

**ANALYSIS OF OPTIONS FOR TRANSFERRING THE VALLES CALDERA
NATIONAL PRESERVE TO DIRECT FEDERAL AGENCY MANAGEMENT**



A REPORT FOR CALDERA ACTION AND NATIONAL PARKS CONSERVATION ASSOCIATION

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Valles Caldera National Preserve. Photos: Courtesy T. Ribe

EXECUTIVE SUMMARY

Since the Valles Caldera National Preserve was created in 2000, it has been managed by the Valles Caldera Trust. The Trust, an experiment in semi-private public lands management, was charged with achieving financial self-sufficiency for the Preserve. Through fees and commercial resource management, the Trust has made gains in recovering some of the costs of managing the Preserve, but by all accounts, the experiment has not succeeded and is unlikely to do so.

Under the legislation that created the Preserve, the US Forest Service (USFS) would be the logical agency to take over management in 2015 or 2020, should the Trust model prove unsuccessful. Under proposed Senate legislation (S. 564, the Valles Caldera National Preserve Management Act), responsibility for the Preserve would be transferred to the National Park Service (NPS). A change in the management of this unique and special landscape is likely.

This report approaches the question of which management agency is most appropriate for the Preserve from two angles. The first is an economic impact analysis that compares potential USFS and NPS management scenarios, and explores in depth the likely economic benefits associated with NPS management. The second is an evaluation of probable trends in Preserve management given agency mandates and management history.

This report finds that NPS management would provide more stable long-term local economic benefits, more reliable resource protection, and superior visitor experiences. Further, the report concludes that National Park Service management would better fulfill the primary purposes of the Preserve: protecting and preserving the resources of the historic Baca ranch, and providing opportunities for public recreation.

Key findings include:

- In 2016, under National Park Service management, the Preserve would support over **\$1 million more in sales** to local businesses and nearly **50 more local jobs** than it would if managed by the USFS with a similar operating budget and staff.
- NPS management of Valles Caldera would yield sustained economic benefits for central New Mexico. **Over the first 15 years, local economic benefits are projected to exceed \$110 million.**
- Conservatively estimated, in 2016, National Park Service operation of the Preserve is expected to support **202 local jobs**, nearly **\$8 million in wages**, and **\$11 million in economic activity**. Between 2012 and 2016, construction projects on the Preserve would support an average of 50 local jobs per year.
- Consolidated NPS management of Valles Caldera National Preserve and adjacent Bandelier National Monument would **attract more visitors to the Preserve** and provide a **higher-quality experience for visitors** to both sites. Consolidated management would also **boost efficiency, create consistent policies and programming, and improve services**.
- The National Park Service is more likely than the US Forest Service to **maintain a high and consistent level of funding, staffing, visitor services, and resource protection**.

I. INTRODUCTION

In 2000, Congress authorized federal acquisition of the Baca ranch and established the Valles Caldera Preserve and Trust. Primary among the purposes of the Preserve are

- to protect and preserve for future generations the scientific, scenic, historic, and natural values of the Baca ranch, including rivers and ecosystems and archaeological, geological, and cultural resources; and
- to provide opportunities for public recreation.

The act that established the Preserve also created the Valles Caldera Trust as an experimental management agency to promote long-term financial sustainability for the Preserve, consistent with the Preserve's other purposes. Also, insofar as they are consistent with the preservation and recreation purposes of the Preserve, the act allowed for timber production and livestock grazing.

The original legislation contains a sunset clause under which, if the Trust is unable to achieve financial self-sufficiency for the Preserve by 2015, the property will revert to US Forest Service management. An extension to 2020 is possible under the legislation given adequate progress towards self-sufficiency. The legislation offers no guidance about how the Forest Service would manage the Preserve.

Legislation has been introduced in the Senate to assign management of Valles Caldera National Preserve to the National Park Service. The state's two senators; two of its three Congressional members, including those whose constituents are closest to the Preserve; and local governments and chambers of commerce all support this legislation. Recent Valles Caldera boards of trustees have acknowledged that the goal of financial self-sustainability is not achievable. In May, 2011, a majority of the Presidentially appointed trustees testified to the Senate in favor of National Park Service management for the Preserve.

A change in management at the Preserve from the Trust seems highly likely. Under the original legislation, the USFS would be the logical agency to take over management. Under proposed Senate legislation (S. 564, the Valles Caldera National Preserve Management Act), responsibility for the Preserve would be transferred to the National Park Service. This report examines the question of which is the more appropriate management agency to carry out the purposes intended for this unique and special area.

The analysis that underlies this report approaches that question from two angles. The first is an economic impact analysis that compares potential USFS and NPS management scenarios. The second is an evaluation of likely trends in Preserve management given agency mandates and management history.

Comparable Areas

In addition to general characteristics of NPS and USFS visitation, budgeting, planning, and management, several special management areas with direct parallels to the Valles Caldera were used to inform this analysis.

- ***Bandelier National Monument (New Mexico, NPS)***
Bandelier National Monument protects nearly 34,000 acres and shares a boundary with Valles Caldera National Preserve. The Monument was designated in 1916 to protect ancestral pueblo homes, kivas, rock paintings, and petroglyphs, along with a backcountry canyon and mesa wilderness area. The National Park Service manages the monument in cooperation with

neighboring pueblos and state and federal agencies. Monument facilities include a visitor center and museum, 70 miles of trail including popular paths that access archaeological sites in Frijoles Canyon, and less-traveled backcountry trails and campgrounds. During winter, trail access is limited to cross-country skiing and snowshoeing.

- ***Great Sand Dunes National Park and Preserve (Colorado, NPS)***

Great Sand Dunes National Monument was established in 1932 in response to a local citizens' effort. In 2000, Congress passed the Great Sand Dunes National Park and Preserve Act of 2000, which authorized the expansion of the Monument into a national park almost four times its original size. Under this act, roughly 42,000 acres of National Forest wilderness area were transferred to NPS management and renamed the Great Sand Dunes National Preserve. Natural resources in this area are quite different from those in the older monument or the expanded national park and include alpine tundra and lakes, extensive virgin subalpine forest, aspen forests, and high-elevation wetlands. Further land transfers from the US Bureau of Land Management (BLM) to NPS management were authorized on the west and south sides of the old Monument. The Park and Preserve now protect most of the dunes' natural hydrological system, from mountain watershed to wetlands, ensuring protection of the entire ecosystem.

- ***Mount St. Helens National Volcanic Monument (Washington, USFS)***

In 1982 the President and Congress created the 110,000-acre Mount St. Helens National Volcanic Monument for research, recreation, and education. There, the environment is left to respond naturally to the disturbance created by the 1980 eruption. Trails, viewpoints along the access road, information stations, campgrounds, and picnic areas serve visitors exploring the Monument by car and on foot. Forest Service interpreters and volunteers lead a wide range of summer activities, from short walks to amphitheater presentations, to help visitors understand and enjoy this area. In winter, cross-country ski and snowmobile trails are available.

- ***Newberry National Volcanic Monument (Oregon, USFS)***

In 1990, Newberry National Volcanic Monument was created within the boundaries of the Deschutes National Forest. Managed by the US Forest Service, this Monument provides a unique opportunity to view the lava lands of central Oregon. Newberry National Volcanic National Monument includes over 50,000 acres of lakes, lava flows, and spectacular geologic features. The Monument offers numerous recreation opportunities and facilities, including visitor centers, developed trails, seven developed campgrounds, fishing access, privately owned primitive resorts, and winter access for cross-country skiing, snowshoeing, and snowmobiling.

- ***Valle Vidal (New Mexico, USFS)***

In 1982, the Pennzoil Company donated 100,000 acres of what had been a sportsman's ranch to the federal government. This land became the Valle Vidal unit of the Carson National Forest in northern New Mexico. In 2006, it was designated the Valle Vidal National Preserve. Rich in wildlife, including the largest elk herd in New Mexico, Valle Vidal encompasses important headwaters, habitat, grazing lands, and recreational opportunities. In the early years of managing Valle Vidal, the Forest Service planned, performed archaeological surveys, and hired road crews to improve vehicle access to the area by gravel road. Two campgrounds and a day-use area were designed and constructed. There are no developed trails, but hikers, horseback riders, and mountain bikers can use the network of old roads that predated the Preserve.

