

ECONOMIC IMPACTS OF PARKS, RIVERS, TRAILS AND GREENWAYS

by

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A practicum submitted
in partial fulfillment of the requirements
for the degree of Master of Science
School of Natural Resources and Environment
at the University of Michigan
January 2005

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Abstract

Parks, rivers, trails, and greenways are traditionally recognized for their environmental protection, recreation opportunities, and aesthetic values, but they also provide economic benefits. Such areas have the potential to attract visitors, create jobs, enhance property values, expand local businesses, attract new or relocating businesses and residents, increase local tax revenues, decrease local government expenditures, improve health and enhance a local community.

This practicum was a joint effort with the National Park Service to update and expand an earlier resource book. It is meant to help planners, park and recreation administrators, citizen activists, and non-profit groups understand and communicate the potential economic benefits of their proposed or existing projects. The aims of this publication are to:

- Encourage professionals and citizens to use economic concepts as part of their effort to protect and promote parks and trails
- Provide examples of how parks and trails have benefited local and regional economies
- Demonstrate how to determine the potential economic impacts of such projects
- Suggest other sources of information.

This document represents the basis for an updated publication by NPS titled “Economic Impacts of Parks, Rivers, Trails and Greenways” that will be published both in hard copy and on the internet. The final publication will contain chapters on eleven aspects of economic impacts. This document provides seven of those chapters, each with an introduction for the novice reader, an explanation of how to use the rationales in a community as well as considerations to keep in mind when doing so. Each section also lists additional sources of information and references for the more advanced reader. Finally, a preview is provided of how these concepts could be applied at Golden Gate National Recreation Area.

Acknowledgements

I am grateful to many individuals and organizations for making this project possible. I would like to give my deepest thanks to Chris Reynolds for welcoming me as a DomesticCorps fellow at the Ross School of Business, and to Ray Murray at the National Park Service who provided the impetus and direction for this effort. I would also like to thank all the staff that I worked with at NPS- in Oakland, CA, Washington, DC, and all the places around the country that I called on the phone. They took time out of their busy schedule to help me learn the ropes, feel like part of the team and be successful. Finally, I would be remiss if I didn't send a special thank you to Richard Bole, another DomesticCorps fellow, who kept my summer days at NPS uniquely lively.

A debt of gratitude also goes to the faculty members of my committee, Professors Michael R. Moore and Michael J. Wiley. Professor Moore provided his expertise throughout this project and was a pleasure to work with. Professor Wiley was an extraordinarily supportive advisor, graciously spending time over the past three years discussing aquatics, environmental management and my ever-changing career interests.

Lastly, my heartfelt appreciation goes to my family, friends, and the entire CEMP community for their unending confidence in my abilities throughout this journey. It has been an incredible experience and I thank you all for being part of it!

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1 Introduction

Parks, rivers, trails, and greenways (linear open spaces connecting recreational, cultural and natural areas) are traditionally recognized for their environmental protection, recreation opportunities, and aesthetic values. These parks and corridors also have the potential to create jobs, enhance property values, expand local businesses, attract new or relocating businesses, increase local tax revenues, decrease local government expenditures, improve health and enhance a local community, among other benefits.

The Rivers, Trails and Conservation Assistance (RTCA) program of the National Park Service authored and published a resource book to help planners, park and recreation administrators, citizen activists, and non-profit groups understand and communicate the potential economic impacts of their proposed or existing corridor projects. The aims of this publication were to:

- Encourage professionals and citizens to use economic concepts as part of their effort to protect and promote greenways
- Provide examples of how greenways and parks have benefited local and regional economies
- Demonstrate how to determine the potential economic impacts of river, trail, and greenway projects
- Suggest other sources of information.

The idea for the resource book was conceived by Ray Murray, currently Partnerships Program Chief of the Pacific West Region of the National Park Service (NPS), and by 1995 four editions of the handbook had been published. The 1995 revision, entitled *Economic Impacts of Protecting Rivers, Trails and Greenway Corridors*, was intended to be a compilation of the most recent information on this subject area and it, as well as previous editions, were well received. There is broad interest, both nationally and internationally, in this kind of information to assist in guiding public investment decisions, and the book had been widely cited in other publications and on the websites of various organizations. However, by 2004, much of the information was becoming outdated and there was burgeoning interest nationally in applying economic rationales to support park and greenway protection efforts.

Thus, in 2004, as part of the Domestic Corps program supported by the Ross School of Business at the University of Michigan, I undertook a summer internship to update the NPS publication. This entailed reviewing the 1995 publication, determining which new chapters should be included in the 2004 version and what the best organization was for the book overall. It also included researching the topic of each chapter and synthesizing the data to provide the most current information on the subject area and to update the examples and case studies.

Finally, the proposed framework was applied to the Golden Gate National Recreation Area. An economic analysis profile was developed to provide a comprehensive view of Golden Gate National Recreation Area's impacts in particular as an application of the updated

framework. It was delivered to the superintendent of Golden Gate National Recreation Area and outlined the many aspects of an economic impact profile, tailored for GGNRA, with a summary of action steps and challenges for each. The outcomes of each set of actions were clearly laid out and each aspect could be undertaken in isolation given GGNRA's priorities, funding, and staffing. The superintendent and his staff praised the document for being comprehensive and will use it as they undertake their effort to quantify GGNRA's economic impacts.

The internship was undertaken from May to August 2004 at the headquarters of the Pacific West Region of the NPS in Oakland, CA. Richard Bole and I, both Domestic Corps fellows, created the draft of the 2004 handbook. We are both dual degree students at the School of Natural Resources and Environment and the Ross School of Business at the University of Michigan. A draft manuscript was delivered in August 2004 for the NPS to finish reviewing and subsequently publish.

Past versions of the resource book have been published and circulated on a national scale, as well as posted on the RTCA website for ease of distribution. After completion of the 2004 version, it will be posted on the NPS website and when funding for publication is secured, it will again be distributed to stakeholders around the country. In earlier versions, the book focused on linear parks, trails, and river corridors; however, the 2004 version took a broader approach, including examples, case studies, and information on more traditional parks as well since they provide many of the same amenities. Thus, several chapters needed to be added to the new edition. Also, new areas of economic importance had emerged since the last printing of the book. Throughout the remainder of this document, the term, or combination of terms, park, trail, river, greenway or greenway corridor is meant to broadly encompass any or all such areas.

The resource book is not intended to diminish the importance of the intrinsic environmental and recreational benefits of parks and greenways. The non-monetary value of open space should continue to be an emphasis in conservation efforts. In some cases, it may be appropriate to stress intrinsic environmental benefits rather than spend considerable time and effort conducting economic analyses. In other cases, clear communication of intrinsic values *and* potential economic impacts will help decision-makers recognize parks and trails as valuable to the community.

The resource book is meant to be user friendly at a variety of expertise levels. It is not intended to be a definitive textbook on economics, but rather a framework for understanding potential economic impacts of parks and greenways. It is written at a basic level for the novice but makes reference to advanced sources for the more veteran practitioner. The 1995 version of the handbook contained nine chapters, each focusing on a different set of economic rationales. The updated publication contained eleven chapters, was reorganized as outlined in the table below, and was titled "Economic Impacts of Parks, Rivers, Trails and Greenways." Research and writing for the chapters were split between Richard Bole and me. The seven chapters in bold below are those I researched and developed.

