Adam Charles Mednick

Estimated Economic Impacts of the 1995-96 U.S. National Park Shutdowns

Introduction

The 374 units of the U.S. National Park System preserve America's most beautiful and beloved places, its cultural heritage, and its natural wonders. They are storehouses of priceless treasures. They are, in addition, the economic lifeblood of park gateway communities across the country. With over 269 million visits in 1995 alone (National Park Service 1996a), national parks play a key role in the massive U.S. travel and tourism industry. In 1995, this industry generated an estimated $440 billion worth of business receipts, 6.6 million jobs, and a $19.5 billion trade surplus with foreign markets (Tourism Works for America Council 1996).

According to in-flight surveys conducted by U.S. Travel and Tourism Administration (1996), 23.5% of all visitors to the United States in 1995 (approximately 10.2 million people) planned to visit one or more national parks. Indeed, many business owners in park gateway communities viewed the loss of foreign visitors as one of the most devastating impacts of the 1995-96 U.S. national park shutdowns (National Parks and Conservation Association 1996).

Visitors to U.S. national parks are particularly important to certain regional and state economies. Foreign and out-of-state visitors to Utah, for instance, generated an estimated $3.5 billion in state-wide sales in 1995 (10% of the gross state product), supporting roughly 73,000 jobs (Utah Tourism Commission 1996). Of this, out-of-state visitors to Utah's thirteen national parks were responsible for an estimated $684 million in state-wide sales, supporting over 17,000 jobs (see Appendix A).

However, such figures reveal little about the role that U.S. national parks play locally, within their surrounding economies. Soden (1995) identified a widespread perception shared among park managers and neighboring business interests that national parks provide significant economic benefits to their gateway communities. Any doubts that local residents may have had regarding these contributions were likely dispelled when the U.S. National Park System was shut down twice between November 14, 1995, and January 6, 1996. Brought about by an extended budget impasse between Congress and the president, the two shutdowns lasted a total of 26 days and exacted a heavy economic toll.

Scope

This paper represents a follow-up to the investigation conducted by the National Parks and Conservation Association into the effects of the 1995-96 U.S. national park shutdowns (NPCA 1996). The NPCA study was made possible by a grant from Ambassador L.W. "Bill" Lane, Jr. It focused primarily on the personal accounts of business owners, employees, and civic leaders in gateway communities surrounding nine national parks, which are also covered here: California's Yosemite, Joshua Tree, and Death Valley national parks; Florida's Everglades and Dry Tortugas national parks; Arizona's Grand Canyon National Park; Nevada's Lake Mead National Recreation Area; and Utah's Zion and Bryce Canyon national parks (see Figure 1). Here, a greater emphasis has been placed on the estimated direct sales impacts of the shutdowns, rather than on personal accounts. Impact estimates have also been re-calculated using previously unavailable visitation data and visitor expenditure data from an alternative source (see Appendix B).