II. ECONOMIC IMPACT PROJECTIONS

The National Park Service’s Money Generation Model (MGM2) economic impact model provides the framework for a comparison of potential economic benefits for the communities near the Valles Caldera National Preserve. Two NPS management scenarios and two USFS scenarios were evaluated.

“Full Development” Scenarios

Two scenarios—one NPS and one USFS—assume that the management agency would pick up where the Trust leaves off in its management of the Preserve. A level of visitor facilities consistent with Alternative 4 in the Trust’s Draft Public Access and Use Plan¹ would be developed, likely including

- a main visitor center overlooking Valle Grande;
- a possible secondary visitor facility and onsite maintenance facility;
- a loop drive through the Caldera with interpretive signs;
- a full slate of interpretive and educational programming;
- trails, trailhead facilities, and access, including some winter access; and
- one or two small campgrounds on the Preserve.

Much of the Caldera would be managed as backcountry, and seasonal shuttle service to the interior of the caldera is a possibility. Estimated cost of these capital investments and improvements is \$25 million over the course of five years after transfer of management authority.

These scenarios assume that a \$4-million budget for Preserve management—roughly equivalent to the Trust’s recent annual appropriations—is available for use by the managing agency. The NPS scenario assumes that the Preserve shares a superintendent with Bandelier National Monument and is co-managed with the Monument.

“Less Development” Scenarios

Two scenarios involving smaller operating budgets, less staff, fewer programs, and lower levels of infrastructure improvements were also considered. These scenarios differ between the National Park Service and US Forest Service, based on typical management approaches for special areas in each agency.

NPS “Bare Bones” Staffing

Many of the same visitor facilities and services would be developed as in the previous scenarios, providing visitors with “front country” recreational and interpretive facilities and access to backcountry wildlands. However, a smaller operating budget would fund a smaller staff, likely meaning less interpretive programming, fewer concession opportunities, a smaller law enforcement team, pared-down maintenance crews, and so forth.

Estimated cost of capital investments and improvements is \$25 million over the course of five years after transfer of management authority. This scenario assumes an annual operating budget of roughly \$2 million.

¹ Valles Caldera Trust. 2011. Valles Caldera National Preserve Public Access and Use Plan. Draft, February 2011.

USFS Minimal Development

With a small number of notable exceptions, the Forest Service does not tend to put in place the same level of infrastructure and visitor services typically associated with NPS units. To approximate a minimal development scenario for the Valles Caldera National Preserve, Valle Vidal National Preserve was used as a rough model. This level of development is similar to that in Alternative 2 in the Valles Caldera Trust's Draft Public Access and Use Plan,² although likely would include no on-site visitor center. Probable development includes

- visitor information available at district offices, especially in Jemez Springs and Los Alamos;
- improved “forest road” level loop drive through the Caldera with interpretive signs;
- one or two small campgrounds on the Preserve; and
- possible trailhead facilities and access, including some winter access. (No trails have been developed at Valle Vidal, which, like Valles Caldera, had an extensive network of ranch and logging roads.) At Valle Vidal, these roads are now available for hiking, horseback riding, hunting, and mountain biking.)

As in the other scenarios, much of the Caldera would be managed as backcountry. Estimated cost of these capital investments and improvements is \$10 million over the course of five years after transfer of management authority.

Projected Impact Comparison

Projections for economic impacts of visitor spending and Preserve management were developed using these scenarios. Visitor behavior and spending projections were based on NPS visitor use surveys³ and the NPS MGM2 model,⁴ as well as US Forest Service National Visitor Use Monitoring data⁵ and an analysis of recreational visitor behavior and spending across the country's national forests conducted by Daniel Stynes.⁶ Stynes is the Michigan State University economist who performs the NPS MGM2 annual analyses of national park system economic impacts. The visitor numbers, spending, and trip characteristics associated with each scenario are detailed in Appendix A.

MGM2 is an “input-output” model, which assumes that money spent in a local area—whether by visitors buying meals, lodging, fuel, and gifts, or by a government agency paying staff, contractors, and suppliers—supports further local economic activity. Businesses use this income to pay employees, purchase goods, and pay for rent, fuel, taxes, and other expenses. Employees, too, spend their income on goods and services. Some of these expenditures are made locally, where the money can then be spent “again” by the local businesses and persons who receive it, and so on.

Projected economic impacts include both “direct impacts” (the amount of spending for an activity by an organization or group, such as the National Park Service or visitors and the jobs this spending immediately supports) and “secondary impacts,” which reflect the “multiplier effect” of portions of those direct expenditures being circulated through the local economy, as described above.

² Valles Caldera Trust, 2011.

³ Especially Visitor Services Project. 1995. Bandelier National Monument Visitor Study. University of Idaho, Cooperative Park Studies Unit.

⁴ See details of the Money Generation Model, Version 2, at <http://web4.msue.msu.edu/mgm2/>.

⁵ See details about the National Visitor Use Monitoring program at <http://www.fs.fed.us/recreation/programs/nvum/>.

⁶ See Stynes, Daniel J., and Eric M. White. 2006. Spending Profiles for National Forest Recreation Visitors by Activity. Report to USDA Forest Service. East Lansing, Michigan: Michigan State University, February 2006.

Three types of projected economic impacts are reported in Table 1 below:

- Sales—the margins accruing to local firms on goods sold to park visitors, including both retail and wholesale trade sectors;
- Jobs—both full-time and part-time jobs, with seasonal positions adjusted to an annual basis; and
- Personal income—wages, salaries, and benefits, including income of sole proprietors.

Table 1: Projected Economic Impacts of Four Management Scenarios for Valles Caldera National Preserve

	Projected Visitation in 2016 (after 5 years of NPS or USFS operations)⁷	Local Sales⁸	Local Jobs	Local Personal Income
NPS "full operations"	64,000	\$4,805,000	171	\$6,010,000
USFS "full operations"	45,000	\$3,651,000	123	\$5,595,000
NPS "bare bones" operations	59,000	\$3,475,000	129	\$3,393,000
USFS minimal development	25,000	\$750,000	31	\$271,000

Conclusions

The MGM2 model typically estimates economic impacts for a gateway area within approximately 50 miles of the park boundary. To a large extent, the proportion of these impacts that would be retained in Los Alamos and Jemez Springs would depend on the level and types of tourism infrastructure available in the area. Hence, these projected impacts may be best thought of as opportunities to capture spending and economic activity in the two main park gateways.

According to USFS and NPS data sources, Forest Service areas tend to attract more local day use, more campers, and fewer out-of-town visitors than do NPS units.⁹ (See Appendix A for a breakdown of these differences in visitor attraction.) These differences in expected visitation would likely account for a greater per-visitor impact under NPS management, as out-of-town visitors and hotel guests tend to spend more money in gateway communities than do local visitors and campers. The different visitor profiles also suggest somewhat divergent directions in development of tourism services in the gateways, to meet the needs and preferences of different types of visitors.

⁷ See Appendix A for detail on visitation projections.

⁸ Local sales and local personal income reported in inflation-adjusted 2016 dollars.

⁹ Visitor profiles drawn from USFS National Visitor Use Monitoring program recreational visitor segments and a 1995 Bandelier National Monument visitor survey.