Table 1. Chapters in the Updated Resource Book

<i>Section</i>	<i>Description</i>
Agency Expenditures	Explains how the agency responsible for managing a park, river, trail or greenway can support local businesses by purchasing supplies and services. Jobs created by the managing agency may also help increase local employment opportunities and benefit the local economy.
Commercial Uses	Describes the potential for concessions and special events within a park, which can boost local business as well as raise funds and awareness for the park itself.
Expenditures by Residents	Explains how spending by local residents on park-related activities can help support recreation-oriented businesses and employment, as well as other businesses which are patronized by park, greenway, river and trail users.
Travel and Tourism	Describes how parks and trails that attract visitors to a community support local businesses such as lodging, food establishments, and recreation-oriented services. Parks may also help improve the overall appeal of a community to visitors and increase tourism.
Estimating the Effects of Spending	Explains direct and indirect effects of park-related expenditures (multiplier effect) and how to estimate economic impacts of a particular project.
Health Care and Fitness	Parks and trails supports fitness and wellness by providing convenient opportunities for exercise, such as walking, jogging, biking, rafting and more. Increased physical fitness can lead to decreased public health care costs. Similarly, businesses are realizing the benefits of healthy employees, both in increased efficiency and decreased health insurance claims. This chapter discusses the costs of physical inactivity and how parks and trails can mitigate such expenditures.
Real Property Values and Market Impacts	Presents evidence that parks and trails may increase nearby property values. Demonstrates how an increase in property values can increase local tax revenues and help offset park and trail acquisition costs.
Green Infrastructure	Explains how conservation of parks, rivers, trails and greenways may help local governments and other public agencies to reduce long term costs for services such as roads and sewers; avoid potential costly damages through hazard mitigation and pollution control (for example, reducing injury to persons and property from flooding; and avoiding damages to natural resources such as water and fisheries). Also, commuting costs can be reduced for employees who use trails to get to work.
Corporate Relocation and Retention	Presents evidence that the quality of life of a community is an increasingly important factor for retaining and attracting

	corporations and businesses, and that greenways, rivers and trails can be important contributors to the quality of life. Corporations bring jobs to a community and help support businesses that provide services and products to corporations and their employees.
Retirement Relocation & Retention	The popular press and academics have highlighted a new demographic: the swelling number of young, healthy, affluent retirees who make decisions on the basis of factors other than proximity to family and healthcare facilities. These retirees are perceived to be the equivalent of a pollution-free industry that requires many fewer services than it pays in taxes. This chapter focuses on how choice retirement location is influenced by natural amenities such as parks and trails.
Benefit Estimation	Describes how the recreational benefits of parks, rivers, trails and greenways can be estimated in monetary values. Users can be surveyed to estimate the value of a visit to a park, or data from models can be applied to specific situations.

1.1 The National Park Service

The National Park Service preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout the U.S. and the world.

On August 25, 1916, President Woodrow Wilson signed the act creating the National Park Service, a new federal bureau in the Department of the Interior responsible for protecting the 40 national parks and monuments then in existence and those yet to be established. Today, the National Park System of the United States comprises 388 areas covering more than 83 million acres in 49 States, the District of Columbia, American Samoa, Guam, Puerto Rico, Saipan, and the Virgin Islands. These areas are of such national significance as to justify special recognition and protection in accordance with various acts of Congress.

Pacific West Regional (PWR) Offices oversee the management of 56 national park units, and works with the many local, regional, state and federal government agencies in California, Hawaii, Idaho, Nevada, Oregon, Washington and the islands of the outer Pacific. The region is rich with cultural and natural diversity and extends 106 degrees around the globe from eastern Nevada to Guam and Saipan on the other side of the International Dateline.

In addition to serving the parks, the Pacific West Regional Offices are responsible for the Rivers, Trails & Conservation Assistance (RTCA), National Historic Trails, Land and Water Conservation Fund, Federal Lands to Parks, and National Historic Landmarks Programs. Parks, rivers, trails and greenways connect people to their environment as well as

provide communities with economic, health, and quality of life benefits. The National Park Service's RTCA program assists community-based conservation initiatives. Through working with local partners, it fosters a network of rivers, trails and greenways that links people -- where they live and work -- to each other, to their community, and to the countryside.

RTCA cooperates with states, local governments, and citizen groups to protect and restore river corridors and to establish trail systems. The goal of this outreach program is to share the expertise of the National Park Service and best practices with groups working to protect their river, trail and greenway resources. As part of that effort, RTCA published the first four versions of "Economic Impacts of Protecting Rivers, Trails and Greenway Corridors." The 2004 update was also completed with the input from many RTCA staff, though the final version will be of use to NPS and others in general.

1.2 Domestic Corps

Domestic Corps is a fellowship program providing MBA (Master of Business Administration) and BBA (Bachelor of Business Administration) students with challenging, action-based summer internship opportunities with nonprofit and government organizations serving economically distressed, culturally diverse communities throughout the United States. Domestic Corps provides these organizations with direct access to the expertise, experience, and extensive resources of a top ranked school, while encouraging future business leaders to take an active role in building stronger communities.

The Domestic Corps program was established in 1992 as part of the Business and Industrial Assistance Division at The University of Michigan Business School, now named the Ross School of Business. Supported by the generous assistance of various corporate, foundation and individual sponsors, Domestic Corps has placed more than 200 students in over 80 nonprofit organizations across the country.

The Domestic Corps mission includes enhancing the professional and educational experience of students through hands-on, senior-level assignments with organizations dedicated to community and economic development. It also aims to strengthen the organizational capacity of organizations serving economically distressed and culturally diverse communities, contributing to their effectiveness and long-term sustainability. Since inception, more than 200 students have participated in the Domestic Corps program. Placements are in primarily inner-city and rural environments that serve economically distressed and culturally diverse communities. Projects are full-time, on-site engagements usually lasting between twelve and fourteen weeks. Over 100,000 hours of cumulative assistance has been provided to various nonprofits throughout the U.S. as a result of the Domestic Corps program.

The National Park Service hosted a Domestic Corps fellow each of the two summers prior to 2004, and Ray Murray served as project supervisor for both of those projects as well. All three Domestic Corps placements, including this project, were generously supported by the Ford Motor Company Fund.

2 Methodology

The overall methodology was geared around creating an updated version of the resource book based on independent research and interaction with experts in the field. The methodology can be summarized in the following steps:

1. Review of the 1995 report and creation of outline for new report including additional chapters
2. Introductory research and data gathering on each chapter topic
3. Analysis and synthesis of information with feedback and input from NPS colleagues and stakeholders from interested organizations
4. Finalization of content by choosing specific sub-topics and case studies for inclusion
5. Compilation of the final report text and graphics.

First, Richard Bole and I reviewed the most recent version of the report and developed a draft outline for the new report. After understanding the extent of topics and case studies covered in 1995, we met with Ray Murray, our NPS supervisor, to discuss appropriate new topics for inclusion. We then drafted a new outline based on additional chapters as well as organizational changes for better flow.

Second, we conducted introductory research and gathered data on each chapter topic. This was done by compiling a list of stakeholders who could be contacted for input as well as a list of related organizations that could also provide relevant information. Richard Bole and I divided responsibility for each chapter between us, and use the following sources to obtain economic information and statistics related to each chapter topic:

- References from 1995 report
- Websites of industry, NGOs, NPS and other government agencies
- Peer reviewed journals available through the University of Michigan library and NPS Library service in Seattle
- Mass media articles, which offer a gauge of public sentiment and current topics of interest.

Next, we analyzed and synthesized the information with feedback from NPS colleagues, stakeholders from interested organizations, and experts in the field. We reached out to individuals for their input on the draft outline, content, and preliminary findings, and we also contacted past authors and users of the report to integrate their feedback on improvements and usability. Research and communication was conducted via email, phone, and on-site visits in California and Washington, DC. I contacted nearly 100 different individuals during my research and spent a week in the NPS headquarters in Washington, DC meeting with some of them in person. Richard Bole and I then organized case studies by topic, geographic location and size of locale (small city, large city, regional, state, national) to ensure that a wide array of user-types are represented and to identify gaps in breadth and depth of case studies. Finally, we reviewed findings with NPS staff and revisited the report outline to make modifications as appropriate. Our goal was to provide

the most current information on the subject area and to include comprehensive examples and case studies.

In order to finalize content, we chose specific sub-topics and case studies for inclusion in the resource book. Based on gathered data and opinions of stakeholders, we prioritized sub-topics and determined the most pertinent data to be included in the body of the publication. Auxiliary information was listed at the end of each chapter so users could find more advanced or detailed data as desired. We organized the flow of each chapter based on the extent of data available and its relevance to surrounding topics and chapters.

Finally, we each compiled the text for each chapter of the final report. Existing text was modified and passages as well as chapters were added in order to present updated findings and case studies. As part of the drafting process, we also compiled photographs and illustrations relevant to each chapter to replace the black and white drawings used in 1995 report. I compiled several hundred photographs to include in the publication and sorted them according to the most appropriate chapter.

2.1 Deliverables

The primary deliverable was a manuscript with eleven chapters to replace the 1995 version of the resource book. In addition to the text for each chapter, photos and graphics were also included. I authored seven of the chapters, each with an introduction to the topic along with examples of how specific economic impacts have been calculated for particular parks and trails. Each chapter also includes sections on “How To Use These Rationales in Your Community,” “Sources of Information,” “Considerations In Using These Rationales,” and “References” with complete citations. Some chapters also have a final section entitled “Additional Information.” In keeping with the goal of presenting an introduction to economic impacts, the chapters were kept to a reasonable length. When hard copies of the handbook are published, ease of readability for the novice is a primary focus. However, when additional useful information is available, it will be accessible on the internet. Thus, the “Additional Information” sections will not appear in bound versions of the handbook, but will be published online where an advanced reader can find more detailed information that is of particular interest.

