increases of more than 200 percent, each of these areas had initial (pre-designation) visitation of less than 20,000 visits. The maximum observed absolute increase in visitation of roughly 132,000 at Upper Missouri Breaks may be more informative regarding the potential visitation increase that might occur at BSM, due to scale comparability. However, Upper Missouri River Breaks is very remote (roughly 2 hours from Billings, a city of about 100,000). It is likely that BSM visitation will increase by more than at Upper Missouri River Breaks, but is unlikely to grow by multiples of the current visitation level. The following section discusses a range of factors that likely affect the potential for BSM to attract additional visits after designation.

Potential Economic Impacts

Based on the case study research and factors specific to BSM, this study offers a range of estimates of future visitation, economic impacts, and fiscal benefits attributable to a national monument designation. The section below commences with a discussion of BSM-specific factors that influence visitation growth potential and concludes with presentation of the national monument economic impact estimates.

Factors Influencing the Designation Effect

This study identifies a number of factors that will influence visitation growth associated with national monument designation. Key issues include the following:

- **Wilderness designations already in place** – The proposed BSM National Monument includes three significant wilderness designations (Snow Mountain, Cache Creek, and Cedar Roughs) which already have had some effect on visitation to the BSM region, particularly among those seeking “primitive” recreation activities.
- **Lake Berryessa visitation declines** – Visitation at Lake Berryessa currently stands at roughly one-third of the Lake’s 1980s visitation peak, due to resort closures and reduced facilities. While BOR anticipates that recreation levels will rise to previously-achieved levels with the redevelopment of resorts and recreation facilities, these visitation increases primarily would be attributable to potential capital investments. Without additional facilities, Lake Berryessa visitation growth potential is somewhat limited.
- **Mendocino National Forest budget concern** – According to management staff, the current annual budget for the operation of Mendocino National Forest is approximately one half of what it had been six years ago. Even during the mid-2000s it was clear that this USFS unit was struggling to keep up with costs. The 2006 Mendocino National Forest Business plan indicates that at that time the Forest had the smallest budget of any national forest in California. The document also reveals the Forest’s budget was only 60 percent of what would be needed to meet operational standards.
- **Access challenges and safety issues** – Despite its proximity to Sacramento and the Bay Area, the Mendocino is one of the Nation’s least visited national forests. Access to the proposed BSM National Monument by public roadways is limited, with only three state routes entering the area (see **Figure 15**). Access to northern reaches of the proposed monument is particularly limited, while Lake Berryessa is easier to get to. In the most remote areas of the national monument safety can be a concern, particularly due to illegal marijuana cultivation.
- **Highly competitive landscape for recreation and tourism** – California is internationally known as a destination for outdoor recreation. Visit California (a not-for-profit corporation formed to work jointly with the State of California’s Division of Tourism) reports 227.2 million domestic person-trips and 15.6 million international visitors in California during 2013. Many of these visits involve outdoor recreation. From Monterey, to the North Coast, to the High Sierra, there is an incredible array of outdoor opportunities. The National Park Service alone manages 26 parks in California. These vast and varied recreation alternatives create a competitive landscape for attracting visitation growth.

Figure 15 Access to the Proposed BSM National Monument



Opportunities to Leverage Designation

In coordination with a national monument designation, there are a number of actions and investments that might be made to leverage the effect of that designation. Examples of additional efforts that might occur along with designation of the BSM National Monument include:

- **Highly-coordinated recreation management approach involving USFS, BLM, and BOR** – The land managers would organize to provide optimized management programs and visitor services.
- **Public and private marketing and visitor information campaign** – The land managers and/or local business groups (e.g., Chamber of Commerce) could promote visitation through marketing and information. For example, the Las Cruces Green Chamber of Commerce has developed an Organ-Mountains Desert Peaks National Monument marketing toolkit for local

businesses. One possibility to market and grow recreation at BSM is to promote “off-season” (fall-spring) activities.

- **Improved visitor services and facilities** – As discussed above, BOR is seeking to develop additional visitor facilities at Lake Berryessa in the future. Similarly, a recent Mendocino National Forest Recreation Facility Analysis indicates that many of the Mendocino’s developed recreation sites were built 30 to 50 years ago and that visitor preferences and demographics have changed. To respond to these conditions, the Forest seeks to prioritize actions to more effectively manage recreation sites. A national monument designation, when combined with facility improvements, could achieve more dramatic increases in visitation.
- **Increased law enforcement** - Law enforcement is a fundamental part of the overall management of visitor-serving public lands. Ideally, increases in law enforcement would be sufficient to stamp out illegal, threatening activities. A national monument designation, in combination with increased visitor safety measures, could achieve more dramatic increases in visitation.