According to this analysis, National Park Service management of the Preserve is likely to produce greater economic benefits for the local area for two primary reasons. The first is the difference in typical visitor profiles described above. The second reason for a greater projected impact under NPS management is that, all other factors being equal, NPS affiliation is likely to attract more visitors and sustained levels of visitation over time for the following reasons:

- Significant levels of “crossover” visitation from Bandelier National Monument seem likely to develop, especially as facilities are built. Annual visitation at Bandelier is 235,000 and is expected to grow. Most of these visitors are typical “national park tourists,” who spend a few hours in the Monument, focusing on high points such as the visitor center, interpretive film, and short trail walks. Under NPS management, if the Preserve includes the kinds of facilities that most national park visitors tend to expect and use—especially an accessible visitor center(s) with caldera views and interpretive offerings, ranger-led activities, a good road through the Caldera, and at least one accessible, interesting, and not-too-challenging walking trail—many Bandelier visitors are likely to check Valles Caldera off their national park “life lists” on the same trip.
- Co-managing Bandelier and the Preserve may lead to a level of coordination that enhances visitation—and park interpretation—at both sites. If the NPS unit contemplated for the Manhattan Project is created in Los Alamos, a third national park site could solidify the area’s identification with parks and attract even more visitors.
- Because of its mission focus on resource protection and public enjoyment, the NPS is more likely to maintain and expand visitor services, which involves budgeting, prioritization, and mandate issues within the US Forest Service, discussed separately in the next section.
- Visibility for the Preserve is more assured with the National Park Service. Informal surveys of visitors at Great Sand Dunes National Park and Preserve suggest that many travelers (especially international visitors) use the NPS website to help plan their visits. Over time, the Preserve would become widely known as part of the NPS system, and word of mouth from other parks in the region could encourage even more visitors to Bandelier and Valles Caldera.¹⁰

After 20 years of operating Newberry National Volcanic Monument near Bend, Oregon, the US Forest Service has not been successful in bringing national and international attention to this volcanic landscape rich in recreation opportunities. Monument staff believe locals and return visitors comprise the bulk of its 180,000 to 200,000 annual visitors and are looking to their local partner organization and tourism board for help with raising the Monument’s visibility.¹¹

Conclusion: NPS management is likely to produce greater and more sustained economic benefits for local communities.

¹⁰ Art Hutchinson, Superintendent, Great Sand Dunes National Park and Preserve, telephone interview, May, 2011.

¹¹ Amy Tinderholt, Bend-Fort Rock Ranger District, telephone interview, May, 2011.

IN DEPTH ANALYSIS: ECONOMIC IMPACT OF VALLES CALDERA NATIONAL PRESERVE UNDER NATIONAL PARK SERVICE MANAGEMENT

The Mid-Region Council of Governments projected economic impacts associated with converting Valles Caldera to National Park Service management using the Policy Insight econometric model developed by Regional Economic Models, Inc. (REMI). Customized to the middle Rio Grande region, this analysis produced year-to-year estimates of the benefits of NPS management of Valles Caldera National Preserve to central New Mexico. (The full report of this analysis is included as Appendix B.)

This analysis projected annual estimates of economic impacts for 15 years from 2012 (the assumed year NPS management would begin) through 2026, using four scenarios to model projected visitation levels during those years. Based on a conservative estimate of visitation growth, the analysis projects the following impacts:

- NPS management of Valles Caldera would yield sustained economic benefits for central New Mexico. Over the first 15 years, local economic benefits are projected to exceed \$110 million.
- In 2016, Park Service operation of the Preserve is expected to support 202 jobs, nearly \$8 million in wages, and \$11 million in economic activity.
- Between 2012 and 2016, the Park Service could invest \$25 million in constructing facilities and infrastructure on the Preserve. This investment would support an average of 50 local jobs per year during that time, and spark nearly \$25 million in local economic activity.
- The impact of the Preserve would continue to grow over time as visitation increases.

Projected economic impacts for the “low-medium” visitation scenario in selected years:

	2016	2021	2026
Local jobs supported	202	90	95
Wages and salaries	\$7.9 million	\$6.2 million	\$7.4 million
Local economic activity	\$11 million	\$6 million	\$7 million

Notes

- Dollar figures reported in 2011 dollars, not adjusted for inflation.
- 2016 impacts are larger than subsequent years because of construction spending for facilities and infrastructure.
- Impact estimates for 2016 are larger than those produced in the MGM2 analysis primarily because the REMI analysis considered construction impacts in addition to impacts of visitor spending and park operation. The MGM2 analysis focused on the later two components only.

III. MANAGEMENT TRAJECTORIES AND ISSUES: USFS AND NPS

While likely economic benefits and opportunities for local communities are important, selecting an appropriate management agency should hinge largely on the agency's ability to carry out the key mandates of the Valles Caldera National Preserve efficiently and effectively. A review of agency missions, management experience and history, and budget processes and funding reliability suggests that the National Park Service would be the better home for this natural and cultural treasure.

Mission Focus

With nearly 100 years of experience managing special areas, the National Park Service is now the steward of more than 390 parks, monuments, preserves, and other park service units. Its mission focuses specifically on resource protection and visitor access and recreation. In contrast, the US Forest Service manages just six of the country's 100 national monuments. Its mandate is to manage national forests for multiple use and sustained yield. With this broad-based mission, resource protection, preservation, and recreation compete for funding and attention with commodity land uses and priorities ranging from timber and range production to fire and watershed management.

Conclusion: Because the NPS focus on protection, preservation, and public enjoyment is central to its mission, this agency is the more appropriate choice to carry out the purposes of the Valles Caldera founding legislation than is the commodity emphasis that undergirds the USFS approach to land management.

Budget and Funding Process

With its focus on ensuring funding for specific park units, the NPS budget process is likely to provide a more reliable source of funding and support for the Preserve than would the USFS budget process, which is based on programs (e.g., logging, grazing, recreation) rather than individual units.

Each year, the Forest Service and Park Service submit budget justification documents that detail and support the agencies' requests for federal appropriations. The way these budget justifications are constructed reveals the fundamental operations of each agency with respect to providing reliable funding for special areas such as national monuments and preserves.

The NPS budget process advocates directly for the needs of individual protected areas. An annual appropriation is requested for operating each Park Service unit. Much of the line-item funding for projects such as construction and maintenance, special programs, park planning, and land acquisition is also allocated to specific park units.¹² This approach to budgeting creates what a 2008 University of Washington School of Law report called a "stable and reasonably predictable budget at the administrative level of a particular NPS unit."¹³

In contrast, the USFS budget justifications are constructed around broad functional categories and programs across the Forest Service as a whole. Similarly, the appropriations request for operating the

¹² National Park Service budget justifications since fiscal year 2000 can be downloaded at <http://home.nps.gov/applications/budget2/gbchoose.htm>.

¹³ Kathy and Steve Berman Environmental Law Clinic, University of Washington School of Law. 2008. *Mandates, Economic Impacts, and Local Concerns: Who Should Manage Mount St. Helens?* Seattle, Washington: National Parks Conservation Association.

National Forest System is structured around broad categories.¹⁴ Budget line items outside the appropriations request for operating the various units of the National Forest System include funding categories such as wildland fire management, capital improvement and maintenance, and state and private forestry programs.

The University of Washington study concluded that this structure is “consistent with the Forest Service’s multiple-use, sustained-yield mandate where funds are more fluid and can be directed toward the Forest Service’s most pressing priorities,” whether functional (e.g., wildlands fire management) or geographic (e.g., within a specific region).¹⁵

Compared with the NPS budgeting approach, however, the Forest Service’s approach can put special areas such as national monuments and preserves at a disadvantage. Again from the University of Washington report, “the Forest Service’s method serves to place monuments such as Mount St. Helens in direct competition with other Forest Service units for recreational funding, and perhaps more importantly, in direct competition for funding with other priorities of the Forest Service, such as fire prevention and control.”¹⁶

Funding Reliability

Fire management has risen as a percent of the Forest Service discretionary budget since the early 1990s. In 1991, the agency devoted 13 percent of its budget to wildland fire management. By 2006, fire management accounted for 45 percent of the Forest Service budget. In 2007, five former USFS chiefs signed on to a statement urging a change in how fire suppression is handled in the federal budget, observing that soaring fire costs were eating into the agency’s ability to fund its other management priorities. In 2011, fire management still accounted for a large share of the agency’s funding, with fire budget figures coming in at about 40 percent of the total discretionary budget.¹⁷ Moreover, much of the fire and other remaining budget categories have been outsourced, further diluting federal staffing and the institutional memory of the USFS in these areas.