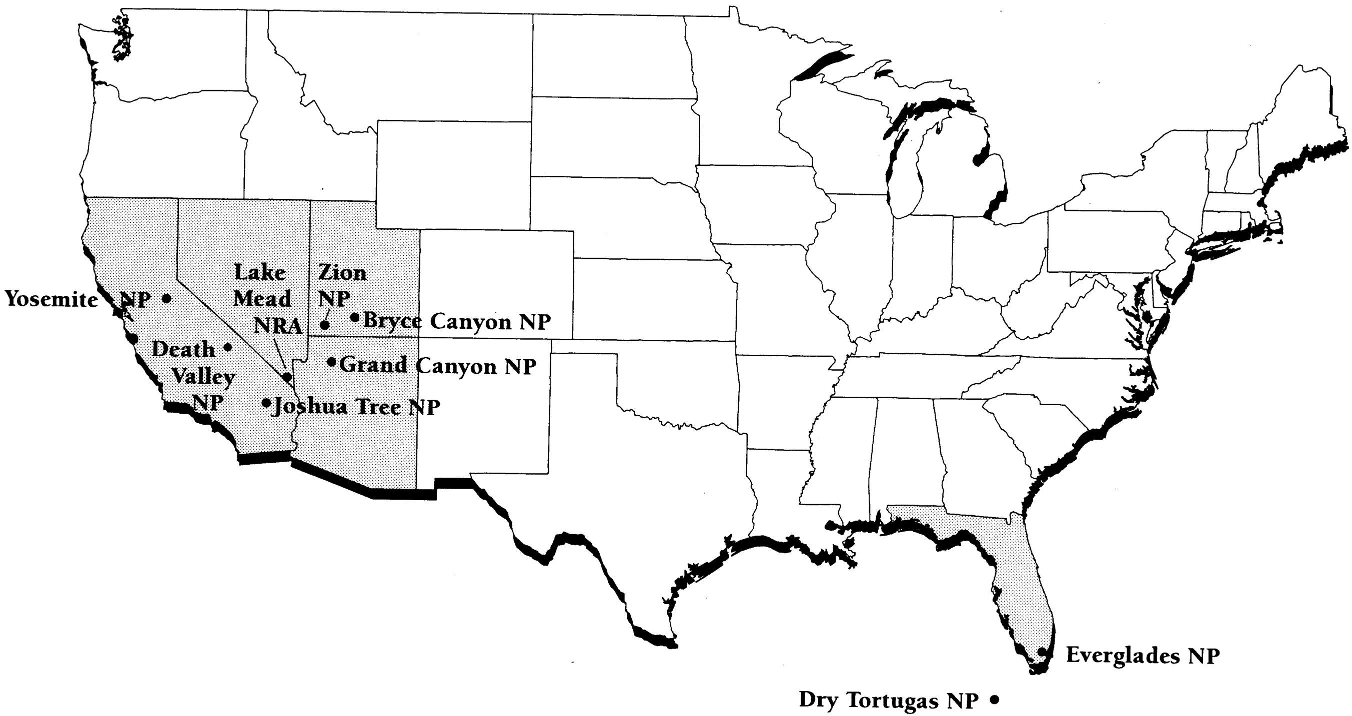
Methodology

In order to estimate the direct sales impacts of the shutdowns, a methodology was devised based on the National Park Service's Money Generation Model, or "MGM." Since 1982, the MGM has provided a basic means for estimating the regional economic impact of national parks, including impacts on sales, employment, and tax revenues (National Park Service 1996b; Hornback 1996). Normally, direct sales impacts are estimated by multiplying a park's total non-local recreation-visitor-days by the average daily expenditure of its individual visitors. A *recreation-visitor-day* is defined as the presence of one or more visitors in a park for continuous, intermittent, or simultaneous periods aggregating 12 hours (National Park Service 1996a).

For this investigation, impact estimates were calculated using the recreation-visitor-days and average daily expenditures of people who *would have* visited the parks were it not for the shutdowns. Visitation shortfalls were determined using monthly visitation data provided by the National Park Service Public Use Statistics Program Center. At certain parks, recorded visitation increased from the previous year for one or more of the months in which the shutdowns occurred. Where this was the case, monthly visitation totals were not included in the study (see Table 1).

Non-local visitor-days were determined by multiplying monthly visitation shortfalls by the estimated percentage of non-local use, as it appears in the 1996 MGM (see Table 1). These percentages were determined on a park-by-park basis, using staff estimates, license plate surveys, visitor interviews, and information provided by local travel and tourism groups (National Park Service 1996b).

Study Areas



Yosemite NP
Lake Mead NRA
Zion NP
Bryce Canyon NP
Death Valley NP
Grand Canyon NP
Joshua Tree NP
Everglades NP
Dry Tortugas NP

Table 1. Study Results

Study Area[1]	State	Est. Percent Non-Local Visitation	Period	Visitor Days	Visits	Avg. Visitor Expenditure	Est. Direct Sales Impacts
Yosemite NP	California	0.95	Dec./Jan.	-139,201	-74,684	$ 56.00/day	-$ 7,405,493
Joshua Tree NP	California	0.74	Nov.-Jan.	-38,113	-69,551	$ 25.17/visit	-$ 1,295,443
Death Valley NP	California	1.00	Nov.	-12,957	6,479	$ 56.00/day	-$ 725,592
Everglades NP	Florida	0.90	Nov.-Jan.	-21,034	-68,319	$ 54.25/day	-$ 1,026,985
Dry Tortugas NP	Florida	1.00	Nov.-Jan.	-3,739	-274	$ 54.25/day	-$ 202,841
Grand Canyon NP	Arizona	1.00	Nov./Dec.	-51,765	-37,442	$ 52.75/day	-$ 2,730,604
Lake Mead NRA	Nevada	0.50	Dec.	-69,755	-76,782	$ 52.00/day	-$ 1,813,630
Zion NP	Utah	0.68	Jan.	-4,452	-1,938	$ 53.66/visit	-$ 70,715
Bryce Canyon NP	Utah	0.68	Nov./Dec.	-750	-6,744	$ 36.03/visit	-$ 165,230

1. "NP" refers to national parks. "NRA" refers to national recreation areas.

Finally, total non-local visitor-days were multiplied by average daily visitor expenditures to give the direct sales impacts. In the absence of park-specific data, daily expenditures were derived from the results of statewide surveys conducted by the American Automobile Association (AAA 1996). These figures represent the average daily cost of food and lodging for car vacationers within each of the five states included in this study (see Table 1). These figures do not account for money spent on outdoor equipment, souvenirs, or fuel.

