

The economics of tourism

Travel Prices Expected to Resist Usual Summer Rise

Dollar Value Can't Be Placed on Wilderness Areas

Foreigners Increasing Travel to U.S.

THE ECONOMICS OF PARKS

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Entrance Fees and the National Parks Economic Issues and Consequences

Americans Are Willing To Sacrifice to Reduce Pollution

U.S. Posts First Trade Surplus From Tourism

\$80 million said lost from US parks' fees

Popularity of parks threatens to pave them over

Visitors Stream Back to Yellowstone After the Fires of 1988



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IN REPLY REFER TO:

JUN 3 1990

Memorandum

To: Park Superintendents

From: Assistant to the Director for Science and Technology

Subject: THE ECONOMICS OF PARKS

Up to this point in time, I have emphasized the sociological aspects of our social science program and have paid much less attention to the economics of parks. This issue of the Superintendents' Memo Series begins to deal with economic issues of interest to the NPS, such as the impacts of parks on local area economies; the intrinsic values of park resources like clean air, solitude, scenic vistas, historic sites, and wilderness areas; and factors involved in benefit/cost assessments associated with park programs and activities.

To start with, we can say that economic matters are vitally important to the NPS. On the one hand, we know that revenues derived from park tourism provide very significant benefits to national and local area economies. On the other hand, we also know that efforts by individuals or business interests to utilize parks to achieve personal or corporate economic gain sometimes can cause controversies and problems: For example:

- At Lake Powell, developers have proposed a controversial major expansion of marina facilities that would produce additional revenue for Southern Utah interests, but that also might cause adverse impacts to park resources.
- At Glen Canyon Dam in Northern Arizona, Federal power engineers have proposed major dam modifications that would augment hydroelectric power generation capabilities, but that also might significantly alter Colorado River flows through the Grand Canyon and other downstream national parks.
- At Jackson Hole Airport located within the Grand Teton National Park, airport interests have proposed major runway expansions within the park in order to accommodate larger commercial jet aircraft, to facilitate increased tourism activity.

- At Capital Reef National Park, State interests have proposed to pave the scenic Burr Trail in order to provide an all-weather highway to support year-round tourism and mineral development activities.
- In Yellowstone National Park, snowmobile and tourism interests have promoted opening more back country trails to stimulate winter visitation in the area. Also in Yellowstone, a local gateway community has argued strongly against National Park Service plans to modify a major campground situated in critical grizzly bear habitat, fearing reduced tourism revenues.
- In western states, oil and mineral extraction interests have vigorously opposed additional wilderness area designations on Federal lands in order to preserve future energy development options.
- In many park areas nationwide, local business interests concerned about possible effects on visitation levels have opposed establishing new or increased park entrance fees, even though the entrance fee revenues would be used to support essential services to park visitors.

These kinds of economic-driven issues occur regularly. Our ability to deal effectively with them depends to large extent on the timeliness and the quality of relevant economic data available to the Service. In this context, there are six measures of economic activity associated with the national parks that we are interested in:

- (1) We are interested in the economic contribution of parks as measured by the travel and tourism revenues they generate on a national scale, including revenues from foreign tourism.
- (2) We are interested in the economic impacts that parks have on local area economies.
- (3) We are interested in the extent to which high-profile events such as the Yellowstone fire affect local and regional economies.
- (4) We are interested in the amenity values of parks as measured by the intrinsic values of park resources such as clean air and scenic vistas.
- (5) We are interested in the community values of parks as measured by their contribution to the quality of life in local areas.
- (6) Finally, we are interested in the use of economic feasibility analyses and economic cost analyses to improve the effectiveness of park operations.