In the Northern Region (Montana and Idaho), a 2005 maintenance and construction budget of \$43 million dwindled to \$28 million in 2007.¹⁸ By 2005, in the Pacific Northwest Region (Washington and Oregon), Forest Service staff had been reduced to nearly half of its 1990 levels, and forest managers were reviewing recreational facilities to identify candidates for cost-saving closures.¹⁹

¹⁴ The Forest Service has 11 categories of expenditures in its annual budget for operating the National Forest System: integrated resource restoration; land management planning; inventory and monitoring; recreation, heritage and wilderness; wildlife and fisheries habitat management; grazing management; forest products; vegetation and watershed management; minerals and geology management; landownership management, and law enforcement operations. Until the most recent budget proposal (FY2012), Valles Caldera has been funded as a separate line item in the National Forest System annual appropriations, effectively creating a twelfth of these broad operational funding categories.

¹⁵ Kathy and Steve Berman Environmental Law Clinic, 2008.

¹⁶ *ibid.*

¹⁷ Perry Backus. 2007. “Former FS chiefs say fire costs eating budget.” Missoula, Montana: *The Missoulian*, May 5, 2007. Also, US Forest Service Fiscal Year 2012 Budget Overview.

¹⁸ Backus, 2007.

¹⁹ Michael Milstein. 2005. “For sale: Your local ranger station? Budget cuts and forest thinning force agency to trim down.” Paonia, Colorado: *High Country News*, May 30, 2005.

Declining funding during this time affected two national volcanic monuments in the USFS Pacific Northwest Region: Mount St. Helens and Newberry National Volcanic Monument.

With visitation topping 750,000 and an annual funding need pegged at \$4 million (roughly the amount of federal funding and visitor fees currently dedicated to operating Valles Caldera National Preserve), Mount St. Helens operated on just over a quarter of that amount in 2007. Seventy percent of its \$1.2 million budget came from visitor fees, with federal funding making up the bulk of the balance.²⁰

Among the casualties of this severe funding shortfall were the Coldwater Ridge Visitor Center, which was closed permanently, and the Silver Lake Visitor Center, which is now managed by Washington State Parks. With a construction price tag of \$10 million, the Coldwater Ridge facility was the only visitor center in the blast zone with a restaurant and the only center with exhibits on the biologic recovery of the mountain. Lack of funding to staff and maintain the center, along with a repair backlog of \$1 million, motivated the closure.²¹

At Newberry National Volcanic Monument, cuts in recreation funding at the regional level forced staffing and service reductions. According to administrative staff, the Monument is still in a rebuilding phase following those dramatic cuts.²²

In contrast, budgets for similar units managed by the National Park Service were stable. From 2004 to 2007, the operating budget of Lava Beds National Monument in northern California grew from \$1.2 million to \$1.6 million while visitation hovered just over 100,000. At Mount Rainier National Park in Washington, with over a million annual visitors, budgets grew from \$9.3 million in 2004 to \$10.3 million in 2007. During that time, Mount Rainier received an additional \$21 million appropriation to build a new visitor center.²³

In New Mexico, Valles Caldera's NPS neighbor, Bandelier National Monument, also saw its budget increase from \$2.5 million in 2004 to \$2.8 million in 2007.²⁴

While both agencies have budget shortfalls that interfere with optimal operations and maintenance, the focus of the NPS budget process on individual park units is less likely to result in catastrophic "crashes" in funding for the Preserve than is the Forest Service's typical programmatic approach to funding.

Conclusion: USFS budgeting practices are focused on programmatic categories that allow different program priorities such as fire to cannibalize funds from specific units such as national forests, ranger districts, and special areas such as national monuments and preserves. NPS budgets are explicitly location-specific and more likely to serve the needs of a special area like the Valles Caldera.

²⁰ Mount St. Helens National Volcanic Monument. "Shades of Gray" Teacher's Corner educational activity. Gifford Pinchot National Forest, 2008. A 2010 local newspaper article suggests that funding may have been increased somewhat since 2007, to approximately \$500,000 in recreational funding plus \$1.2 million for roads and facilities.

²¹ Mount St. Helens National Volcanic Monument, 2008. Also, University of Washington School of Law, 2008.

²² Amy Tinderholt, May 2011.

²³ National Park Service budget justifications and University of Washington School of Law, 2008.

²⁴ National Park Service budget justifications.

Agency Commitment to Special Areas

The National Park Service budget process, management focus on protecting and providing access to special areas, and long experience with stewardship over America's natural and historical treasures, all suggest that the NPS may be more likely to sustain its investment in Valles Caldera National Preserve over time than the Forest Service might be.

Valles Caldera is currently funded as a separate line item in the USFS national budget. It is the only special management area that is funded outside the typical allocations for the national forest system as a whole.²⁵ The FY2012 budget submission to Congress steps back from this practice and eliminates this line item in favor of undesignated programmatic funding for the Preserve.

In 2009, a citizen advisory committee studying management options for Mount St. Helens National Monument noted with concern that about half of the budget of the Gifford Pinchot National Forest (which manages Mount St. Helens) had been reallocated to fire suppression.²⁶ This Mount St. Helens advisory group called for ensuring stable and sufficient funding for the Monument by making it a line item funded from the mandatory portion of the US Forest Service budget. Monument managers, the committee proposed, should report directly to the Regional Forester.

Further, the committee proposed using this new approach to managing Mount St. Helens as a model for other "special places" within the National Forest System, as "the current model has failed." Finally, the committee recommended Congressional oversight hearings as "an impetus for follow-up action, implementation, and funding."²⁷

Management Planning and Preserve Development

Valle Vidal National Preserve (described on p. 2), on the Carson National Forest north of Taos, New Mexico, illustrates a potential path of development for Valles Caldera under USFS management.

The level of development at Valle Vidal National Preserve is similar to Alternative 2 in the Valles Caldera Trust's Draft Public Access and Use Plan. This may be a potential "fallback" development approach for Valles Caldera, especially if management reverts to the Forest Service without dedicated funding. Valle Vidal came under USFS management before the downward trends in agency staffing and recreational funding outlined earlier in this report. With no staff dedicated to the Preserve, responsibilities have been divided up among existing staff. A forest recreation staff member expressed doubts about the Carson National Forest's ability to handle a similar acquisition at today's staff and funding levels.²⁸

Under Forest Service management, special areas like Valle Vidal and Valles Caldera are typically incorporated in forest plans, which are forest-wide and rarely updated despite major changes in legislation and budget priorities. In contrast, each NPS unit develops a separate general management plan. Like Forest Service plans, 15-20 years or more may pass before NPS general management plans are updated.

²⁵ U.S. Forest Service FY2011 Budget Justification.

²⁶ Mount St. Helens Advisory Committee. 2009. *Recommendations*.

²⁷ *ibid.*

²⁸ Mary Anne Alban, Carson National Forest Recreation Manager, telephone interview, April 2011.

Because of the timing of its acquisition, management direction for Valle Vidal was not incorporated in the 1986 Carson National Forest plan, and the Preserve has been managed under a 1983 Multiple-Use Area Guide. The process to develop a forest plan amendment addressing Valle Vidal was begun in 2005, in response to interest in oil and gas development on the Valle Vidal unit. However, the 2006 enactment of legislation to permanently block drilling and designate the Valle Vidal National Preserve took the pressure off, and other forest priorities moved ahead of management planning for the preserve.²⁹ The process has been on the back burner since then.

Conclusion: As in budgeting, NPS management is location-specific, while USFS management tends to be distributed by program area. An NPS priority would be developing a general management plan for the Valles Caldera, while comprehensive management planning is neither site-specific nor a high priority for the USFS.

Management Efficiencies

In Oregon, Newberry National Volcanic Monument is administered by the Bend-Fort Rock Ranger District of the Deschutes National Forest. Bend-Fort Rock is a strongly recreation-focused district, which receives more than three million recreation visits each year. With an extensive recreation management apparatus in place, the Ranger District was well positioned to assume management of the Monument when it was created in 1990. In fact, all of the extensive recreational facilities on the Monument predate the Monument's creation.³⁰ Few dedicated staff members are needed to operate the Monument, because existing recreation management staff can shoulder the bulk of the work, and extensive volunteer effort helps fill gaps.