While no formal attempt was made to define economic impact areas, we can reasonably assume that the direct sales impacts estimated here extend beyond the parks' boundaries into their gateway communities. This is due to the fact that recreation-visitor-days represent 12 hours spent in a park, while average daily expenditures account for money spent during full 24-hour days. Presumably, this includes money spent in gateway communities on the way to and from the parks.

A slightly different method was used for Joshua Tree, Zion, and Bryce Canyon national parks. Average daily expenditures were replaced with estimates for average expenditures *per visit.* These were obtained from surveys conducted by the National Park Service Visitor Services Project (Machlis 1992; 1993; 1994). Average per-group expenditures for food, lodging, travel, and "other" were totaled, adjusted for inflation, and divided by average group size. The resulting expenditure figures allowed for impact estimation based on recreation visits, rather than recreation-visitor-days (see Table 1).

Yosemite National Park, California. Ground zero for the economic impact of the shutdowns was Mariposa County, California, home of Yosemite National Park. One in four adults temporarily lost their jobs, while the county lost up to $10,000 a day in sales tax revenue (U.S. Department of the Interior 1995). Due to the shutdowns, December visitation to the park was down 28% from 1994 (over 74,000 fewer visits). Visitor-days were down 42%, leading to an estimated loss of $7.4 million in direct sales in and around the park (see Table 1).

NPCA visited four gateway communities outside of Yosemite for its 1996 study: El Portal (population 630), Fish Camp (100), Mariposa (1,500), and Oakhurst (13,000). Located just outside of Yosemite's two southern entrances, El Portal and Fish Camp rely almost exclusively on park visitors. Twenty miles southwest of the park, Mariposa claims one hotel room for every two residents. Oakhurst is located twenty-nine miles southeast of Mariposa, in neighboring Madera County (see Figure 2).

- *Jim Houtz, owner, Cedar Lodge and Parkline Restaurants, El Portal, California. Estimated loss: $40,000-50,000.* "We put about 50 people on unemployment. It