These chapters are currently being circulated for review by internal NPS staff and well as external peer reviewers. In addition, I provided notes and suggestions for rewriting and preparing the preface and appendices. Several of the new appendices are included in this publication in Section 3.9, including sample survey questions and surveying tips.

The secondary deliverable was an economic impact and benefit profile that was developed to provide a comprehensive view of Golden Gate National Recreation Area’s impacts. It was an application of the eleven chapter themes in the updated resource book to demonstrate how GGNRA benefits local, regional and national economies, as well as local residents and gateway communities. The profile outlined the aspects of an economic analysis profile that could be undertaken to fill the current gap in understanding GGNRA’s economic impacts.

3 Results

Included in this section are the manuscripts for the seven chapters of the resource book that I authored, as well as the Economic Impact Profile for the Golden Gate National Recreation Area, which Richard Bole and I co-wrote. The chapter manuscripts were delivered to NPS for review and a final version is pending publication. The GGNRA profile was provided to the park superintendent. Finally, additional appendices were drafted and notes were provided to NPS for an updated preface for the 2004 version.

3.1 Agency Expenditures

This section of the Resource Book presents how the expenditures of the agency or organizations responsible for managing a park, river, trail, or greenway can contribute to the local economy. Agency expenditures contribute to economic activity by providing payrolls and support to a myriad of businesses. Some of the major economic sectors that agency expenditures support include utility services, insurance, vehicles, sporting goods, lumber and building materials, legal agencies and service, chemical lubricant and gasoline supplies, food purchases, and playground equipment.

3.1.1 Level of Expenditures

The managing organizations support the local and regional economy by providing jobs and purchasing supplies and services to develop, operate, and maintain parks or trails and conduct related improvements. Expenditures can be made for capital outlay, current operations, interest on debt, and insurance benefits, among other things. Benefits to the local community are greater if supplies and services are purchased from local businesses. The following examples illustrate the level of expenditures which potentially impact the local community.

- The American River Parkway in California accounted for nearly \$5 million in expenditures by the County of Sacramento Department of Regional Parks, Recreation and Open Space in fiscal year 2003-04. The American River Parkway is comprised of 6,035 acres of land and water with five major day use park sites, several group campsites, a nature center, two golf courses, numerous river access points and boat launch ramps, and 62 miles for walking, biking and horseback riding. Approximately \$1,096,770 of the expenditures was made for services and supplies, and \$3,807,016 for personnel salaries and benefits. Expenditures for services and supplies range from professional planning services to paper products. Personnel include permanent and part-time maintenance staff to provide trash pick up, litter removal, restroom cleaning, trail maintenance, regular mowing of turf areas, cleaning of picnic sites, and general maintenance of park facilities; park interpretive specialist staff to provide interpretive and educational programs at the nature center; and Park Ranger peace officer staff to provide law enforcement along the Parkway (American River Parkway, 2004).
- The city of Boulder, CO Greenways system is comprised of a series of corridors along riparian areas. The Greenways Capital Improvements Program (CIP) budget is \$450,000 annually and the Streets and Bikeways Maintenance work group has a budget of \$267,388 per year including personnel expenses for maintaining the 28.5 miles of both Greenways and non-Greenways paths. Finally, the Transportation Division's budget for major maintenance of bikeways in Boulder is \$175,000. This is utilized to replace bridges and significant sections of paths (Greenways 2005 - 2010 Capital Improvements Program).
- Several California agencies were surveyed to determine the average cost

incurred for maintenance of developed park land. Areas that were "landscaped," containing turf, shrubs and maintained trees, were considered as were "hardscape" areas including roads, parking lots, trails, building pads, and structures. The average maintenance cost per acre among the four agencies surveyed was \$4,236 as shown below (American River Parkway, 2000).

Table 2. Benchmark Maintenance Comparison

Facility/Agency	Developed Area (acres)	Natural Area (acres)	Budget (\$/yr)	Cost/Dev. (Acre/yr)
Mission Bay Park, San Diego	977	5	\$ 3,778,168	\$ 3,867
City of Sacramento	1,154	1,000	\$ 5,485,500	\$ 4,753
City of Encinitas	54	69	\$ 373,550	\$ 6,918
East Bay Reg. Park District	6,370	84,630	\$ 26,600,000	\$ 4,176
Total	8,555	85,704	\$ 36,237,218	\$ 4,236
Average	2,139	21,426	\$ 9,059,305	\$ 4,236

- A similar analysis looked at the California State Parks' historic costs of managing the 7.5 miles of the American River Parkway that are under its jurisdiction, include hiking and riding trails, beaches, and day use picnic areas. The number of ranger patrol and lifeguard hours incurred on that part of the parkway during a given year under their historical staffing plan is 9,375. When combined with the boat rescue lifeguard position, and divided by 1,800 productive hours/position per year, the result is 6.2 full-time positions for 7.5 miles of parkway or 0.83 full-time positions per mile of parkway (American River Parkway, 2000).

Expenditures must be reviewed in detail to determine how much is spent locally since some supplies may be purchased from outside the region and only the profit from retail sales, for instance, actually benefits the local retailer. The majority of the purchase price covers the wholesale cost of the product. Also, agency expenditures are often funded by community residents in the form of local taxes. This is actually an opportunity cost because residents would probably have spent that money in the community if it had not been collected in the form of taxes, so there is no generation of *extra* income by agency expenditures. If, however, resources are injected into an economy from non-local governments, they can be considered new money because they would not have come to the community without the park or trail. Thus, carefully consider what portion of agency expenditures should be included in a particular economic impact analysis because a portion could possibly have been spent on alternative projects within the area.

- The East Bay Regional Parks District (EBRPD) in California spends about \$80 million annually, including \$59 million on operations and maintenance and about \$21 million on capital expenditures. A total of 540 permanent employees and 215 seasonals work for the District. The majority of the funding spent by EBRPD results from local taxes, but funds are also received from outside sources such as charges for services paid by non-residents, and state and federal

grants. About 25% of capital expenditures, or \$5.2 million, comes primarily from state grants and is thus a net new expenditure in the local community. Similarly, 24%, or \$3.9 million, of the money received by concessioners in entrance fees comes from non-resident users. In total, \$9.1 million or 11% of total direct expenditures by the District is a new injection into the local economy. Taking multiplier effect into account and using a multiplier of 2.0 (see Section 3.5.2), the total impact on the East Bay economy is \$18.2 each year. (East Bay Regional Park District, 2000)

- The Necedah National Wildlife Refuge incorporates over 43,000 acres of land in south-central Wisconsin. It offers a variety of recreational activities, including hunting, fishing, wildlife viewing, and photography, on both public and private lands. NNWR had an annual budget of \$1,674,000 in 2002 that supported salaries for a 14 person staff, operations and maintenance costs, small capital purchases and educational programs. Refuge spending by the U.S. Fish and Wildlife Service (FWS) represents a wholly new injection of funds into the local economy that would not occur otherwise. Thus spending by the Refuge can be considered a true stimulus to the local economy. However, changes in the output of the local economy do not necessarily indicate a change in overall national output. Instead, it is probably a redistribution of spending from another part of the nation, not a net increase in output for the nation overall. (U.S. Fish and Wildlife Service)

Total financing of local park and recreation services¹ in aggregate has a substantial economic impact. In 1999-2000, all non-capital expenditures by local governments for parks and recreation totaled \$15,117,000. That same year, \$5.872 billion was invested in capital projects (Crompton, May 2003). Likewise, collective expenditures for parks and recreation by state governments are significant and steadily increasing. In 1999-2000, total expenditures exceeded \$4 billion, with about \$3 billion spent on non-capital and more than \$1 billion on capital projects (Crompton, September 2003).

Payroll and the number of staff employed by park and recreation departments are also significant. Park payroll accounted for over one-third of the total income effects at Carlsbad Caverns National Park (Stynes and Sun, 2003) and over three-fourths at Women's Rights National Historical Park (Stynes, 2000). The impressive volume of park personnel is shown in the table below. In addition, between 1979-2000 approximately 94,000 full and part-time positions within local entities were contracted out to the private sector instead of maintaining them in the public sector. Extrapolated data indicates that for local public park and recreation services, about one out of every 4 ½ jobs is performed by an outside contractor (Crompton, May 2003).

