

A social science tool for regional planning

ASSESSING REGIONAL ECONOMIC CONTRIBUTIONS FROM NATIONAL PARK SYSTEM UNITS:

Figure 1. Manassas National Battlefield Park, with its popular stone house, was just one of 13 Virginia parks recently analyzed for its economic contributions to the regional economy. Park operations and visitor expenditures play a substantial role in local economies and can help leverage park preservation issues.

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Editor's note: "A Handbook for Assessing the Economic Contributions of National Park Service Units" (Sullivan et al. 1993b—as listed in the literature citations at the end of this article) contains further explanation of information presented in this article.

ACCORDING TO ITS MISSION, the National Park Service must make resource decisions seeking a balance between use and preservation. The tools of economics are useful in making these decisions, helping to justify investments, and allocating resources to national park system units. A simplified economic assessment tool known as the *money generation model* or MGM may be familiar to some readers as it has been circulated to parks to help managers and park neighbors gauge the economic impacts of the park on regional economies (see the companion article, "Why Assess The Economic Impacts of National Parks?, on page 26"). In a more detailed economic assessment of park contributions, three types of benefits occur: regional income and employment, resource values, and contributions to a community's sense

of well-being. This article presents major issues to consider when conducting an economic assessment of park contributions and examples from a case study of national park system units in Virginia (Shenandoah National Park, Colonial National Historical Park, Manassas National Battlefield Park, etc.—see fig. 1) (Sullivan et al. 1993a).

INCOME AND EMPLOYMENT VALUES

National Park Service operations often generate substantial income and employment in the surrounding region as a result of spending by visitors, the National Park Service itself, concessionaires, businesses, and other government agencies. The fundamental principle that guides the assessment of income and employment values is the *with and without* principle. That is, the analysis should identify only the income and employment effects that occur as a result of NPS operations in the region.

Two types of income and employment effects, direct and multiplier, must be considered. Direct income and employment effects are immediate economic activities generated by

NPS operations. For example, direct effects include money spent by visitors to the park or jobs created in local restaurants to serve visitors. Multiplier effects are additional rounds of economic activity set in motion by direct effects. For example, to provide a meal to a visitor, local restaurants require groceries, energy for lighting and cooking, and many other purchases in the region. This purchasing activity can occur in many rounds, until the initial money has "leaked" out of the region through purchase of goods and services beyond the region.

A multiplier describes total economic activity in an area (direct + multiplier effects) in terms of business output, income, or employment in a region. The multiplier "expands" direct effects to the rest of the regional economy. Individuals often use the phrase "money turnover" to describe how many times a dollar changes hands in an economy before it leaves through payments made outside the region. This definition is not the same as a multiplier, however. For example, a multiplier is not *seven* just because a dollar changes hands seven times in an economy. With each transaction,

the regional economy loses a portion of the original dollar through payment of taxes, purchases of goods outside the region, and in many other ways. This leakage may cause the original dollar to dissipate quite rapidly in a region. Multipliers greater than 3.0 are unusual, and are not likely to be credible with outside groups.

Depending on the detail of analysis, a variety of information is needed about park visitors: number of visits, average daily visitor spending, average length of stay in the area, visitor origin, and destinations. Information is also needed about NPS spending (payroll and operating expenses), other government spending, state and local taxes and in-lieu-of tax payments, associated business investment, and multipliers. An analyst can obtain much of this information from monthly public use reports, state tourism boards, travel organizations, visitor services projects (CPSU-based social science programs that serves NPS social science needs) reports, state tax commissions, and universities.

COMMONLY ASKED QUESTIONS

A common question about income and employment values is, "Do I include in my analysis those visitors who are residents of the region?" Income and employment effects often exclude spending by resident visitors. This approach is used because it is difficult to determine whether those visitors would have spent their money within the region if the park were not available (the with or without principle). Another question is, "Do I include the spending by visitors who stop at many attractions on their trip, with this unit being only one part of their trip?" It is only appropriate to consider the time and money spent in the vicinity of the park unit by these multiple-destination visitors. A third commonly asked question is, "Do I include concessionaire spending?" If the daily visitor spending estimates do not include purchases from con-

cessionaires, then concessionaire spending is considered; otherwise, concessionaire spending is not considered, to avoid double-counting.