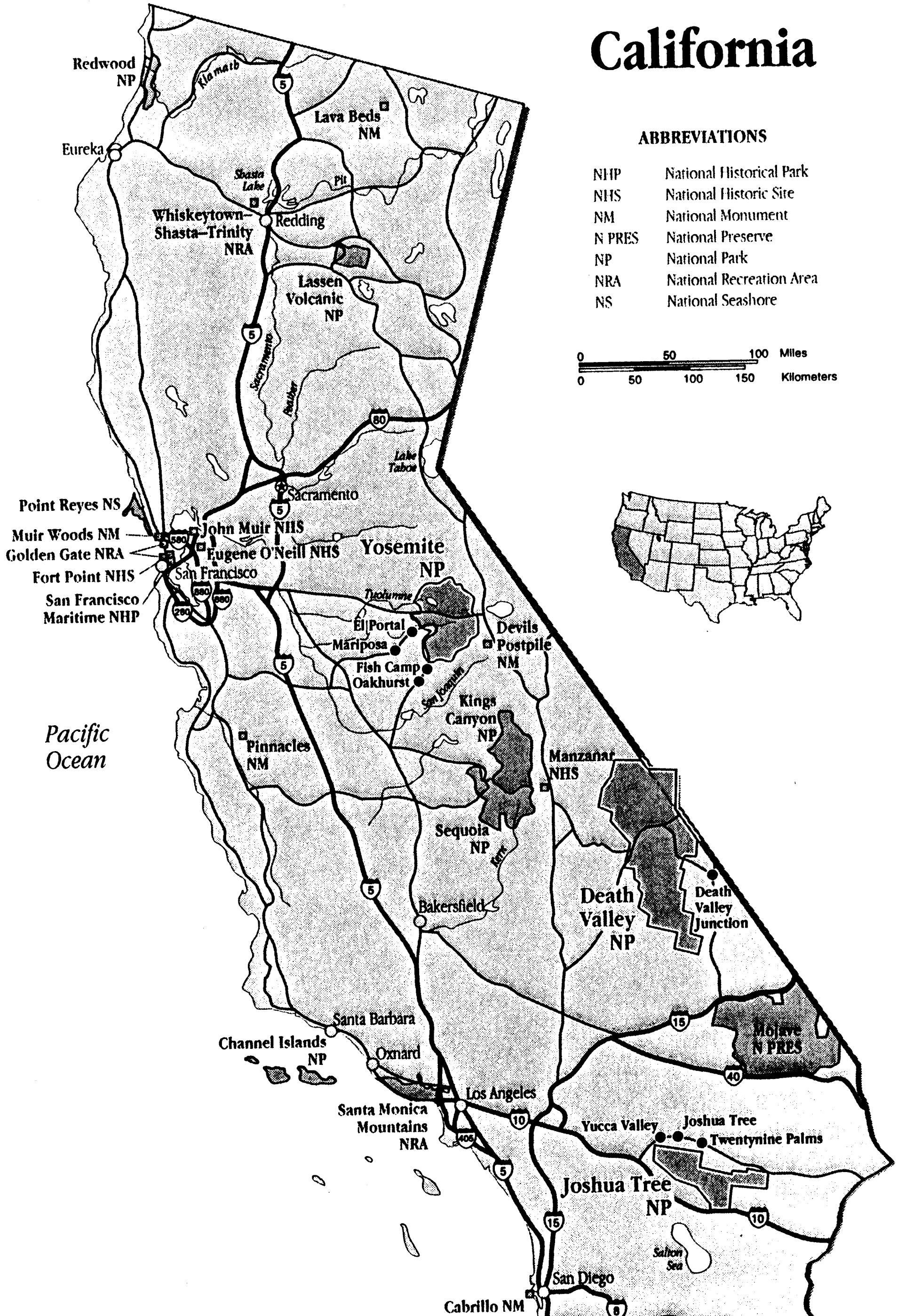


Figure 2. California Study Areas

was pretty rough. The part that hurt us the worst was putting those people on unemployment when they were trying to put away for the winter...."

- *Gilbert Ghyselinck, owner, Yosemite Gateway Inn, Oakhurst, California. Estimated loss: $45,000.* "That Christmas and New Year's shutdown was the toughest on us. We're close to full that time of year—90% occupancy. I think we barely made 50%..." (NPCA 1996).

Joshua Tree National Park, California. Joshua Tree was in the midst of a year-long visitation boom when the first shutdown hit in November. Due to area's re-designation from National Monument to National Park in late 1994, visitation was up by nearly 10%. However, the shutdowns caused November-through-January visitation to drop by 27% (69,551 fewer visits), leading to an estimated loss of nearly $1.3 million in direct sales (see Table 1).

NPCA visited three communities outside of Joshua Tree for its 1996 study: Yucca Valley (population 13,700), Joshua Tree (4,000), and Twentynine Palms (11,800). These three communities provide virtually all of the area's visitor accommodations, as there are no private concessionaires within the park itself (see Figure 2).

- *Cheryl Tyler, manager, Oasis of Eden Inn, Yucca Valley, California. Estimated loss: $30,000.* "It really killed us. They were canceling as fast as they could get on the phone. People booked for five days. They stayed one night and left. We lost half our business" (NPCA 1996).

Death Valley National Park, California. Hardest hit during the closure of Death Valley National Park were private concessionaires within the park. Some local motels actually experienced a one-day boom when the park's 1,500 campsites emptied out. However, a 10% decrease in November recreation-visitor-days led to an overall estimated loss of $725,000 in direct sales both in and around the park (see Table 1).

- *Lora Novak, manager, Amargosa Opera House, Death Valley Junction, California.* "We had a bunch of very unhappy campers out here the first time. We were right on their escape trajectory. They just left the area. It was a mass exodus..." (NPCA 1996).

Everglades National Park, Florida. Everglades National Park normally receives over 200,000 visits between November 1 and January 31. Thus, the shutdowns coincided with one of the park's busiest periods, resulting in a loss of over 68,000 visits. Recreation-visitor-days fell by 17% from November through January, leading to an estimated loss of $1.03 million in direct sales in and around the park.

NPCA visited four communities just outside of Everglades National Park for its 1996 study: Florida City (population 5,800), Homestead (26,800), Everglades City (500 year-round), and Islamorada (1,220). Together, Florida City and Homestead serve as the Everglades' eastern gateway, while Everglades City is the park's western water entrance. Islamorada, on the park's southeastern boundary, is home to roughly seventy-five professional fishing guides (see Figure 3).

- *Captain Bob Reineman, fishing guide, Bud 'n' Mary's Fishing Marina, Islamorada, Florida. Estimated loss: $3,250-3,900.* "It hurt the hell out of us. It stopped backcountry fishing almost completely—80 percent. I lost 10 to 12 trips at $325 a day. Multiply that by 50 to 60 guides. Plus they buy bait and gas. It had an effect on everyone" (NPCA 1996).

Dry Tortugas National Park, Florida. Seventy miles to the east of Dry Tortugas National Park lies Key West (population 25,000) (see Figure 3). For the majority of the park's visitors, Key West's professional boat and seaplane operators provide the only means of access to Dry Tortugas. Thus, boat and seaplane operations felt the brunt of the shutdowns' impacts. November through January saw recreation-visitor-days drop by 53%, leading to an estimated loss of over $200,000 in direct sales (see Table 1).

- *Capt. Alan G. "Jerry" Hill, owner, The Yankee Fleet, Key West, Florida. Estimated minimum loss: $68,250.* "There are five people on the ship and three others on land. Several went on unemployment. Others would have but it was so day to day. Everybody was hanging by their teeth" (NPCA 1996).