¹ Local entities include municipalities, counties, townships, special districts and school district governments. Park and recreation is federally defines as the "provision and support of recreational and cultural-scientific facilities maintained for the benefit of residents and visitors" so it goes beyond simply parks, rivers, trails and greenways. Examples include golf courses, playgrounds, tennis courts, public beaches, swimming pools, play fields, parks, camping areas, recreational piers and marinas, etc., including support of private facilities; galleries, museums, zoos, and botanical gardens; auditoriums, stadiums, recreational centers, convention centers, and exhibition halls; community music, drama, and celebrations including public support of cultural activities (U.S. Census Bureau).

Table 3. Number of Staff Employed by Park and Recreation Departments

	Full-time Employees (1999-2000)	Part-time Employees (1999-2000)	Total FT and PT Employees (1999-2000)
Number of Park and Recreation Personnel Employed by Local Governments	153,000	172,000	325,000
Number of Park and Recreation Personnel Employed by State Governments	27,283,000	11,273,000	38,556,000

Employment generated by a park or trail project can be targeted by the managing agency to benefit particular needs of the community. For example, programs may be implemented to employ population segments suffering from high unemployment or in need of training. Many states, regions, and cities have Conservation Corps that provide job training, education, and work opportunities, especially for the educationally or economically disadvantaged youth between the ages of 18-25. Recreation and natural resource projects that corpsmembers typically work on include constructing and maintaining trails, boardwalks, bridges, and riparian areas, as well as restoring natural habitats through seeding, debris removal and much more. In a cost benefit analysis of four Youth Corps Programs, they produced nearly \$600 in net benefits to society for every participant (National Association of Service and Conservation Corps, 2002).

- The Washington Conservation Corps (WCC) has 120 corpsmembers working throughout the state on diverse projects such as constructing recreational trails and boardwalks, conducting playground maintenance, and performing wetland restoration. WCC is funded by partner organizations through fee-for-service and receives state funding and grants from AmeriCorps as well. WCC's partnerships include Washington Parks and Recreation, Olympic National Park, and Mount Rainier National Park. In 2003, WCC corpsmembers constructed nearly 21 miles of trails, performed maintenance on 62 miles of trails, and opened 55 miles of stream habitat.
- Each year the California Conservation Corps (CCC) employs approximately 3,500 young men and women to work on natural resource projects sponsored by local, state and federal agencies as well as nonprofit organizations. This mutually beneficial program not only provides young people with employment and develops work skills, but also gives conservation-related organizations access to an affordable year-round labor force. The CCC's accomplishments include constructing or rebuilding 6,402 miles of California trails; 11 million hours of landscaping, developing and improving parks, from urban and regional parks to state and national parks; and restoring or enhancing more than 1,800 miles of streams and estuaries to aid salmon and steelhead migrations.
- In an average year, Montana Conservation Corps' natural resource projects will include 130 miles of trail building and maintenance, 25 miles of fencing installed, and 20 parks improved.

- The Marin Conservation Corps (MCC) provides job training to Corpsmembers by working on projects that help to preserve the environment in Marin County, California. For the Cataract Trail project, a five-year effort, teams rebuilt the upper section of this historic trail while learning trail construction/restoration, erosion control, rough carpentry and safe heavy material handling techniques. MCC works on a variety of types of trails, including those for bicycles, horses, pedestrians, and persons with disabilities. The Corps also restores natural habitats, such as those within the Presidio of San Francisco. Not only does MCC monitor the flora and fauna, plant native species, and remove non-natives, but it also leads volunteers in these efforts. On average, MCC performs about \$200,000 worth of trail work for the community each year, and partners have included Marin County Parks & Open Space District, Point Reyes National Seashore, the Bay Audubon Center and Sanctuary, Golden Gate National Recreation Area, and the Marin Municipal Water District.

3.1.2 How to Use These Rationales in Your Community

List specific park related expenditures. Determine all organizations and groups directly involved in managing the park or trail area. List expenditures for their park-related activities. Itemize annual expenditures by activity. Examples of expenditure categories are: planning, acquisition, development, operation, and maintenance. Include all annual expenditures for personnel, supplies, and equipment. For each, estimate the percentage of these expenditures which are made within the local economy. Annual expenditures can be calculated either by calendar year or fiscal year. Calculate the total expenditures made within the local economy and the number of jobs provided. If your park or trail has not yet been created, go through the same process, but project future annual expenditures.

Apportion other park-related expenditures. Some agency expenditures will be for administration, personnel, supplies, and equipment that may be used only partially for the park or trail being analyzed. If this is the case, estimate the percentage attributed to the park being studied. If these are annual expenditures, figure the percentage of time staff or equipment that can be applied and apportion the expenditures accordingly. For heavy equipment, or other long-term investments, you need to calculate the annual cost of the investment. This is also termed “annualizing” and may include calculations for depreciation. Ask accounting or finance specialists for the appropriate figures to convert long-term expenditures to annual costs. Total the annual expenditures that can be attributed to the park or trail and add to the value calculated for the park-specific expenditures given above. This total is the direct impact of agency expenditures.

Calculate park-related employment. Count the number of employees necessary to operate the park or trail. The managing agency should be able to provide employment figures. Seasonal jobs should be converted to full-time/year-round equivalents. For example, three four-month seasonal positions can be counted as one full-time/year-round position. Many trails and greenways involve multiple managing agencies since the corridors pass through different political jurisdictions, and some parks use partner non-profits to supplement agency staff. Be sure to add up the jobs and expenditures of all managing agencies and their respective suppliers and contractors. If possible, determine in which city

or county employees reside. Divide the total number of employees into percentages based on where they reside. Since employees typically spend most their paycheck in the community they live in, this will give a good indication of which jurisdiction benefits from park or trail related expenditures. Determine if employment contracts benefit particular needs of the community's population, such as youth conservation corps, or unemployed persons in work training programs.

Determine park-dependent businesses. Talk to businesses that receive agency expenditures. Determine what proportion these expenditures comprise of the businesses' total revenue. Keep this information on file and communicate results. Use a simple graphic format such as pie-charts and bar-charts to show how expenditures and jobs are supported by managing agencies, their suppliers, and contractors. You can also show the distribution of economic activity by jurisdiction.

3.1.3 Sources of Information

Public and non-profit agency budgets are a matter of public record:

- **U.S. Census**
 - Average incomes for different occupations, by state: <http://www.census.gov/econ/www/index.html>
 - Federal, State, and Local Government data, including public employment and payroll information: <http://www.census.gov/govs/www/index.html>
- **Guidestar**
 - A national database of non-profit organizations, which maintains annual information on total expenditures (program services, administration) as well as salaries of officers, directors, trustees, key employees and contractors. Images of each organizations' IRS Form 990² are available online: <http://www.guidestar.org>

Budget and Finance Specialists. Agency budget and finance specialists are the experts on what and where park expenditures are being made. These specialists might also be helpful in case methodological questions arise.

3.1.4 Considerations in Using These Rationales

Interpretation of expenditure information.

- Do not assume that agency expenditures always inject *extra* income into the local economy. Consider whether the funding in question would have been used for another purpose within the community in the absence of the park or trail.
- You may wish to give stronger emphasis to the other impacts of your project before discussing agency expenditures. This information might be used to show how expensive the greenway will be. The bottom line, however, is that agency expenditures can help support local residents and businesses and should not be considered a drain on the local economy. This rationale is best for a project that has

² Form 990 is an information return that tax-exempt organizations with incomes of more than \$25,000 must file annually with the Internal Revenue Service.

already been implemented and is operating efficiently. It is also good for situations where agency programs are threatened by cut-backs. Calculate how many jobs would be lost due to cutbacks.

3.1.5 References

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3.1.6 Additional Information

Conservation Corps Programs

Youth conservation corps programs are usually full-time and offer the opportunity for work experience and education to young people within the framework of community service. There are about 120 corps programs nationwide (listed at the bottom of this section), enrolling 26,000 participants annually. There are 21 statewide programs and many localities manage their own programs, bringing the number of states with conservation corps up to 32. Participants are usually educationally or economically disadvantaged young people between the ages of 18 and 25, and most participants are persons of color. More than half were high school drop-outs when they joined and 80% did not work during the year before enrolling in the corps. Nearly half reported that their households were receiving some form of public assistance—AFDC, general relief, or food stamps. While working in the corps, participants receive a stipend, generally around minimum wage. Often, graduates of the program are eligible for post-program educational stipends or small cash awards.

Total funding coming from grants, contracts and contributions on the federal, state and local level for all conservation corps programs is \$338,746,537. The breakdown of corps funding sources is shown below.