A study of the economic contributions of NPS operations in Virginia estimated that total contribution to business output in the state from national park system units was \$474 million in 1993. Also, an estimated \$117 million in personal income and 9,000 jobs in Virginia resulted from NPS operations. These results indicate a substantial contribution to regional economies as a result of NPS operations (Sullivan et al. 1993a).

RESOURCE VALUES

A resource value is the amount individuals are willing to pay for the ability to enjoy the many goods and services that the National Park Service provides. While not as widely recognized as income and employment values, resource values are also significant contributions, because they may be more than what an indi-

The travel cost and contingent valuation methods are commonly used approaches for estimating resource values, and they require extensive visitor surveys. Economists have conducted hundreds of site-specific studies, resulting in a wide range of values for numerous activities (see Walsh et al. 1988 for a summary of studies). Other types of information are also indicative of the resource value individuals hold for units of the national park system, including membership in local conservation and historical societies, number of volunteer hours at a park, or the amount of public involvement in political and management decisions.

While it is difficult to conduct surveys for all parks in the national park system, an analyst can use previous studies to provide a first estimate of resource values. Information on visitation, travel costs, and visitor trip destinations are needed to calculate resource values. Park staff consider-

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vidual pays as an admission fee or travel expense, thereby contributing to overall national wealth.

Resource values arise from the use and preservation of an area. The value from using an area may come from a consumptive activity (e.g., fishing), a nonconsumptive activity (e.g., learning about the history of an area), or an indirect activity (e.g., reminiscing with family who have visited park system units). The value for preserving an area may come from visitors knowing that they will have an option to see the resource in the future if they choose, or that the resource is a bequest for future generations.

ing conducting an economic analysis may find local universities to be helpful in determining resource values.

Estimated resource values for units administered by the National Park Service in Virginia range from \$2,000 to over \$51,000,000 per year. Other information collected also provides an indication of the value related to preservation of natural areas in Virginia: over 1,200 people are members of the Committee to Preserve Assateague Island; the Sierra Club serves over 12,000 Virginia members; and 1,200 people belong to the Virginia Native Plant Society (Sullivan et al. 1993a). With information of all

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kinds about resource values, decision makers will be able to better understand why individuals desire certain management actions, provide for their needs, and maintain the integrity of the resource.

COMMUNITY VALUES

The National Park Service also contributes to the sense of well-being in communities by providing eco-

logical, cultural, and recreational services. In urban areas, respondents placed a higher importance on the open spaces the units provide than the local business effects (Sullivan et al. 1993a). Assessing NPS contributions to community values is as important as resource values or income and employment values in fully understanding the relationship between the National Park Service and people in the surrounding region.

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The National Park Service also contributes to the sense of well-being in communities by providing ecological, cultural, and recreational services.

logical, cultural, and recreational services. For example, open space provided by national park system units may contribute to the quality of life in an area. In Roanoke, Virginia, commuters often use the Blue Ridge Parkway, despite the fact that it is a slower route than interstate highways. However, the parkway offers individuals a chance to unwind after a busy day at work.

Several methods can be used to assess community values, including personal interviews, monitoring media coverage, and examining written visitor comments. We interviewed local governments, chambers of commerce, and NPS personnel in the Virginia study. Respondents indicated how important the services provided by the parks were to them. These services included education programs, regional economic activity, cultural and historic preservation, natural environments preservation, social opportunities, and various recreational activities. The results indicate a range of perceptions about the importance of parks. For example, respondents from rural areas near national park system units tended to place a high level of importance on the effects to

LITERATURE CITED

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