In theory, similar management efficiencies could be gained by incorporating Valles Caldera National Preserve management into the Santa Fe National Forest. However, the entire Santa Fe National Forest receives less than half the annual recreation visits of the Bend-Fort Rock Ranger District. The forest lacks the fully developed "special area management" apparatus for implementing the kind of recreation management, interpretive and educational programming, and focused law enforcement that would be needed for proper management of Valles Caldera National Preserve. Further, although the Jemez Ranger District is increasing its emphasis on recreation in response to rising demand, it remains heavily focused on resource extraction and fire management.

Under National Park Service administration, Valles Caldera could reduce overhead by combining staff and management with neighboring Bandelier National Monument. Instead of having redundant positions, the Preserve and Monument could share managers in program areas such as safety, procurement, concessions, special use permits, and housing. Consolidating law enforcement and fire management could also boost efficiency and cut costs.

Operating the Preserve and Monument together would improve coordination between the sites. A seamless trail system could serve both sites, and common rules and procedures for overnight and backcountry camping and special use permitting could simplify visitor services. Both units would benefit from a consistent approach to resource management including exotic plant management, threatened and endangered species, and natural area monitoring.

²⁹ USDA Forest Service. 2009. National Forest System Briefing Paper: Carson National Forest (Valle Vidal). Carson National Forest, July 17, 2009.

³⁰ Shane Jeffries, Bend-Fort Rock District Ranger, Deschutes National Forest, telephone interview, May 2011.

Bandelier could also benefit from shared management by building capacity that is currently lacking at the Monument. For example, Bandelier has no trail crew, so the addition of a trail crew for the Preserve could help to support volunteer trail maintenance services at Bandelier. Together, the two units would tell a more complete geologic, cultural, and historical story than either the Monument or the Preserve is able to convey separately. Interpretive programming could be coordinated to create complementary programs and eliminate redundancy and conflicts between events. Interpretive staff could easily shift from one site to the other as needed.³¹

In addition, visitor safety and resource protection are likely to receive higher priority and more dedicated resources under NPS management than if the Preserve were managed by the Forest Service. On the Santa Fe National Forest, two law enforcement rangers patrol 1.6 million acres, divided into two sections by private land in the Rio Grande Valley. In contrast, Bandelier National Monument has two law enforcement rangers on staff to patrol its 34,000 acres, and it shares services of two additional law enforcement rangers funded by the US Department of Energy under a cooperative agreement.³² Providing adequate law enforcement at Valles Caldera is especially critical given the uncertain direction of off-road motorized vehicle use on the Santa Fe National Forest,³³ likely continuation of conflicts between motorized and non-motorized users, and a long history of motorized vehicle trespass into parks, wilderness, and other protected public lands in New Mexico and across the western United States.

Conclusion: NPS management would offer the benefit of a common agency mission and vision for the Preserve and adjacent Bandelier National Monument, focused on preservation, protection, and public enjoyment. Combined management would benefit both Valles Caldera and Bandelier. The Santa Fe National Forest is unlikely to give the Preserve the focused attention, staff, and protection it needs, and the Jemez Ranger District has broader commodity responsibilities and priorities that might conflict with the purposes of the Preserve.

³¹ Areas of management efficiency and benefits of consolidated NPS management based on an April 2011 telephone interview and personal communication with Jason Lott, Superintendent, Bandelier National Monument.

³² Bandelier National Monument information from Jason Lott, May 2011.

³³ The Santa Fe National Forest motorized vehicle use planning process was mandated in 2005. The Final Environmental Impact Statement and Record of Decision have been delayed and are now projected to be completed in August 2011. These documents will form the basis of a new motorized vehicle use map, which will govern motorized vehicle use on the forest, restricted to a system of designated roads, trails, and areas. For detail, see <http://www.fs.fed.us/r3/sfe/travelmgt/index.html>.

IV. CONCLUSION

Preservation and protection of the unique natural, archaeological, geological, and cultural resources of the Caldera, and public recreation access, are primary goals in the legislation that created Valles Caldera National Preserve. They are also central tenets underlying local community support for its establishment and operation.

This analysis suggests National Park Service management for the Preserve would best and most reliably advance those goals. A commitment to NPS management could also open the door to a more vital economic future for surrounding communities in a way that Forest Service management likely would not. Economic impacts from tourism are likely to be greater under NPS management than under USFS administration. Local businesses may have opportunities to do business with the park, operate concessions, and provide guide services.

While tourism is an important economic boon—bringing in more than \$6.1 billion to New Mexico annually³⁴—the value of the Preserve and other high-quality public lands is also inextricably linked to their attractiveness and the quality of life they support. Research on western counties has found a positive relationship between the proportion of protected public lands in a county—such as national parks, national monuments, and wilderness areas—and measures of prosperity, including growth in wages, personal income, and jobs. By itself, proximity to protected public lands is not sufficient to ensure economic growth, but the natural amenities and recreation opportunities these landscapes provide can be a key advantage in attracting entrepreneurs, businesses, retirees, and people with investment income.³⁵

Transferring Valles Caldera National Preserve to National Park Service management is the best way to build on the investment that the federal government and local communities have made in this important natural asset.

³⁴ Megan Kamerick. 2011. “Tourist traffic, spending up; jobs lag.” *New Mexico Business Weekly*, April 15, 2011.

³⁵ Ray Rasker, *et al.* 2008. *The Economy of the Gila Region*. Bozeman, Montana: Headwaters Economics. July, 2008. Also, Ray Rasker. 2006. “An exploration into the economic impact of industrial development versus conversation on western public lands.” *Society and Natural Resources*, Vol. 9. No. 3.