While national monument designation does not come with the promise of increased funding, it is anticipated that the national monument would enjoy a modest increase in staffing and law enforcement after monument status is granted. In some cases, such as the recently-designated San Gabriel Mountains National Monument, philanthropic funding has been granted in support of restoration projects.

Economic Impact Estimates

To quantify the local economic impact and tax revenue benefits that could be achieved with the designation of BSM National Monument, this study considers a range of potential economic outcomes. The range of estimates is based on the case study analysis and qualitative assessment of local BSM constraints and opportunities. The estimates consider a potential 20 to 30 percent increase in visitation to BSM, with these increases ramping up over a five-year period. Both low and high estimates assume funding support for improved management and facilities improvements to accommodate and grow visitation.⁶

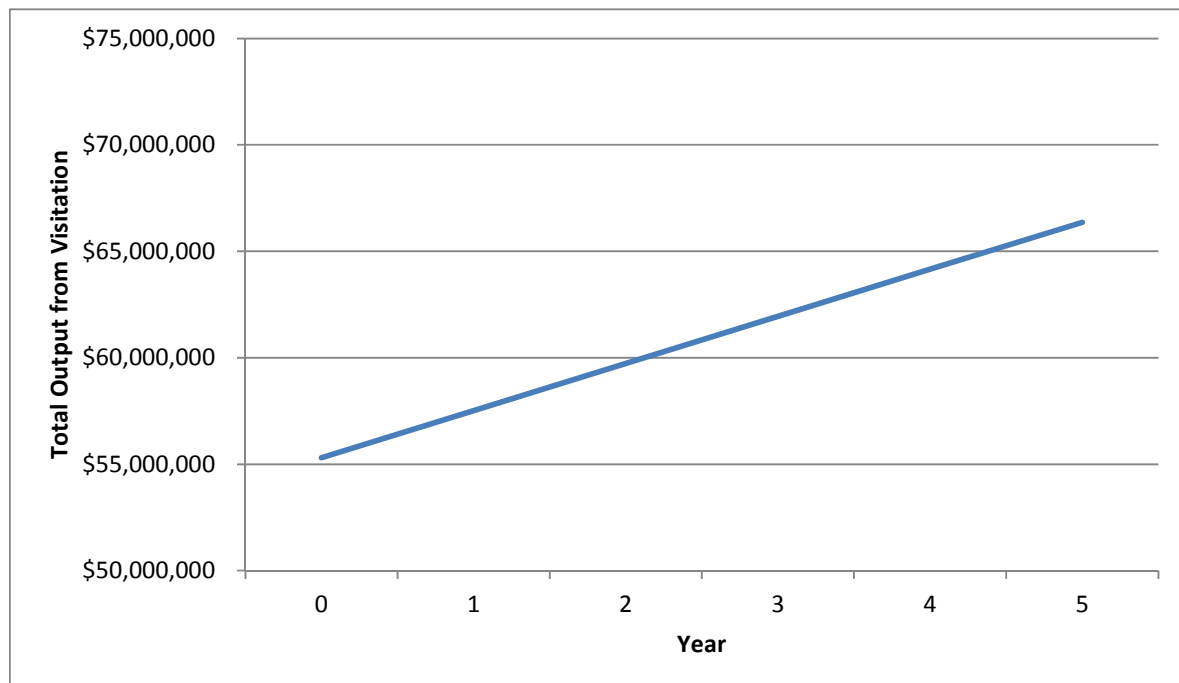
⁶ National monument designation without management improvements or facilities investments is likely to produce a positive but lesser economic effects than the estimates presented here.

Low Estimate

In the low estimate, national monument designation increases awareness of BSM for recreation and is accompanied by meaningful management, marketing, and facilities improvements to accommodate growth. This scenario assumes a 20 percent increase in annual visitation (215,000 additional visits). By year five, the analysis estimates the cumulative effect of the designation on economic output at over \$33 million.