Grand Canyon National Park, Arizona. Even though its peak visitation occurs in the summer, Grand Canyon National Park continues to receive upwards of 150,000 visits per month during the winter. Despite an agreement between Arizona and the federal government to keep a portion of the Canyon's South Rim open, the park received 37,000 fewer visits in November and December. Visitor-days dropped by 11%, leading to an estimated loss of $2.7 million in direct sales in and around the park (see Table 1).

NPCA visited three communities outside of Grand Canyon National Park for its 1996 study: Tusayan (population 350), Williams (2,700), and Flagstaff (55,000). Tusayan is located just one mile outside of the park's busy south entrance. Williams lies nearly 60 miles to the south., yet its main streets are lined with hotels and restaurants catering to park visitors. Flagstaff is located twenty miles east of Williams (see Figure 4).

- *Thomas Kelley, executive director, Williams-Grand Canyon Cham-*

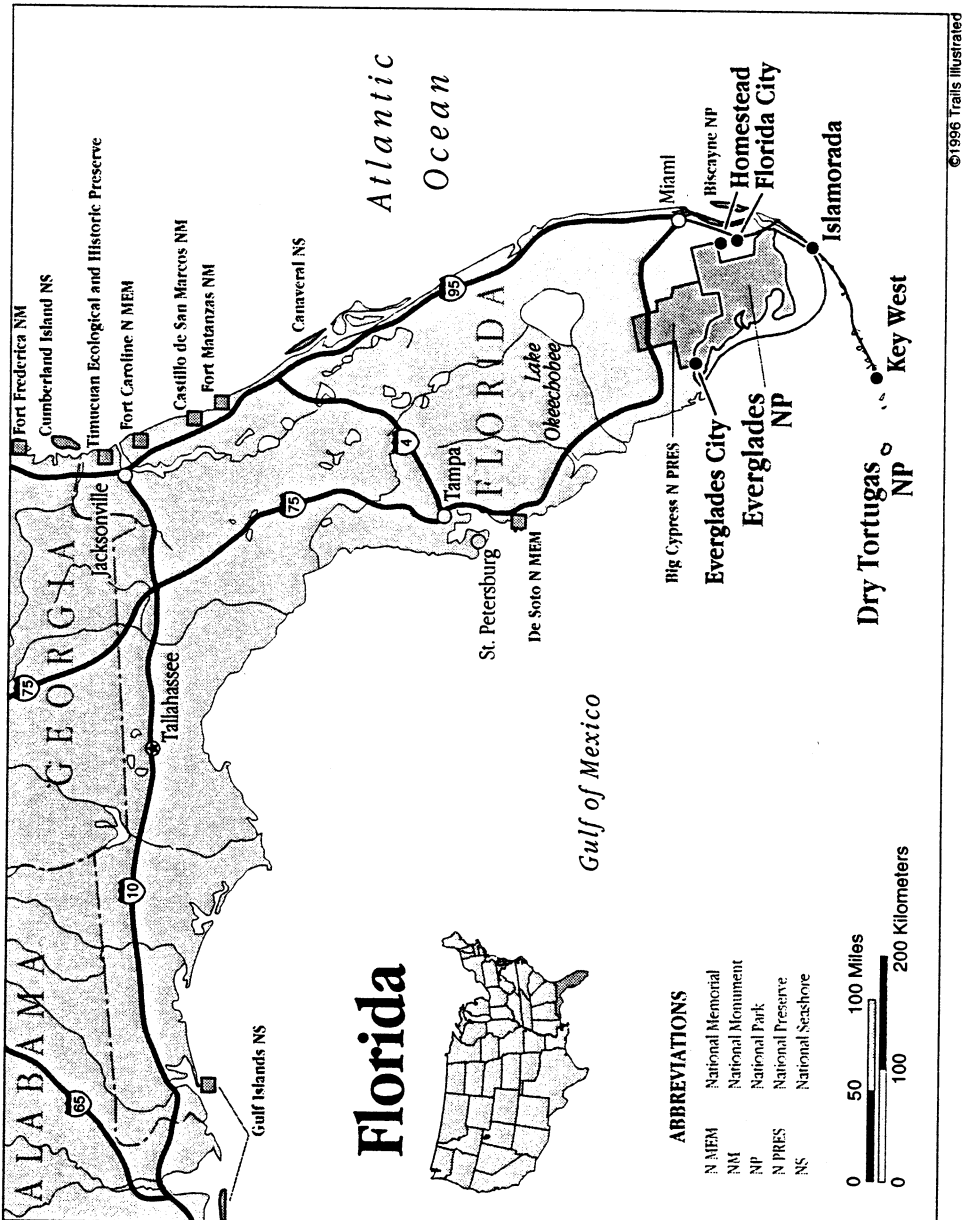


Figure 3. Florida Study Areas

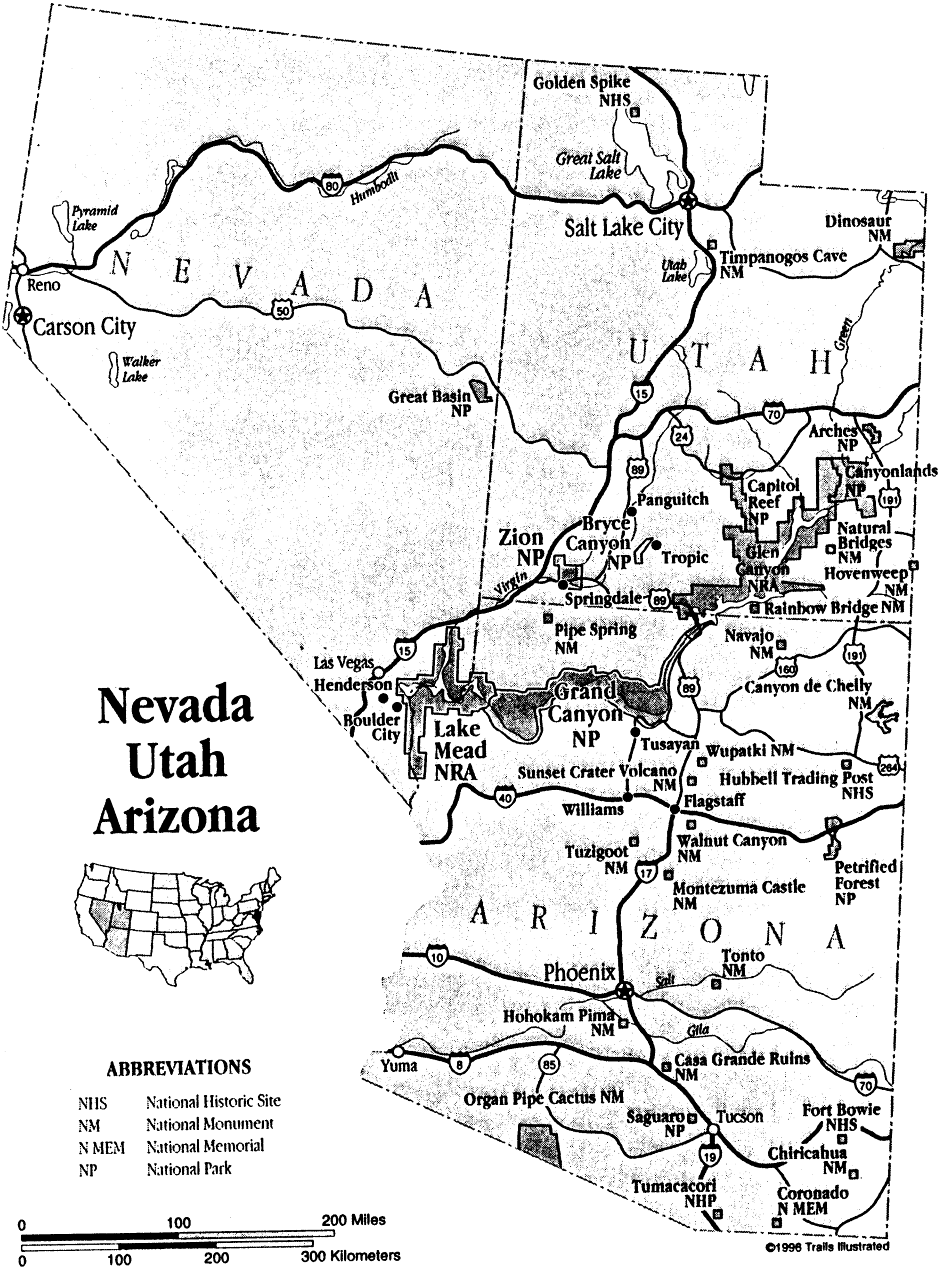


Figure 4. Southwest Study Areas

ber of Commerce, Williams, Arizona. "This town is about 90 some percent dependent on the Grand Canyon. Williams has 1,300 hotel rooms and a dozen restaurants. At the time of the closure, business dropped 75 percent...."

- *Tim Kennedy, general manager, Woodlands Plaza Hotel, Flagstaff, Arizona.* "We got $42,000 worth of cancellations in the first five days: five or six bus tours. It caused the whole area to be soft for the rest of the year..." (NPCA 1996).