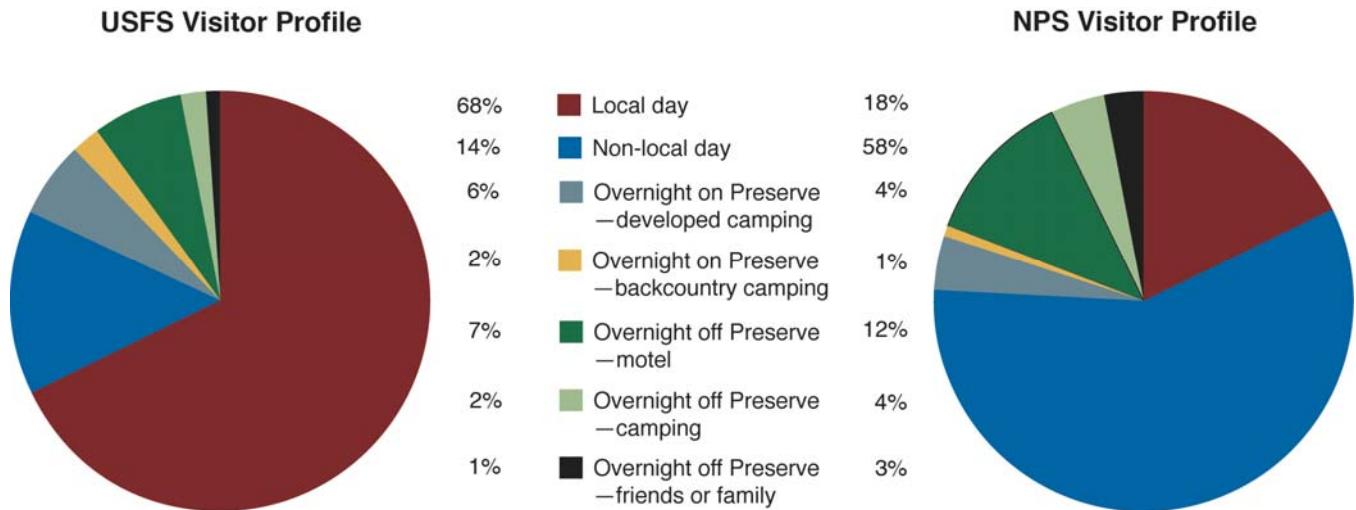
**APPENDIX A:
VISITATION MODELS FOR FOUR PRESERVE MANAGEMENT SCENARIOS**

	Scenarios			
	NPS Full Development	USFS Full Development	NPS "Bare Bones"	USFS Minimal Development
2016 Visitation	64,000	45,000	59,000	25,000
Justification for Visitation Projection	Based on an annual growth rate of 10%. Includes a "bump" of 10% of the annual visitation at Bandelier National Monument in 2015, the projected opening year of a new visitor center and other facilities.	Based on an annual growth rate of 10%. Includes a small "bump" of approximately 2.5% of the annual visitation at Bandelier National Monument in 2015, the projected opening year of a new visitor center and other facilities.	Based on an annual growth rate of 5%. Includes a "bump" of 10% of the annual visitation at Bandelier National Monument in 2015, the projected opening year of a new visitor center and other facilities.	Visitation is projected to fall from levels achieved under Trust management due to lack of visitor programming, then rise slowly. Estimates are greater than Valles Vidal National Preserve's 5,000-10,000 annual visitors because of Valles Caldera's proximity to population centers and other parks.
Visitor Party Size³⁶	2.6	2.6	2.6	2.6
Visitor Party Spending Per Day³⁷				
Local day	\$37			
Nonlocal day	\$53			
Developed camping in Preserve	\$68			
Backcountry camping in Preserve	\$38			
Overnight in motel outside the Preserve	\$172			
Overnight camping outside the Preserve	\$88			
Visiting friends or relatives	\$56			

³⁶ Visitor party size is assumed to be constant across USFS and NPS scenarios, and is based on a consideration of findings from visitor research across the National Forest and National Park Systems.

³⁷ Spending for different types of visitors is assumed to be constant across USFS and NPS scenarios. This visitor spending profile is based on NPS MGM2 average spending profiles for small resource-based parks. (See National Park Service Money Generation Model, version 2, at <http://web4.msue.msu.edu/mgm2/MGM2web.htm>.) Spending figures are consistent with USFS National Visitor Use Monitoring results (see Stynes and White, 2006) and visitor spending data collected for the Los Alamos Meeting and Visitor Bureau (see Research & Polling, Inc. 2000. Los Alamos Meeting & Visitor Bureau Hotel Guests Study Summary of Results. Albuquerque, New Mexico: Research & Polling, Inc. August 2000).

Visitor Profiles Used for National Park Service and US Forest Service Economic Impact Comparisons³⁸



³⁸ NPS visitor profile from Visitor Services Project. 1995. Bandelier National Monument Visitor Study. University of Idaho, Cooperative Park Studies Unit. USFS visitor profile based on USDA Forest Service. 2011. Visitor Use Report: Santa Fe US Forest Service Region 3 National Visitor Use Monitoring Data Collected FY 2009, February 2011.

APPENDIX B:

Valles Caldera National Preserve – Economic Impact & Scenario Analysis

June 2011

Produced by:

Aaron Sussman

Transportation Planner

Mid-Region Council of Governments

Introduction:

The Mid-Region Council of Governments (MRCOG) was requested to assess the economic impact associated with the conversion of Valles Caldera to NPS management. Valles Caldera National Preserve (VCNP) is a federally-owned 89,000 acre site with a range of outdoor recreational opportunities that is currently managed by the private Valles Caldera Trust. However, due to the inability to generate sufficient revenue and continue under private management Valles Caldera may be acquired by the National Park Service (NPS), pending Congressional action. NPS management provides the advantage of federal funds for development of additional visitor facilities and recognition as a nationally-significant site. The greatest economic contribution of the park is therefore expected to result from an increase in tourism.

Policy Insight (PI+) is an econometric model developed by Regional Economic Models, Inc. (REMI) that is customized to the middle Rio Grande region and provides year-to-year estimates of the economic impacts of a specific policy initiative or investment scenario. MRCOG used the PI+ economic model to quantify the benefits of the presence of the Valles Caldera National Reserve to the state of New Mexico. The results are presented in this report.

Considerations for Analysis of Valles Caldera National Preserve

The PI+ model is designed to assess the impact of projects within the MRCOG region (Bernalillo, Sandoval, Torrance, and Valencia Counties). This presents a challenge when attempting to determine the benefits of a project on New Mexico as a whole. The model is able to assign tourism spending to urban areas and employment and construction to rural areas (e.g. unincorporated Sandoval County) within the region, approximating the expected distribution of benefits and impacts from VCNP. Overall results should be interpreted as a series of benefits to the state, and the central New Mexico region in general, with resulting gains in employment and economic output dispersed across the Albuquerque and Santa Fe metropolitan areas.

Methodology

The purpose of this report is to consider the overall net impact of Valles Caldera National Preserve on the New Mexico economy once future employment, construction, and visitor impacts are accounted for. In other words, it is a snapshot of the benefits associated with the Preserve. It is not intended to determine the differential effect between current use and productivity generated by Valles Caldera and future impacts. Such analysis requires a series of assumptions based on patterns observed elsewhere. The proximity of VCNP to Bandelier National Monument allows for comparison to an established National Park which can be used as an example by which to measure future visitor patterns. Although the VCNP is not expected to attain the same visitation levels as Bandelier, it is reasonable to assume that VCNP would “capture” a large number of future visitors to Bandelier and to the City of Santa Fe.

The economic impact of VCNP is the result of three factors: 1) construction; 2) full-time employment; 3) visitor spending. As with most tourism sites, the greatest economic impact is the result of the influx of out-of-state visitors and the spending associated with their stay (lodging, accommodation, transportation, etc.).

It is important to make clear that this analysis does not consider the economic impact derived from spending by New Mexico residents as part of a visit to Valles Caldera. The reason is that the PI+ model does not consider local tourism spending as an introduction of new or additional dollars into the local economy. Rather, local spending associated with Valles Caldera is assumed to already occur at other locations. While local dollars are redistributed around the economy, there is no net gain or additional benefit derived. Instead, the PI+ model recognizes the introduction of external spending associated with visitors from outside of the state of New Mexico.

While it is unlikely that many out-of-state tourists will travel to New Mexico exclusively to visit VCNP, it is likely that the opportunity to visit Valles Caldera would affect the duration of the stay, as well as the decision to visit New Mexico in the first place. This analysis measures the impact of the visitors who make on average a full-day visit to the park and for whom one day of their larger visit to New Mexico is associated with Valles Caldera.³⁹

Scenarios

A total of four impact scenarios were considered (low, low-medium, high-medium, and high), with the title of each referring to the projected visitation level. Some of the characteristics of VCNP are known or can be estimated with a reasonable degree of certainty and are therefore held constant in each of the scenarios. These include the number of employees and wages as well as construction costs for Preserve facilities. The key variable, and the greatest unknown, is the number of visitors.

This analysis considers a range of visitor growth rate and visitorship totals between 90,000 and 150,000 by analysis Year 15 (2026). All scenarios assume fairly low initial visitor totals – the park had only 25,000 visitors in 2010 – since the facilities at the Preserve will be minimal. However these totals are expected to grow consistently over time.

Assumptions

- The impact of VCNP will be reported over a 15-year modeling period
- Valles Caldera National Preserve opens as a National Park Service (NPS) operation in Year 1 (2012)
- Construction costs total \$25 million spread over a five-year period (2012: \$1 million; 2013: \$2 million; 2014: \$5 million; 2015: \$12 million; 2016: \$5 million)
- Year 4 (2015) features the construction of a full visitor center
- Revenue generated by the park itself – such as fees and merchandise – is considered part of operations and maintenance and is not explicitly considered in this analysis
- The impact of gross receipts tax revenue from VCNP and state income tax revenue are not considered as part of this analysis
- VCNP will include a total staff of 40 full-time employees. The number will remain constant over the span of the study.
- Full-time employee positions are funded by the National Park Service
- Payroll for the Preserve is \$3.2 million including wages and benefits (2011 dollars)
- Operating expenses are \$800,000 per year (2011 dollars)
- Wages and operating expenses increase at the projected national rate of inflation (approximately 2-3% per year)

³⁹ The raw count of visitors may actually be higher than is projected - many may stop along the outskirts of the Preserve without entering or spending a quantifiable amount of time at the site.