Figure 16 Low-Range Economic Impact Estimates

Year	NM Effect on Visitation (%)	Economic Output (from Visitation)	Annual Monument Effect	Cumulative Monument Effect
0	0	\$55,305,007	\$0	\$0
1	4%	\$57,517,207	\$2,212,200	\$2,212,200
2	8%	\$59,729,408	\$4,424,401	\$6,636,601
3	12%	\$61,941,608	\$6,636,601	\$13,273,202
4	16%	\$64,153,808	\$8,848,801	\$22,122,003
5	20%	\$66,366,008	\$11,061,001	\$33,183,004

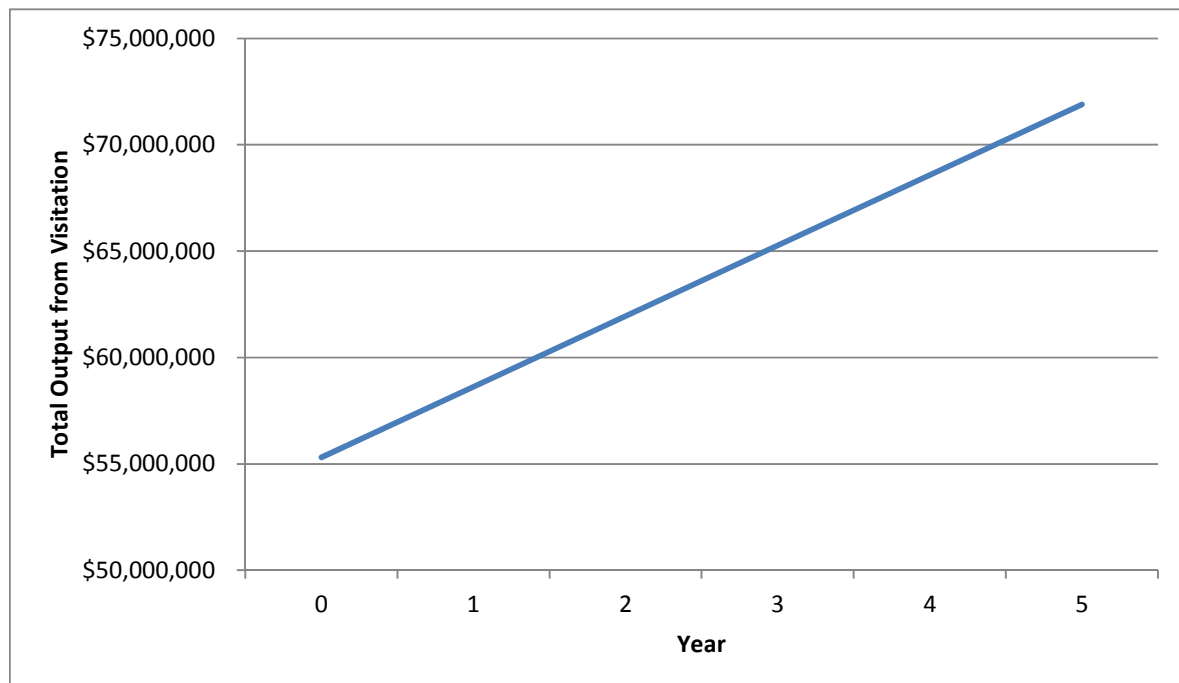


High Estimate

In the high estimate, national monument designation increases awareness of BSM for recreation; management, marketing, and facilities improvements occur; and private investment takes place in gateway communities (e.g., lodging establishments, visitor amenities). This scenario assumes a 30 percent increase in annual visitation (323,000 visits). By year five, the analysis estimates a cumulative effect on economic output of nearly \$50 million.

Figure 17 High-Range Economic Impact Estimates for Scenario II

Year	NM Effect on Visitation (%)	Economic Output (from Visitation)	Annual Monument Effect	Cumulative Monument Effect
0	0	\$55,305,007	\$0	\$0
1	6%	\$58,623,307	\$3,318,300	\$3,318,300
2	12%	\$61,941,608	\$6,636,601	\$9,954,901
3	18%	\$65,259,908	\$9,954,901	\$19,909,803
4	24%	\$68,578,209	\$13,273,202	\$33,183,004
5	30%	\$71,896,509	\$16,591,502	\$49,774,506



Overall, this study finds that the cumulative economic output impact that might occur during the five years following designation could total roughly \$30 million to \$50 million in the local economy. The designation, coupled with management improvements and capital investments, offers economic benefits to businesses in the local economy as visitation to the region increases over time. By year five, the analysis estimates that higher levels of visitation would support between 120 and 180 jobs. Local tax revenues accruing to local jurisdictions would increase by between \$500,000 and \$800,000 over the first five years.

Figure 18 Summary of Findings

	Job Increase (Year 5)	Output Effect (5-Year Cumulative)	Local Tax Revenue (5-Year Cumulative)
Low Estimate	120	\$33.2 Million	\$538,000
High Estimate	180	\$49.8 Million	\$807,000