Consider briefly each of these six areas of economic interest as they apply to the National Park System:

(1) Travel and tourism. We are interested in parks as places that stimulate increased tourism on a national and international scale, and that generate economic activity in all phases of the recreation travel cycle, from trip planning through trip completion. Last year, for example, foreign tourists spent over \$40 billion in the United States. Some portion of those expenditures came about because of foreign visitors' interests in the national parks, but we cannot say how much. We can make reasonably good estimates as to how much an individual park contributes to the local economy of an area, but we do not know what the National Park Services' contribution is to the overall national economy. Furthermore, it should be noted that in general the National Park Service does not attempt to market the parks, either to stimulate increased visitation or to generate for potential visitors an expectation of benefits to be achieved through future park visits. Rather, our primary goal as relates to visitor services is to provide a quality experience to those who elect to come to the national parks, whoever they may be and for whatever reason they choose to visit.

In contrast, our colleagues in the Canadian Park Service additionally have placed great importance on increasing their market share of foreign tourism. The Canadian Government and the leaders of Parks Canada view foreign tourism as an essential element of the Canadian economy. Decisions about park operating budgets and capital expenditures in Parks Canada are based to large extent on economic models and cost/benefit analyses that seek to maximize the revenue stream from foreign tourism. In addition, the Canadian Government supports a vigorous marketing campaign to promote expanded use of Canadian national parks by foreign visitors. We have no comparable program or set of objectives in the National Park Service. We do not base our planning or budgeting on economic analysis; we have not developed an economic-based marketing orientation; and we typically do not use economic-driven cost/benefit analyses except as required for regulatory decision process compliance.

(2) Economic Impacts. Because parks and their neighbors are mutually dependent on each other, we are interested in the economic impacts of national parks on local and regional economies. Last year, the National Park System recorded some 110 million visitor recreation-days. If we assume that a park visitor spends an average of \$50-75 per visitor recreation-day for food, lodging, travel, retail purchases, etc., this level of visitation represents a direct input of some \$5.5-8.2 billion dollars a year of tourism revenue into local area economies.

If one adds to tourism expenditures the direct dollars spent by the Service itself on salaries, equipment, construction projects, etc., and further considers the secondary expenditures and economic growth that result as monies are recycled locally, it is clear that parks are responsible for adding tens of billions of dollars of economic activity each year into the economies of local communities. These monies provide job opportunities, stimulate development, add to the tax base, encourage business expansion, and contribute in many other ways to local economic stability and well-being.

There are a number of models that can be used to estimate the local and regional economic impacts of parks. One of these was developed by Dr. Ken Hornback of the Denver Statistical Office and is called the Money Generation Model, or MGM. This easy-to-use model is driven by data about the number of visitors, their length of stay, and their average daily expenditures as derived either from visitor survey data or from general transportation and subsistence costs for the area. The MGM model can be used to provide first order estimates of direct and indirect tourism expenditures in a park area. The model also considers the impacts on the local economy resulting from expenditures by the park itself for operational expenses, salaries, and locally purchased supplies. These tourism and park-related expenditures can be translated by the MGM model into estimated new job opportunities, economic development, and growth in the tax-base for the area.

The MGM model was used in 1988 to provide an initial estimate of the overall economic impact on the State of Arizona of 19 NPS units located within the State. Direct and secondary income to the State resulting from tourism revenue from some eight million park visitors and from NPS expenditures were estimated to be nearly one billion dollars annually. Gross return to the State was calculated to be some \$43 dollars for every Federal dollar spent to manage the 19 park areas in Arizona, constituting a very significant and important return to the State associated with Federal Government expenditures by the parks.

Another approach for determining the economic impacts of parks was published in handbook form last year by Ray Murray of the Western Regional Office. In addition to considering the effects of direct and secondary expenditures, this model also considers the benefits and values attributable to park programs, cultural amenities, recreational opportunities, etc; this model provides a more comprehensive and detailed treatment of the economics of parks than does the MGM model.

A third approach for estimating the economic impacts of parks is through modeling and analyses based on surveys involving visitors, local residents, and community business interests. Such an effort currently is being carried out by the DSC at Great Basin NP, as part of preparing a GMP for our newest National Park.