- Approximately 26,000 visitors in 2011, the year before transition to NPS management
- Visitation will increase by 5-10% over the first seven years of NPS management and 3-5% in subsequent years for a total of 90,000-150,000 by Year 15 (2026)
- Visitors to the Preserve arrive in parties with an average size of 2.6 persons

Visitation and Tourism Spending

Annual visitor estimates to VCNP are based on data provided by the National Park Service. The characteristics of visitors to VCNP are derived from surveys and visitor patterns observed at nearby Bandelier National Monument and assumptions about the rate of increase in visitorship to the Preserve over time.

- 70% of the visitors are from outside of New Mexico (non-local)
 - 65% of the visitors are non-local and stay outside of the Preserve
 - 5% of the visitors are non-local and stay inside the Preserve (developed or backcountry camping)
- 30% of the visitors are New Mexico residents (local)

Non-local visitors who stay outside of VCNP (i.e. do not camp) are expected to spend **\$172.48 per party** per day on expenditures includes food, accommodation, and transportation. Non-local visitors who stay inside of VCNP (i.e. camping in designated areas or backcountry) spend **\$67.85 per party** per day on expenditures includes food, accommodation, and transportation.

This analysis assumes that each party spends an average of one full day visiting the Preserve. It is not assumed that Valles Caldera is the sole reason for non-local visits to New Mexico. The analysis therefore does not consider the expenditures of the visitors during their entire stay in New Mexico, but the part of the trip which can be attributed to a visit to the Preserve.

Results

Full results can be found in Tables I-VIII in Appendix 1. When considering the results it is important to understand that employment figures are independent annual values and should not be added from one year to the next. By contrast, financial variables are independent for each individual year and may be added to determine the cumulative economic impact over time.

The scenarios reveal relatively small differences in impacts in the first five years of NPS management (the difference in full-time employment positions between the low and high scenarios is less than five for each year). The impact of construction and direct employment is constant and visitor levels are still relatively small. However the differences between the scenarios become more apparent in later analysis years as visitor totals diverge. Overall, the presence of VCNP accounts for a significant employment increase relative to the number of individuals directly employed by the Preserve. In addition to the 40 permanent employees, the induced employment ranges from 52 additional full-time jobs in Year 15 (2026) in the low scenario to 77 jobs in the high scenario.

Construction has a major impact short-term as 60% of the economic output generated by Valles Caldera in Year 4 is in the construction sector. Employment levels also peak in Year 4, due to a combination of increasing visitor totals over time and the effect on short-term employment of \$12 million for the construction of a visitor center (see Table V). As with many projects, the employment impact wanes as spending on construction decreases; the number of full-time positions created by construction drops from a high of 118 in Year 4 and a total of 48 positions in Year 5 to just one full-time position in Year 6 (see Table VIII). In other words, there is almost no residual effect from construction jobs beyond the year in which spending occurs.

As visitor levels rise in later analysis years, the difference in impacts between the scenarios becomes clear. The final analysis year (2026) also provides a reasonable assessment of the long-term impact of VCNP on New Mexico's economy. By this time the short-term effects of construction have cycled through the economy and the greatest impact can be observed in tourism-related sectors (e.g. transportation and warehousing; arts, entertainment, and recreation; and accommodation and food services. See Table VI.). The fact that the greatest effects on the economy are felt in tourism-related sectors confirms that the visitor levels are crucial for understanding the range of benefits derived from Valles Caldera National Preserve.

The range of impacts can be observed for other key economic indicators. By Year 15, *gross regional product* (GRP) for the state of New Mexico is \$4.2 million in the low scenario and \$5.8 million in the high scenario, while the total *gross output* for the region ranges from \$6.7 to \$9.2 million. The contribution of VCNP to *real disposable personal income* for New Mexico residents – the after tax, inflation adjusted income – is \$5.3 million in the low income scenario in Year 15 and \$6.1 million in the high scenario. Cumulatively, the presence of the Preserve accounts for \$68.1-78.7 million in GRP over the course of the 15-year period and \$110.7-128 million in output.

Appendix 1: Results Tables

Table I: Low Scenario

Category	Units	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10	Year 15	Cumulative
		2012	2013	2014	2015	2016	2021	2026	2012-2026
Total Employment	Units	80	92	123	200	132	87	92	n/a
Direct Employment	Units	40	40	40	40	40	40	40	n/a
Induced Employment	Units	40	52	83	160	92	47	52	n/a
Gross Regional Product	Millions (2011 Dollars)	\$3.2	\$4.0	\$6.0	\$10.9	\$6.5	\$3.6	\$4.2	\$68.1
Output	Millions (2011 Dollars)	\$5.4	\$6.7	\$10.1	\$18.5	\$10.8	\$5.7	\$6.7	\$110.7
Real Disposable Personal Income	Millions (2011 Dollars)	\$3.0	\$3.6	\$5.0	\$8.0	\$5.9	\$4.7	\$5.3	\$73.1
Wage and Salary Disbursements	Millions (2011 Dollars)	\$4.0	\$4.8	\$6.5	\$10.6	\$7.8	\$6.0	\$7.2	\$96.4

Table II: Low-Medium Scenario

Category	Units	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10	Year 15	Cumulative
		2012	2013	2014	2015	2016	2021	2026	2012-2026
Total Employment	Units	81	94	125	202	135	90	95	n/a
Direct Employment	Units	40	40	40	40	40	40	40	n/a
Induced Employment	Units	41	54	85	162	95	50	55	n/a
Gross Regional Product	Millions (2011 Dollars)	\$3.3	\$4.1	\$6.1	\$11.0	\$6.7	\$3.8	\$4.4	\$70.5
Output	Millions (2011 Dollars)	\$5.4	\$6.8	\$10.3	\$18.7	\$11.0	\$6.0	\$7.0	\$114.6
Real Disposable Personal Income	Millions (2011 Dollars)	\$3.0	\$3.7	\$5.0	\$8.1	\$6.0	\$4.8	\$5.4	\$74.7
Wage and Salary Disbursements	Millions (2011 Dollars)	\$4.0	\$4.9	\$6.6	\$10.7	\$7.9	\$6.2	\$7.4	\$98.5

Table III: High-Medium Scenario

Category	Units	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10	Year 15	Cumulative
		2012	2013	2014	2015	2016	2021	2026	2012-2026
Total Employment	Units	81	94	125	202	135	92	102	n/a
Direct Employment	Units	40	40	40	40	40	40	40	n/a
Induced Employment	Units	41	54	85	162	95	52	62	n/a
Gross Regional Product	Millions (2011 Dollars)	\$3.3	\$4.1	\$6.1	\$11.0	\$6.7	\$3.9	\$4.8	\$72.3
Output	Millions (2011 Dollars)	\$5.4	\$6.8	\$10.3	\$18.7	\$11.0	\$6.2	\$7.7	\$117.5
Real Disposable Personal Income	Millions (2011 Dollars)	\$3.0	\$3.7	\$5.0	\$8.1	\$6.0	\$4.9	\$5.7	\$75.7
Wage and Salary Disbursements	Millions (2011 Dollars)	\$4.0	\$4.9	\$6.6	\$10.7	\$7.9	\$6.3	\$7.9	\$100.3

Table IV: High Scenario

Category	Units	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10	Year 15	Cumulative
		2012	2013	2014	2015	2016	2021	2026	2012-2026
Total Employment	Units	81	94	125	202	136	103	117	n/a
Direct Employment	Units	40	40	40	40	40	40	40	n/a
Induced Employment	Units	41	54	85	162	96	63	77	n/a
Gross Regional Product	Millions (2011 Dollars)	\$3.3	\$4.1	\$6.1	\$11.0	\$6.7	\$4.6	\$5.8	\$78.7
Output	Millions (2011 Dollars)	\$5.4	\$6.8	\$10.3	\$18.7	\$11.1	\$7.3	\$9.2	\$128.0
Real Disposable Personal Income	Millions (2011 Dollars)	\$3.0	\$3.7	\$5.0	\$8.1	\$6.1	\$5.2	\$6.1	\$78.8
Wage and Salary Disbursements	Millions (2011 Dollars)	\$4.0	\$4.9	\$6.6	\$10.7	\$8.0	\$6.9	\$8.9	\$106.5