Table 4. Source of Conservation Corps Funding

State/County/Municipal Appropriations & Grants	42.3%
Federal Grants	26.4%
State/Local/Private Fee-for-Service Contracts	21.0%
Federal Fee-for-Service Contracts	4.8%
Other	5.5%
TOTAL	100%

A cost benefit analysis was performed on the four youth corps programs that were the largest, most established corps programs within a larger study. These programs had completed the program startup phase and thus effectively represented the stable functioning of youth corps programs. The monetary results demonstrate how valuable these public investments are. They produced an average of almost \$600 in net benefits to society for each participant as shown below. Non-monetary benefits may include impacts on the participant's civic, social, and personal development, reduced risk behavior, strengthened collaborations and community networks as well as other indirect benefits to community. The study showed that there was a statistically significant reduction in the percentage of individuals arrested after participating in the corps program.

Table 5. Net Benefit Per Participant of Conservation Corps Programs

Operating costs of youth corps	- \$9,540
Value of service to society	+ 7,824
Earnings gains to participants	+ 2,313
Net benefit to society	+ \$ 597

For more information about Conservation Corps Programs in the U.S., see the National Association of Service and Conservation Corps at www.nascc.org.

Table 6. Conservation Corps Programs in the U.S.

ALASKA	Serve Alaska Youth Corps Nine Star Enterprises
ARIZONA	Coconino Rural Environment Corps Youth Corps of Southern Arizona
CALIFORNIA	California Conservation Corps HQ CCC-Central Service District CCC-Northern Service District CCC-Southern Service District City Year San Jose Conservation Corps of Long Beach East Bay Conservation Corps EOC/Fresno Local Conservation Corps Los Angeles Conservation Corps Marin Conservation Corps Orange County Conservation Corps Partners in School Innovation Sacramento Local Conservation Corps San Jose Conservation Corps Charter School 425 San Francisco Conservation Corps Tulare County Conservation Corps Urban Corps of San Diego
COLORADO	Boulder County Youth Corps Larimer County Summer Youth Corps Mile High Youth Corps Rocky Mountain Youth Corp-Steamboat Spring Southwest Youth Corps Weld County Youth Conservation Corps Western Colorado Conservation Corps
CONNECTICUT	Hartford AmeriCorps Knox Parks Foundation
DC	City Year DC
FLORIDA	Greater Miami Service Corps
ILLINOIS	City Year Chicago Greencorps Chicago

	Youth Conservation Corps, Inc.
MAINE	Maine Conservation Corps Maine Independence Corps
MARYLAND	Civic Works, Baltimore Maryland Conservation Corps Montgomery County Conservation Corps Silver Spring Corps Wheaton Clean & Safe
MASSACHUSETTS	City Year Boston
MICHIGAN	City Year Detroit Michigan Civilian Conservation Corps
MINNESOTA	Minnesota Conservation Corps
MONTANA	Montana Conservation Corps
NEVADA	Nevada Conservation Corps
NEW HAMPSHIRE	City Year New Hampshire Student Conservation Association
NEW JERSEY	New Jersey Youth Corps The Work Group/NJYC-Camden County Kids Corporation
NEW MEXICO	Rocky Mountain Youth Corps
NEW YORK	Cayuga County Conservation Corps Headwaters Youth Conservation Corps New York Restoration Project West Seneca Service Action Corps Youth Resource Development Corporation City Year New York
OHIO	Barney Quilter-Civilian Conservation Corps City Year Cleveland City Year Columbus
OREGON	Northwest Service Academy Northwest Youth Corps
PENNSYLVANIA	City Year Greater Philadelphia Pennsylvania Conservation Corps
RHODE ISLAND	City Year Rhode Island
SOUTH CAROLINA	City Year Columbia Youth Service Charleston
TEXAS	American YouthWorks City Year San Antonio Seaborn Challenge Corps
UTAH	Canyon Country Youth Corps Utah Conservation Corps
VERMONT	Vermont Youth Conservation Corps Green Mountain Club Backcountry Caretaker/Trail Crew
WASHINGTON	City Year Seattle/King County

	<p>EarthCorps Federal Way Public Schools Volunteer Corps Northwest Service Academy Regional Youth Service Corps AmeriCorps Spokane Service Team Washington Conservation Corps – DNR Washington Conservation Corps - Eastern Region Washington Conservation Corps – Ecology Washington Conservation Corps - Southwest Region Washington Service Corps</p>
WEST VIRGINIA	<p>West Virginia Citizens' Conservation Corps</p>
WISCONSIN	<p>Milwaukee Community Service Corps Operation Fresh Start Fresh Start - Advocap Fresh Start - Ashland Fresh Start - CAP Services Fresh Start - Renewal Unlimited Fresh Start - Wausaw Fresh Starts - Western Dairyland</p>

3.2 Commercial Uses

Parks, rivers, trails, and greenways can provide business opportunities, locations, and resources for commercial activities. These activities may include on-site concessions, permittees, partnerships between the managing agency and other groups, special events, and commercial filming activities. Compatible business ventures can provide a wide range of visitor services and facility improvements. Documenting and estimating the economic impacts of the commercial uses associated with parks, rivers, trails, and open spaces is part of an economic profile. Demonstrating these impacts might help to expand a project or provide information to assist promotion in other communities.

3.2.1 Concessions, Permittees, Licensees and Partnerships

Concessioners, permittees, licensees and partnerships are recruited and often bid for the right to provide a range of on-site visitor services which a public agency chooses not to self-operate. Typical examples include food services, recreation equipment rentals and sales, lessons, lodging, and convenience items. These services directly serve and enhance the recreational experience of park and trail users.

Concessions, permittees, and licensees are usually privately operated entities, mostly for-profit though sometimes non-profit, that operate on public land by authorization of the managing agency or group. A partnership is similar, but most often involves non-profit entities. These activities can have a significant benefit for a local economy by providing business activity and jobs, and enlarging the tax revenues.

- Golden Gate National Recreation Area (GGNRA), a National Park Service unit in and around San Francisco, California, has contracts with ten primary concessioners. Total 2004 gross revenues for these concessioners were over \$16 million, over 25% of which was spent on payroll. GGNRA also has cooperative agreements with non-profit park partners who operate within park boundaries. The eight primary partners, including ferries, hostels, and restaurants generated over \$9 million in total revenue in 2004, almost half of which went for payroll and provided local jobs (National Park Service Concessions, 2004).
- The California State Park System oversaw 190 concession contracts and 51 operating agreements in the 2001-2002 fiscal year. Concessions are businesses, non-profits, and public agencies operating under contract or agreement in state parks to provide products and services to enhance the park visitor's experience. California State Parks negotiates an average of 25 new or replacement concessions contracts annually to the public. In total, these concessions grossed over \$91 million and resulted in \$9 million in concession fees paid to the state in 2002. Rents from concessions are used to offset the California State Parks' annual budget, and payments from retail sales outlets made up 35% of the revenue California received from concessioners. Other concessions that made up the bulk of the rent included: restaurants (24%), snack bars (8%), marinas (7%), and golf courses (6%) (California State Parks, 2002).
- The concession program of the National Park Service administers over 600 concession

contracts that gross over \$800 million annually. These concessioners employ over 25,000 hospitality industry employees during peak seasons and they offer services that are not provided by National Park Service personnel ranging from food, lodging, and gas stations to white water rafting adventures. By welcoming the private sector as a partner in park operations, the National Park Service broadens the economic base of the region in general and the communities surrounding the parks in particular (National Park Service, 2004).

- Alcatraz evening tours for the general public are not held on Tuesdays and Wednesdays, because these are low-demand days. On these "dark nights," the island is available for private tours and special events, such as the Wells Fargo Private Tour and Reception held in July 2004. The company brought 125 guests from around the country and paid for National Park Service rangers overtime corporate salaries to provide programs and tours for the group. It also set up a catered reception on the island, complying with strict guidelines governing food preparation and site use. Total costs of producing the event, including catering, production, and water transportation, amounted to \$50,000, including \$10,600 paid to the Golden Gate National Recreation Area for permit cost recovery. The entire group stayed at the Argonaut Hotel, which is a concessioner of San Francisco Maritime National Historic Park (Evenson, 2004).

Revenues and benefits may also be generated through agricultural leases within a park or greenway, or via the gross value of pasture and range production value. For example, the East Bay Regional Park District in California permits grazing on 57,400 acres of its land, which represents about 14% of the total grazing land available in the San Francisco East Bay. The County Agricultural Commissioner's reports for the East Bay imply an annual value of \$12.90 per acre of grazing land. As a result, application of this average value per acre yields an estimate of gross District pasture and range production value of \$740,000 each year (East Bay Regional Park District, 2000).