This study is considering various credible visitation scenarios and, based on those scenarios and survey data, will predict the recreation-based economic impacts of the Park on important local and regional market segments such as fuel and transportation services, retail store purchases, lodging, and food and restaurant services.

(3) High profile events. A third area of economic interest to the National Park Service involves the need to be able to assess the economic consequences of high profile events affecting one or more parks. The 1988 Yellowstone fire is a case in point, representing the most extensive and most costly fire suppression effort in the history of the National Park Service. The surrounding states and neighboring business interests predicted widespread economic disaster resulting from a projected loss of tourism due to the fire. While it is true that there was a drop in tourism revenue during the 3-month fire season, the more relevant question was whether there were compensating economic effects from the massive fire-suppression efforts carried out by Federal agencies. The NPS conducted an economic impact study that involved collecting and analyzing fire suppression cost data associated with fire-fighters, support personnel, equipment expenditures, food and lodging, supplies, aircraft and crews, fire gear, fuel and transportation, etc. Vouchered expenses were cross checked against sales tax revenues, lodging receipts, purchase orders, and contractor billings. The results showed where and how some 100 million dollars of fire suppression dollars were spent, thereby providing an economic data base for evaluating the cost-effectiveness of various fire-fighting efforts. Perhaps equally important, the results showed that state projections that the fire would cause a net loss of \$70 million dollars to local and regional economies were totally unfounded. Clearly there were economic dislocations in some geographic areas and in some economic sectors. However, on balance, the local and the regional economic impacts of the Yellowstone fire were positive, not negative. This study demonstrated that the Service needs the capability to be able to carry out economic analyses of events such as the Yellowstone fire, quickly and reliably.

(4) Amenity values. A fourth economic area of great importance to the National Park Service involves developing a capability to determine the intrinsic or the amenity values of park resources. Amenity values are those values that contribute to the satisfaction, enjoyment and overall experience of park visitors but that do not involve the consumption or direct use of resources..... for example, amenity values include perceived values associated with clean air, scenic vistas, beauty, solitude, free roaming wildlife, wilderness areas, and historic and cultural resources. On occasion, we are required by law and by regulation to quantify the economic benefits associated with amenity values so that decision-makers can weigh the benefits to society versus the costs of alternative preservation strategies or alternate management actions.

This can be a particularly complex task because the total benefits to society of a resource such as a wilderness area include not only the values placed on the wilderness area by those who personally visit it or who enjoy it through paintings or films, but also include the values placed on the wilderness area by those who gain satisfaction knowing that the wilderness area exists and is being protected, even though they personally never may have the opportunity to experience it. In quantifying the economic benefits to society of the amenity values of park resources, the Service uses both "contingent valuation" methods and "willingness-to-pay" methods. Contingent valuation methods rely on surveys to determine what values individuals would place on potential changes to a resource..... for example, the value associated with actions that would prevent water quality from getting worse or alternatively the value associated with improving water quality. Willingness-to-pay methods, on the other hand, rely on actual expenditure data and provide a measure of the estimated value of a resource based on the willingness of the public to incur travel costs in order to personally experience that resource.

The NPS and the EPA recently concluded a joint study to estimate what preservation values are placed by the general public on protecting visibility at NPS sites from the impacts of air pollution. This research dealt with how important the general public feels it is to insure that air pollution does not impair one's ability to see scenic vistas in parks. For example, is it more important to the general public to prevent further visibility degradation or is it more important to obtain improvement in visibility? Or, what percentage of the general public would be willing to pay some amount either for visibility protection or alternatively for visibility enhancement at national parks? Answers to such questions can help the NPS make reasoned judgments about the value of good visibility in places such as the Grand Canyon National Park or Canyonlands National Park, and about tradeoffs between economic benefits versus mitigation costs associated with various pollution control strategies that might be followed to achieve desired visibility conditions at those parks.

Clearly the process of determining the economic benefits associated with park amenity values is a field of environmental economics that is complex and technically difficult. We in the NPS will need to develop a much greater level of expertise in this area in the future.