Table V: Comparison – Low and High Scenarios

Category	Units	2012 (Year 1)		2013 (Year 2)		2014 (Year 3)		2015 (Year 4)	
		Low	High	Low	High	Low	High	Low	High
Total Employment	Units	80	81	92	94	123	125	200	202
Direct Employment	Units	40	40	40	40	40	40	40	40
Induced Employment	Units	40	41	52	54	83	85	160	162
Gross Regional Product	Millions (2011 Dollars)	\$3.2	\$3.3	\$4.0	\$4.1	\$6.0	\$6.1	\$10.9	\$11.0
Output	Millions (2011 Dollars)	\$5.4	\$5.4	\$6.7	\$6.8	\$10.1	\$10.3	\$18.5	\$18.7
Real Disposable Personal Income	Millions (2011 Dollars)	\$3.0	\$3.0	\$3.6	\$3.7	\$5.0	\$5.0	\$8.0	\$8.1
Wage and Salary Disbursements	Millions (2011 Dollars)	\$4.0	\$4.0	\$4.8	\$4.9	\$6.5	\$6.6	\$10.6	\$10.7

Category	Units	2016 (Year 5)		2021 (Year 10)		2026 (Year 15)		Cumulative	
		Low	High	Low	High	Low	High	Low	High
Total Employment	Units	132	136	87	103	92	117	n/a	n/a
Direct Employment	Units	40	40	40	40	40	40	n/a	n/a
Induced Employment	Units	92	96	47	63	52	77	n/a	n/a
Gross Regional Product	Millions (2011 Dollars)	\$6.5	\$6.7	\$3.6	\$4.6	\$4.2	\$5.8	\$68.1	\$78.7
Output	Millions (2011 Dollars)	\$10.8	\$11.1	\$5.7	\$7.3	\$6.7	\$9.2	\$110.7	\$128.0
Real Disposable Personal Income	Millions (2011 Dollars)	\$5.9	\$6.1	\$4.7	\$5.2	\$5.3	\$6.1	\$73.1	\$78.8
Wage and Salary Disbursements	Millions (2011 Dollars)	\$7.8	\$8.0	\$6.0	\$6.9	\$7.2	\$8.9	\$96.4	\$106.5

Table VI: Percentage of Total Output by Sector (Low and High Scenarios)

Sector	2012 (Year 1)		2013 (Year 2)		2014 (Year 3)		2015 (Year 4)		2016 (Year 5)		2021 (Year 10)		2026 (Year 15)	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Construction	23%	23%	34%	34%	50%	49%	60%	60%	47%	46%	12%	12%	11%	11%
Retail Trade	7%	7%	7%	7%	6%	6%	5%	5%	7%	8%	14%	14%	14%	14%
Transportation and Warehousing	2%	2%	2%	2%	1%	1%	1%	1%	2%	2%	4%	5%	4%	5%
Real Estate & Rental and Leasing	4%	4%	4%	4%	3%	3%	3%	3%	3%	4%	4%	4%	4%	5%
Health Care & Social Assistance	6%	6%	5%	5%	4%	4%	4%	4%	4%	4%	5%	5%	6%	5%
Arts, Entertainment, & Recreation	34%	34%	27%	27%	18%	18%	10%	10%	17%	17%	35%	28%	31%	23%
Accommodation & Food Services	9%	9%	8%	8%	6%	6%	5%	6%	9%	10%	20%	22%	19%	21%
Other	14%	15%	13%	13%	12%	12%	11%	11%	10%	10%	6%	10%	11%	15%

Table VII: Visitor Totals by Scenario

Year	Low Scenario		Low-Medium Scenario		High-Medium Scenario		High Scenario	
	Visitors	Growth Rate	Visitors	Growth Rate	Visitors	Growth Rate	Visitors	Growth Rate
2012	27,720	5%	29,040	10%	29,040	10%	29,040	10%
2013	29,106	5%	31,944	10%	31,944	10%	31,944	10%
2014	30,561	5%	35,138	10%	35,198	10%	35,198	10%
2015	53,561	*	58,138	*	58,138	*	58,138	*
2016	58,917	10%	63,952	10%	63,952	10%	66,859	15%
2017	64,809	10%	70,347	10%	70,347	10%	76,888	15%
2018	71,290	10%	77,382	10%	77,382	10%	88,421	15%
2019	73,429	3%	79,704	3%	81,251	5%	101,684	15%
2020	75,632	3%	82,095	3%	85,314	5%	107,491	6%
2021	77,900	3%	84,558	3%	89,579	5%	113,630	6%
2022	80,238	3%	87,094	3%	94,058	5%	120,119	6%
2023	82,645	3%	89,707	3%	98,761	5%	126,979	6%
2024	85,124	3%	92,398	3%	103,699	5%	134,231	6%
2025	87,678	3%	95,170	3%	108,884	5%	141,896	6%
2026	90,000	3%	98,025	3%	114,328	5%	150,000	6%

*All scenarios include a jump in visitors of 23,000, equal to 10% of the total visitorship to nearby Bandelier National Monument. This coincides with the projected opening of the Preserve Visitor Center in 2015.

Tourism spending is a function of the number of parties that visit the Preserve, rather than the total number of visitors. The average party size is 2.6 persons. Tourism spending is calculated by taking the number of non-local parties that visit the park and applying a per-day, per-party set of expenditures.

Table VIII: Magnitude of Impact on Employment and Output by Source

	Category	Units	2012	2013	2014	2015	2016	2021	2026	Cumulative
Totals Derived from Tourism Spending Alone	Employment - Low Scenario	Units	15	16	17	28	31	36	39	n/a
	Employment - High Scenario	Units	16	18	20	31	35	52	64	n/a
	Output - Low	Millions (2011 Dollars)	\$1.2	\$1.3	\$1.4	\$2.4	\$2.7	\$3.5	\$3.9	\$38.88
	Output - High	Millions (2011 Dollars)	\$1.3	\$1.5	\$1.6	\$2.6	\$3.0	\$5.0	\$6.5	\$54.20
Totals Derived from Construction Alone	Total Employment	Units	11	22	52	118	48	-1	1	n/a
	Output	Millions (2011 Dollars)	\$1.2	\$2.4	\$5.7	\$13.2	\$5.3	-\$0.5	-\$0.1	\$24.73
Overall Totals	Employment - Low Scenario	Units	80	92	123	200	132	87	92	n/a
	Employment - High Scenario	Units	81	94	125	202	136	103	117	n/a
	Output - Low	Millions (2011 Dollars)	\$5.4	\$6.7	\$10.1	\$18.5	\$10.8	\$5.7	\$6.7	\$110.7
	Output - High	Millions (2011 Dollars)	\$5.4	\$6.8	\$10.3	\$18.7	\$11.1	\$7.3	\$9.2	\$128.0

Appendix 2: Key Terms

Real Disposable Personal Income (a.k.a. After-Tax Income): The disposable money earned by workers after taxes and adjusted for inflation. Disposable personal income equals personal income minus personal taxes.

Gross Regional Product: The newly created market value of goods and services produced by labor and property in the region due to a new industry or development scenario. This represents the value of all *final* goods and services and does not include intermediate demands.

Output: The total sum of all goods and services related to the new economic activity generated by the new industry or development scenario. This is a *cumulative* value in that it includes intermediate processes that support the production of final goods and services.

Wage and Salary Disbursements: Wage and Salary Disbursements are the monetary compensation of employees; commissions, tips, and bonuses; voluntary employee contributions to certain deferred compensation plans, such as 401(k) plans; and receipts in kind that represent income.