- The Shasta Valley Wildlife Area in northern California, managed by the Department of Fish and Game, receives between \$15,000 and \$18,000 annually in exchange for grazing leases. The funds are used to help cover the costs of operations and improvements on the wildlife areas where the money was collected. Wildlife habitat is maintained for greater sandhill cranes, in particular, a long-legged bird that occupies shallow wetlands and open wet meadows and fields, and is listed as a threatened species in California. Cattle grazing is scheduled and located in areas that do not impact nesting and rearing of young birds, but the cranes prefer grazed areas over those that have not been grazed. Proceeds from leases are used to stabilize wetland areas for the birds to nest in and to improve public-use facilities. The Department of Fish and Game maintains nearly 10 miles of gravel dirt road open to the public and often used by hikers and birders, parking areas, fish passage facilities and fish screens along a tributary to the Shasta River, as well as an outdoor classroom with a teaching area and hiking trail used by schoolchildren. (Smith, 2004)

Another type of revenue is generated between telecommunications and utility companies and the entities managing parks and trails. Telecommunications and utilities companies, for

example, have made agreements to route fiber-optics or install equipment within trail corridors in return for financial compensation, which is often used to build and maintain the trail. Potentially compatible utilities that might generate income include: cable television wires, gas, sewer, and water pipelines, and electric transmission and distribution lines.

- The Northern Virginia Regional Park Authority has several license agreements, including two with fiber optic companies for routing along the Washington & Old Dominion Railroad Regional Park (W&OD Trail). One license covers a 30-mile stretch of trail and generates \$435,000 a year. The second covers 10 miles and generates \$244,000 annually. The agreements have inflation factors built in so fees are adjusted every 3 years. Both are long term licenses, for example, 20 years with 20-year optional renewals and renegotiation afterward. The annual payments received from these agreements are placed in a restricted fund and used primarily for trail improvements. The Park Authority also has six cell phone power/telecommunication agreements in place which each generate \$20,000 a year. Because the trail has existing structures for electric transmission lines already in place, telecommunication companies often make requests to install cell equipment such as antennas, and lease the space around the tower for ground equipment. In Bull Run Regional Park, a contract for a free-standing telecommunications monopole that is located away from public use areas generates \$80,000 annually (Rudacille, 2004).
- Wisconsin's Glacial Drumlin State Trail received a one-time fee of \$8,300/mile from United Telecom for an easement along about 45 miles of trail in the mid-1980s. United Telecom also graded and surfaced the rail-trail after the rails and ties were removed, and put down limestone gravel as part of the easement agreement. Because the easement was not exclusive, the Trail also partnered with Williams Communication to lay fiber optic cables in 1999 and received about \$30,000. Williams Communication also re-graded the surface of part of the trail which had been used by snowmobilers and was no longer suitable for inline skaters. Thirteen miles of the trail are now asphalt and it is one of Wisconsin's best bike trails. The Trail also has several easements for gas lines (Muzik, 2004).

Other partnerships that could be considered are packaged recreation services for visitors, and alliances with communities around the park or trail for marketing purposes. Packaging means that the park or trail agency works with support services, such as transportation, restaurant and hotel if required, to present a total recreation or leisure experience to potential visitors. This strategy may be particularly useful in targeting non-local groups and in repositioning the agency as a key player in tourism and economic development. Linking with a tourism agency has the added benefit of sharing resources. Tourism agencies often have resources available for promotion, while most park and recreation agencies do not. On the other hand, tourism agencies usually do not directly produce programs and services, but many park departments have special-event coordinators with that expertise (Crompton, 2000). Other alliances could be formed regionally among communities located around a park in order to better attract visitors. Together, they will be better able to market and promote the parks or trails as a destination and to point out its multiple benefits (Bichis-Lupas, 2001).

3.2.2 Special Events

Revenue enhancing special events can include arts festivals, concerts, craft fairs, reenactments, races, competitions, and other sporting events. Special events can serve multiple purposes. They can generate revenues to sponsors and the community by bringing in tourism dollars, perhaps during the off-season or when out-of-town visitation is low. If events are annual or substantial enough, new employment opportunities may be created. Furthermore, special events can promote the park itself to residents and visitors through increased visibility and awareness.

- Eppie's Great Race, the World's Oldest Triathlon, consists of a 5.82 mile run, 12.5 mile bike ride, and 6.35 mile paddle down the American River in California. All proceeds from this annual event along the American River Parkway are donated to Therapeutic Recreation Services, a unit of the County of Sacramento Department of Regional Parks, Recreation and Open Space that provides skills training and recreational opportunities programs for over 15,000 individuals annually with mental, physical, developmental, sensory, emotional impairments and special needs. The 2003 Great Race raised \$40,000. Race donations to date total over \$670,800. Eppie's Great Race provides funding to Therapeutic Recreation Services to expand programs and increases community awareness about disabilities and special needs and the need for healthy leisure lifestyles. Programs offered include social clubs, camps, outdoor adventures, classes, special events, sports and fitness, travel and vocational training programs. Specially trained staff work with clients to teach leisure, social, community and independent living skills that prepare clients for participation in regular community recreation activities (Dallas, 2004).
- The "Escape from Alcatraz Triathlon" is an internationally televised annual sporting event that takes place almost entirely within the Golden Gate National Recreation Area (GGNRA). Its 2,000 participants start by jumping into the San Francisco Bay off boats anchored just offshore from Alcatraz Island and swimming to shore. The bicycle and running courses both go along the Coastal Trail in the Presidio, and the bicycle course runs down the Great Highway along Ocean Beach. This event draws 30,000 spectators on-site and commands a television audience of approximately 10 million households worldwide. Ninety percent of participants come from outside the San Francisco Bay Area. Total direct costs of producing the event, including television product costs, amount to \$600,000, including some \$7,500 paid to the GGNRA for permit cost recovery. Event sponsors estimate the total economic impact to the Bay Area at \$9.6 million (Evenson, 2004).
- The Golden Gate National Recreation Area hosts the Avon Walk for Breast Cancer at Crissy Field. This philanthropic fund-raiser consists of a two-day walk, with an overnight camp-out in between. The event was highly successful for both the Park Service and the Avon Foundation. Two thousand walkers camped overnight without leaving a trace, and raised \$4.3 million for breast cancer research. The total direct costs of producing the event amounted to \$1.5 million, including \$12,500 paid to the GGNRA for permit cost recovery. Approximately 1,500 of the 2,000 participants came

from outside the Bay Area. This event is advertised in February and March on all major television networks, as well as Bay Area radio stations, reaching an audience of 6.5 million throughout the San Francisco Bay Area (Evenson, 2004).

- The 26th annual “Great Race” in Pittsburgh attracted nearly 10,000 runners. As Pennsylvania’s largest 10K race, it attracted runners from 30 states and 30 different countries, though 92% of participants were Pennsylvania residents, most from Allegheny County. Past estimates have shown that many traveling parties bring at least one non-runner to the event, increasing the overall race-related expenditures (Gitelson, 1988). The Pittsburgh Parks and Recreation Department allocates two city employees to organize the “Great Race” and hires several contracted employees specifically for the race using funding from event sponsors (Shamraevsky, 2004).
- Dan’s Trophies & Awards in Poplar Bluff, MO estimates that during peak summer months from March to October, 50% of its business is generated from tournaments and special events taking place in parks and on public lakes and rivers. Sporting events and fishing tournaments create the most need for trophies and plaques, but agencies that manage parks, such as the National Park Service overseeing the Ozark National Scenic Riverways, also produce business by ordering retirement plaques and other special awards. In the fall and winter seasons, park-generated business drops to around 20%, with activities in local parks, like basketball tournaments, outpacing expenditures from activities in national and state parks. In the past three to four years, the trophy and award business has increased about 10% due to park-related events. Customers include national and local sponsoring companies, as well as individuals and Park and Recreation Departments of nearby towns (Massingham, 2004).

Special events can also be used to raise money and promote the park or trail itself. Such events can serve as a catalyst to gain support, strengthen volunteer organizations, and raise public awareness of your project. This economic activity can be reported as testimony of support for the park or trail.