Lake Mead National Recreation Area, Nevada. Due to the shutdowns, December visitation to Lake Mead was down 16% from 1994 (76,700 fewer visits). Visitor-days fell by 21%, leading to an estimated loss of $1.8 million dollars in direct sales in and around the park (see Table 1), including the gateway communities of Henderson (population 65,000) and Boulder City (12,500). Located directly between Las Vegas and Lake Mead, both communities are home to a number of professional fishing guides and supply shops (see Figure 4).

- *Jim Goff, fishing guide, Henderson, Nevada. Estimated loss: $3,000.* "The first week they closed down, I had charters booked every day—I lost $1,200. It was right in the heart of our best season" (NPCA 1996).

Zion National Park, Utah. Due to an unusually mild autumn, Zion National Park experienced heavier-than-normal visitation towards the end of 1995. However, the shutdowns all but eliminated visitation during the busy holiday season. The park received 4,400 fewer visits in January. This led to an estimated loss of $70,000 in direct sales in and around the park (see Table 1), including Zion's sole gateway community, Springdale (population 350) (see Figure 4).

- *Chris Holmstead, owner, Oscar's Cafe & Deli, Springdale, Utah. Estimated loss: $10,000.* "That's the time of year people are trying to get money to get through the winter.... Thanksgiving through Christmas and New Year's. It wiped out their whole winter base" (NPCA 1996).

Bryce Canyon National Park, Utah. As a result of the shutdowns, combined November-December visitation to Bryce Canyon National Park fell by 20% from the previous year (6,744 fewer visits). This led to an estimated direct sales loss of over $165,000 in and around the park (see Table 1), including the communities of Tropic (population 1,500) and Panguitch (500) (see Figure 4).

- *Brian Foy, Foy's Country Corner Restaurant, Panguitch, Utah.* "You could see a dramatic change right then. A 40% drop in business. After that, business just didn't get started. It's a big deal to us—the park. It's really about the only thing that we've got going" (NPCA 1996).

Conclusion

As presented here and in a report in progress by Duffield et al. (1997), the impacts of the 1995-96 U.S. national park shutdowns provide a useful glimpse of the economic importance of national parks. Under normal circumstances, federal dollars spent on parks are matched and multiplied in value countless times by the tens of millions of people from around the world who visit them for recreation, education, and wonderment. These visitors stop in communities outside of the parks to hire guides, purchase fuel and supplies, dine, and spend the night. Thus, when national parks are open and providing visitors with the opportunity to explore the natural and cultural resources preserved therein, they produce considerable economic benefits for their surrounding communities. If parks are expected to continue providing these benefits, it is imperative that they be well-maintained, adequately staffed, and administered to further the conservation purposes for which they are established.

The appendices to this article are on pp. 52-53.

References

American Automobile Association. 1996. Lodging and meal costs unchanged for 1996. News release, May 22, 1996. Heathrow, Florida: American Automobile Association.

Bureau of Economic Analysis. 1992. *Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II)*. 2nd ed. Washington, D.C.: U.S. Department of Commerce.

Duffield, John W., et al. 1997. Economic impacts of the 1995-96 shutdown of the National Park System. Draft report to the National Park Service.

Hornback, Kenneth E. 1996. Social and economic considerations: Funding the flagships. Paper presented at the World Conservation Congress, October 17, 1996, Montreal, Quebec, Canada.

Machlis, Gary E. 1991. *Visitor Services Project: Canyonlands National Park Visitor Study*. Report # 28. Moscow, Idaho: VSP/Cooperative Park Study Unit, University of Idaho.

———. 1992. *Visitor Services Project: Joshua Tree National Monument Visitor Study*. Report #39. Moscow, Idaho: VSP/Cooperative Park Study Unit, University of Idaho.

———. 1993. *Visitor Services Project: Zion National Park Visitor Study*. Report #50. Moscow, Idaho: VSP/Cooperative Park Study Unit, University of Idaho.

———. 1994. *Visitor Services Project: Bryce Canyon National Park Visitor Study*. Report #61. Moscow, Idaho: VSP/Cooperative Park Study Unit, University of Idaho.

National Parks and Conservation Association [NPCA]. 1996. *The Economic Importance of National Parks: Effects of the 1995-1996 Government Shutdowns on Selected Park-Dependent Businesses and Communities*. Washington, D.C.: NPCA.

National Park Service. 1996a. *National Park Service Statistical Abstract 1995*. Denver: U.S. Department of the Interior.

———. 1996b. *The Money Generation Model 1996-1997*. Denver: U.S. Department of the Interior.

Soden, Dennis L. 1995. "Community Perceptions of National Parks as Economic Partners." *Journal of Park and Recreation Administration* 13(2):11-28.

Tourism Works for America Council. 1996. *Tourism Works for America 1996 Report*. Washington, D.C.: Tourism Works for America Council.