(5) Community values. A fifth area of economic interest to the National Park Service relates to the community value of parks..... i.e. as measured by how local residents perceive that the presence of the park contributes to the quality of life in the area. For example, does the park bring new cultural opportunities to the area? Does the park contribute to improved public services such as fire protection and public education? How does the park affect the local standard of living, property values, and unemployment rates?

Does the park bring to the area people with a broader spectrum of interests, and does the park stimulate new kinds of vocations, crafts or cottage industries? Does the park increase recreational opportunities for the local population? Does the presence of the park increase environmental awareness? These factors, and many others, relate to how the park affects the quality of life in the local surrounding area.

As an example of establishing the community value of a park, the National Park Service recently completed a survey at Acadia National Park in Maine. This survey dealt essentially with the question: Do Parks Make Good Neighbors? We asked specific questions about how neighbors perceived that the park affected employment opportunities, public services, education, traffic conditions, crime, law enforcement, new recreational and cultural opportunities, environmental conditions, retail and housing prices, taxes, opportunities for shopping, changes in customs, etc. As expected, there were both positive and negative responses in each of these areas of inquiry. However, on balance the residents living around Acadia National Park perceived that the park made a very positive and constructive contribution to the area.

We also asked a general summary question about how local residents perceived that Acadia National Park affects overall quality of life in the area. Over 75 percent of those surveyed indicated that the park had a positive or a very positive affect on overall quality of life, while less than 5 percent reported a negative or very negative affect on overall quality of life. Although difficult to quantify, it is clear that Acadia National Park has an intrinsic economic value..... a community value..... of considerable significance to local area economies.

(6) Economic analyses. The sixth and final area of economic interest involves the use of quantitative economic analyses to support both operational and planning decisions within the National Park Service. We need to be able to assess the full range of economic consequences associated with various development alternatives and with different management strategies. For example, we need the capability to evaluate the short-term and the long-range economic consequences of proposed new concession facilities; new visitor transportation options; new capital expenditures for labor-intensive versus automated equipment buys; contractor-supplied services versus in-house services; employee housing alternatives; repair versus replacement options; and environmental compliance alternatives.

In this period of tight budgets, we also need to be concerned with ways to improve the economic effectiveness of high-cost operational activities within the Service. For example, it has been estimated that maintenance costs constitute roughly 75 percent of the total life cycle costs of NPS structures, from construction through demolition.

This suggests that perhaps the Service needs to pay particular attention to those initial design factors which ultimately result in high out-year maintenance costs as structures age, and perhaps carry out economic feasibility analyses designed to minimize lifetime costs for new structures by finding optimal mixes between initial construction costs and subsequent life cycle maintenance costs.

Final Comments. Economic studies represent one of many sources of data available to superintendents. Economic analyses can provide information that is useful to support planning decisions, to evaluate the fiscal viability of concessioner proposals, to improve the cost/effectiveness of operational programs, and to provide benefit/cost data required for EIS's or for controversial resource protection initiatives. But the most important reason why a superintendent should be interested in the economics of parks is because economic analyses can be used to show precisely how much, where, and in what ways parks contribute to the business development, employment opportunities, tax base, economic stability and overall well-being of local communities and local area economies. Those superintendents who choose to document how Federal monies spent in parks are multiplied many-fold in terms of total economic benefits to an area will be well-positioned to defend future budget increases, and will have a competitive advantage in this period of fiscal constraint. Proven techniques exist for quantifying the economic impacts of parks; these techniques can involve either very simple calculations or very complex analyses, depending on what one is trying to accomplish. At whatever level you elect to participate, I think you will find it worthwhile to be involved in the economics of parks. The potential pay-off can be significant.

Postscript. We will include economic case studies in next year's social-science training course for Superintendents, and I would like to know which park units either have completed or currently are carrying out economic impact analyses. Please contact me at FTS 268-5477. Thanks.

A handwritten signature in black ink that reads "Dick Briceland". The signature is written in a cursive, flowing style with a large initial "D".

Richard H. Briceland