- The San Joaquin River Parkway and Conservation Trust in Fresno, California, organizes a variety of annual events to raise money for the Trust. One of the most successful events is Parties for the Parkway, which has supported the addition of more than 500 acres of land for public use, new trails, and successful volunteer cleanup days along the San Joaquin River. The money raised by these special events helps expand and improve the San Joaquin River Parkway through land acquisition, graffiti removal and more. In addition to raising money, such events raise public awareness of the Parkway (San Joaquin River Parkway and Conservation Trust, 2004).
- The Greenway and Nature Center of Pueblo, one of the most active trail-related organizations in Colorado, sponsors several events annually, as well as renting bicycles and rafts. One special event is the Bluegrass Festival and Crafts Fair. This event not only raises public awareness and money for the Greenway and Nature Center, it also provides sales opportunities for local artisans and food establishments (Greenway and Nature Center of Pueblo, 2004).
- San Francisco Blues Festival, held at Fort Mason, is one of the nation's oldest blues festivals, and is the oldest annual event in Golden Gate National Recreation Area. The Blues Festival epitomizes the mission of the urban national parks, to bring the national

park experience to an audience who might otherwise never visit a national park. Production costs for the event amount to \$400,000, including \$15,000 paid to the GGNRA for permit cost recovery. Each year, the two-day event attracts an audience of sixteen to twenty thousand people. Approximately a third of those people come from outside the Bay Area and they spend the weekend in San Francisco, staying in local hotels and eating in neighborhood restaurants. In addition to helping the GGNRA fulfill its mission by providing programming for a diverse community of visitors, the Blues Festival also contributes significantly to local businesses (Evenson, 2004).

- The Ice Age Park & Trail Foundation is a non-profit, volunteer- and member-based organization in Wisconsin that works in partnership with the National Park Service and Wisconsin Department of Natural Resources to create, support, and protect the Ice Age National Scenic Trail. This thousand-mile hiking trail is located entirely in Wisconsin and tells the story of the last Ice Age and effects of continental glaciation along a scenic footpath. Since 2001 the Foundation has supported a “Mobile Skills Crew” that is trained in sustainable trail-building techniques. This crew of volunteers is trained to work with chapters on technical trail building projects, and also teaches the leadership skills necessary to create an efficient and positive crew. Members work with the community and chapter volunteers and have successfully built or upgraded 30 miles of sustainable trail through the hard work of approximately 300 participants who contributed 5,000 hours of their time in the first half of 2004 alone. In addition to new sections of trail, the program also works to establish road to road connections and address trail layout and rehabilitation needs (Malzhan, 2004).

3.2.3 Filming and Advertising

Unique and scenic areas are desirable as location backdrops for commercial movie, television, and photo shoots for magazine and newspaper advertising. Fees paid to use these areas, in addition to the money spent locally by film production crews during filming sessions, are beneficial to the managing park agency and the local economy. Media exposure and credits of a park, river, trail, or greenway can also help to promote the area and attract visitors.

- Movies and television shows, commercials and advertisements filmed on Utah's picturesque landscapes have added income to Utah communities. More than 300 movies and thousands of hours of television programming have been filmed in the state, including:
 - Mission Impossible 2, in which Tom Cruise dangled from the towering, red rock cliffs of Utah's Dead Horse Point, near Moab, in one scene.
 - Butch Cassidy and the Sundance Kid, scenes from which were filmed at Grafton, a ghost town near Zion National Park.
 - Indiana Jones and the Temple of Doom, which featured the Park Avenue and Windows sections of Arches National Park.
 - Planet of the Apes, both the original and its remake, which were shot at Lake Powell for its futuristic setting and remarkable landscapes.

Moab, in particular, is known for its variety of terrain and since the 1950s, more than 50 feature films have been shot within a two-hour driving radius, including Indiana Jones

and The Temple of Doom, City Slickers II, Thelma and Louise, The Greatest Story Ever Told, Rio Grande, Species II, Rocket Man and Geronimo (Utah Division of Travel Development, 2001).

- Park agencies often charge fees for photography or filming, and for recovering overtime costs and in-kind services. The East Bay Regional Park District requires a commercial permit for filming, photography, or videotaping of print ads, commercials, movies, videos and the like. The current fees are \$1,250 for a full day of filming, \$750 for a half-day or \$165 per hour. Other fees can include \$25/hour for park staff wages, \$9/hour for vehicle parking, and \$30/hour for set erection. Finally, the fee for individual photography permits, valid for 12 months, is \$100 (East Bay Regional Park District, 2000).

3.2.4 How to Use These Rationales in Your Community

Show how concessions, permits and special events have affected other communities.

Use some of the examples given to show how concessions and events have benefited other communities.

Estimate concession expenditures. If you have concessions, events, and permitted activities at your park, river or trail, determine the following:

1. How much do they pay in contractual and permit fees to the managing agency? This amount could be considered a revenue offset that the agency would otherwise have to collect in taxes or other means.
2. What is their gross revenue? This is the amount the concessions and events collect from visitors and participants that is likely to cycle through the local economy.
3. What percentage of revenues is likely from non-residents? Define the scope of your “economy.” The impacted geographic areas may be regional, county, city or neighborhood. Ask concessioners to estimate what percentage (annual average) of gross revenues is likely from visitors from beyond the boundaries of the economy. These non-resident concession expenditures are considered “new dollars,” and a stimulus to the local economy.
4. How much of the concessioners’ gross revenue goes toward payroll? How many jobs are provided?

Estimate impacts of partnerships. If you have cooperative agreements with businesses or non-profit groups who operate in your greenway area, follow the same procedure outlined for concessions to determine their economic impacts.

Estimate the impacts of special events. Again, define the scope of the “economy” and decide whether information is wanted only about on-site concession purchases or the effect on local hotels, gas stations, restaurants and other businesses. If an upcoming event involves ticket sales, the total number of visitors and their expenditures can be calculated. Get data on gross receipts as a measure of economic activity and calculate tax revenues generated by the event that are returned to the community through the local government. If

you have the opportunity to determine whether ticket buyers, participants and producers live within the economy, you will be able to determine resident versus visitor expenditures.

If an upcoming event involves a promotion and operating budget, estimate the percentage of the total budget that is spent in the local economy. Include expenditures from event sponsors, promoters, and contributors. Add this amount to the gross revenues realized by concessioners or non-profit entities involved. If it is a private event, payments may be made to the local government for traffic control, emergency medical backup, security, refuse collection services, and on-site supervision.

If the event does not have ticket sales, you may wish to conduct a survey of visitors. The purpose of the survey is to estimate how much visitors spent while attending the event and how much was spent within the local community. You might also compare resident and visitor expenditures. Suggested questions for questionnaires and survey strategies are listed in Section 3.9. A survey will be easier to conduct if there are only a few exit points. If there are many exit points, interviews can be conducted within the event area or mail surveys can be given to participants to fill out and return later. You should devise a systematic sampling method to avoid biasing results.

If implementing a survey seems like an overwhelming task, look for graduate students, professors, or planning firms who could conduct a survey for your community as part of their research or as a contribution for the community.

Once you have conducted a survey and analyzed the findings, you can multiply the average amount spent by the total number of people attending the event. This will give you an estimate of the total direct economic impact within your community. This assumes that the dollars spent are on local businesses. If event concessions or their employees and suppliers are from beyond the local economy, the local economic effects may be negligible.

To calculate the local tax impact of the event, multiply the direct spending totals by the portion of the state's tax rate that is returned to the local entity. The same approach can be used to calculate special taxes such as hotel/motel tourism taxes, which should be available from the state's department of revenue. State tourism department may also have this information available by county, parish, township, or city levels.

If it is not feasible to conduct a survey, you might interview the event sponsors or promoters about the general characteristics of event participants. They may be able to give you information you can use as the assumptions necessary for your estimates.

Determine impacts of filming and advertising. If you have filming activities on your greenway, estimate permits paid, or donations, and the average expenditure per employee, per day, in the local economy. Many of these businesses operate on well defined budgets. Interview firms about their range of average location shoot costs and the variables involved. Multiply by total number of employees and total filming and production days in the local economy for total film and advertising related expenditures in the local economy. State film commissions may have some of this data.

Promote park and trail events. If you are not already promoting special events in newsletters, brochures, fliers, and magazines, start. Many people will travel approximately 100 miles to attend a weekend or overnight event. Remember, events bring people who will discuss their experience at your park with their family and friends when they return home. Word-of-mouth can be a powerful and cost-effective means of promoting your greenway.

3.2.5 Sources of Information

Templates. John Crompton authored a publication entitled “Measuring the Economic Impact” which provides a good overview of economic impact studies in general, and provides templates for a Report of the Economic Impact of a Sports Tournament and a template for a Report of the Economic Impact of a Special Event. The document can be downloaded from the publications section of <http://rptsweb.tamu.edu/faculty/crompton.htm>.