U.S. Department of the Interior. 1995. Impacts of the Interior shutdown. New release, December 28, 1996. Washington, D.C.: U.S. Department of the Interior.

U.S. Travel and Tourism Administration. 1996. *In-Flight Survey of International Air Travelers: Overseas Travelers to the United States 1995*. Washington, D.C.: U.S. Department of Commerce.

Utah Tourism Commission. 1996. *Utah Visitors: How Many, Where They Come From, How Much They Spend, Where They Go*. Salt Lake City: Utah Tourism Commission.

Adam Charles Mednick, Department of Conservation Policy, National Parks and Conservation Association, 1776 Massachusetts Avenue NW, Washington, D.C. 20036

Appendix A. State-Wide Economic Impact of Visitors to Utah's National Parks in 1995[1]

Out-of-State Visits[2]	Average Expenditure Per Visit[3]	Direct Sales Impact	Sales Multiplier[4]	Employment Multiplier[5]	Total Sales Impact[6]	Employment Impact[7]
6,694,148	$47.95	$320,984,408	2.13	54.2	$683,696,788	17,397 jobs

1. Includes technical corrections to the study conducted by the National Parks and Conservation Association (1996).

2. Out-of-state visits were determined, on a park-by-park basis, by multiplying 1995 total visits by the estimated percentage of visitors originating out of state. Percentages were obtained from park visitor surveys and staff estimates. Where neither was available, two-thirds of the percent non-local figures used in the 1996 MGM were substituted in.

3. Average expenditure per visit was estimated using data from visitor surveys of Canyonlands, Zion, and Bryce Canyon National Parks, conducted by the National Park Service Visitor Service Project (Machlis 1991; 1993; 1994). Average group expenditures on food, lodging, travel, and other expenses were adjusted for annual inflation, divided by respective average group size, and combined into a single weighted average.

4. The sales multiplier was derived from total final-demand sales multipliers for Utah's eating and drinking, and lodging and amusement industries. These multipliers were estimated by the Bureau of Economic Analysis (1992) using its Regional Input-Output Modeling System (RIMS II). The figure used here is an average of the multipliers for the above-listed industries.

5. The employment multiplier was derived from total final-demand employment multipliers for Utah's eating and drinking, and lodging and amusement industries. These multipliers were estimated by the Bureau of Economic Analysis (1992) using RIMS II. The figure used here is an average of the multipliers for the above-listed industries. It represents the number of employees necessary for the industries to produce $1 million in output (sales).

6. The total sales impact is the product of out-of-state visits, average expenditure per visit, and the state-wide sales multiplier:

$$6{,}694{,}148 \times \$47.95 \times 2.13 = \$683{,}696{,}788$$

7. The employment impact is the product of direct sales and the employment multiplier, divided by $1,000,000:

$$\$320{,}984{,}408 \times 54.2 \; / \; \$1{,}000{,}000 = 17{,}397 \text{ jobs}$$

Appendix B. Initial Study Results[1]

Study Area[2]	State	Est. Percent Non-Local Visitation	Period[3]	Visitor Days	Visits	Avg. Visitor Expenditure[4]	Est. Direct Sales Impacts
Yosemite NP	California	0.95	Dec.	-93,714	-54,926	$ 99.48/day	-$ 8,856,535
Joshua Tree NP	California	0.74	Nov./Dec.	-29,810	-46,333	$ 17.90/visit	-$ 613,727
Death Valley NP	CA/NV	1.00	Nov./Dec.	-12,558	21,427	$ 65.00/day	-$ 816,270
Everglades NP	Florida	1.00	Nov./Dec.	-16,640	-40,220	$ 85.96/day	-$ 1,430,374
Dry Tortugas NP	Florida	0.90	Nov./Dec.	-3,361	316	$ 85.96/day	-$ 260,020
Grand Canyon NP	Arizona	1.00	Nov./Dec.	-51,765	-37,442	$ 109.13/day	-$ 5,649,114
Lake Mead NRA	Nevada	0.50	Dec.	-69,755	-76,782	$ 86.00/day	-$ 2,999,465
Zion NP	Utah	0.68	-	-	-	-	-
Bryce Canyon NP	Utah	0.68	Nov./Dec.	-750	-6,744	$ 26.05/visit	-$ 119,463

1. Original economic impact estimates included in the study conducted by the National Parks and Conservation Association (1996).

2. "NP" refers to national parks. "NRA" refers to national recreation areas.

3. Study periods within the investigation did not include the month of January, since 1996 visitation data were not available at the time of the study.

4. Average daily expenditures were estimated based on state-wide surveys conducted by Runzheimer International for *per diem* corporate travel costs (National Park Service 1996b, Appendix A). Average *per-visit* expenditures account only for food and lodging expenses as identified in surveys conducted by the National Park Service Visitor Services Project (Machlis 1991; 1993; 1994).