Activity and club magazines, websites and listservs. Magazines such as Paddler [<http://www.paddlermagazine.com/>], Metrosports [<http://www.metroports.com/>] and others have listings and/or advertisements for park, trail and river events and may be interested in covering your event, or publishing a news release that you provide. Regular review of these sources, including their online versions associated bulletin boards, may also give you ideas for events you could plan for your park or trail. They may also identify clubs and organizations which regularly sponsor special events. Such groups could be encouraged to promote your park, river, trail, or greenway by using it as an event site or staging area. Listservers, such as the ones below, can also provide information about events.

- Walklist on Yahoo, <http://groups.yahoo.com/group/walklist/>
- Walk-talk, a Walk DC Email Announcements List, <http://www.walkdc.org/>

Operations. Fees paid to public agencies to operate businesses within greenways are a matter of public record. Contact the appropriate agency. Annual financial reports of concessioners, permittees, and licensees to public agencies will provide information on how funds are spent. You might also contact them directly for more information.

3.2.6 Considerations in Using These Rationales

Develop guidelines for commercial and special event uses. Certain types of areas in your park, river, trail, or greenway project may be incompatible with commercial uses. Protection of the resource is always your first priority. Carefully determine which areas are less sensitive and would allow commercial use. Determine appropriate levels of use. Issue permits based on preferred levels of visitor use and type of experiences you want to provide. Attach restrictions to the permit to ensure adequate protection of the resource. Have a written agreement to specify all terms, conditions and compensation. Be aware the technology may develop over time so that installation projects may become more feasible with time. For example, laying fiber optic lines once required open trenching but can now be done with directional drilling.

Use good survey methods. The better the survey method, the more useful the results will be. Consider whether there is a non-response bias. For example, if the survey yields less than a 55% return, it is possible that the results do not accurately represent the total population (Turco, 1993). A random sub-sample of non-respondents could be interviewed to determine whether findings can be generalized. Plan your information gathering to best utilize the resources available. A local community college or university may be interested in helping with surveys as a class project. See also “Sources of Information” in Expenditures by Residents, Section 3.3. The book titled “Mail and Internet Surveys: The Tailored Design Method” by Don A. Dillman (2nd edition) is also a good reference.

Be careful. Document your assumptions and calculations, and back them with sound logic. Peer review of your calculations is a must. If you have staff members with some background in economics or finance, their review and support would be especially important. The true economic impact attributable to a special event comes only from new money injected into an economy that would not otherwise have been spent. Thus, visitors can be counted who reside outside the community and came to the locale specifically for the special event, as can those who more time and money in the area because of the event. Money from residents that would have been spent on alternative expenditures in the absence of the special event should not be counted as part of the economic impact.

Be sensitive. Most private businesses do not wish to have their records a matter of public record as it may be perceived as potentially harmful to their competitive business position. While gross receipts and franchise, contract and permit fees are usually a matter of public record, levels of profit may not.

3.2.7 References

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3.2.8 Additional Information

Cattle Grazing/Leases- The following report summarizes a study that examines the relationship of publicly owned, Forest Service-managed summer grazing land to privately-owned foothill ranches and explores the economic and social sustainability of ranching in the Central Sierra Nevada. The report includes details on the value of permits to ranchers, average prices of forage supply alternatives, and methods for evaluating the worth of an allotment:

- Sulak, Adriana, and Lynn Huntsinger. June 2002. *Sierra Nevada Grazing in Transition: The Role of Forest Service Grazing in the Foothill Ranches of*

California. A Report to The Sierra Nevada Alliance, the California Cattlemen's Association, and the California Rangeland Trust. University of California, Berkeley. Available at <http://www.sierranevadaalliance.org/publications/>

3.3 Expenditures by Residents

This section explains how expenditures by residents on park and trail-related activities can help support the economy. Expenditures by residents refer to spending by day users who live within 50 miles of the site as compared to visitors from outside the local area (see *Travel and Tourism*, Section 3.4). The section covers overall expenditures on outdoor recreation, and how these contribute to national, state, and local economies.

This chapter includes specific expenditure levels for various outdoor recreation activities and discusses actual expenditures related to particular parks, rivers and trails. The concepts and applications within this chapter overlap with those in other chapters. For example, Agency Expenditures focuses on the impacts of spending by the agencies which manage the park or trail, and Commercial Uses deals with spending generated by park or trail opportunities such as special events, which may attract local residents and encourage spending.

3.3.1 Outdoor Recreation, a Spending Priority

Leisure is often considered to be discretionary, something that takes place during free time, away from work and other responsibilities, where participants choose and control their activities. Leisure activities can vary from mountain climbing, walking for health, to fishing or watching a football game on television. Outdoor recreation is a major component of leisure, and is usually included in leisure spending figures unless specified otherwise. Outdoor recreation and leisure expenditures can account for a substantial part of people's discretionary spending and a substantial portion of the population participates in such activities.

- In the U.S., non-motorized outdoor product sales were estimated by the Outdoor Industry Association at \$11.3 billion in 2001, despite global economic challenges. This is based on sales of outdoor products through specialty outdoor stores, paddle sports stores, national specialty chains, sporting goods stores, mass merchants, the Internet, and catalogs. SnowSports Industries of America (SIA) reports sales of ski and snowboard equipment and apparel at \$2.2 billion. The bicycle industry estimates sales at \$4.2 billion. And the American Fly Fishing Trade Association reports sales of \$700 million. This brings the total sales of outdoor gear, clothing, footwear, and other accessories to more than \$18 billion in 2001 (OIA, 2002).

Table 7. Retail Sales of Outdoor Products (2001)

Outdoor Products	\$11.3 billion
Ski and snowboard	\$2.2 billion
Bicycling	\$4.2 billion
Fly fishing	\$0.7 billion
TOTAL	\$18.4 billion

- In 2003, nearly two-thirds of Americans participated in at least one of the core human

powered activities³, a participant level up 8% from 1998, with an average participation frequency of 54 times in the past 2 years. In fact, the growth of the participant base has outpaced natural population growth by a wide margin (OIA, 2004). Human powered activities with wide appeal, easy accessibility, affordability, familiarity and minimal physical demands drew the largest numbers of Americans. For example, 30% of the population bicycle mainly on paved roads an average of 52.3 times in the past 2 years, 27% of American hiked an average of 21.5 times in the past 2 years, and 25% camped nearly 6 times in the past 2 years (OIF, 2004).

- Participation in recreation activities varies by region, income and race, but outdoor recreation is a widespread phenomenon. Nearly nine out of ten Americans (87%) participated in an outdoor recreational activity within the past twelve months and in fact, they participated in a mean of 5.4 different activities out of the 37 outdoor recreation activities tracked in the study (Roper, 2004).
- One study showed that in the past two years, participants spent an average of \$787 for outdoor activities -- \$301 on apparel and \$487 on equipment. People spent different amounts at various types of retail stores. Average spending at outdoor specialty stores was \$1,485, compared to \$1,079 at outdoor chain stores/sporting good stores, \$848 at discount stores, and \$1,656 online (OIF, 2004).

Table 8. Average Amount Spent in the Past 2 Years by Participants (OIF, 2004)

Backpacking/Hiking Apparel	\$342
Backpacking/Hiking Equipment	\$596
Bicycling (Paved Road) Apparel	\$326
Bicycling (Paved Road) Equipment	\$524
Bicycling (Off Road) Apparel	\$461
Bicycling (Off Road) Equipment	\$862
Birdwatching Apparel	\$366
Birdwatching Equipment	\$667
Camping Apparel	\$351
Camping Equipment	\$626
Climbing Apparel	\$570
Climbing Equipment	\$967
Cross Country/Nordic/Telemark Skiing Apparel	\$807
Cross Country/Nordic/Telemark Skiing Equipment	\$1,739
Fly Fishing Apparel	\$761
Fly Fishing Equipment	\$1,696
Paddle Sports Apparel	\$409
Paddle Sports Equipment	\$780
Snowboarding/Downhill Skiing Apparel	\$587
Snowboarding/Downhill Skiing Equipment	\$1,004
Snowshoeing Apparel	\$753
Snowshoeing Equipment	\$1,432
Trail Running Apparel	\$544
Trail Running Equipment	\$724

³ Core activities include backpacking, bicycling, bird watching, canoeing, camping, climbing, skiing, fishing, hiking, kayaking, rafting, snowshoeing, and trail running.

- Consumer purchases of sporting goods, in general, were even more significant. Not all of these purchases are for use in parks and along trails, but in 2002, nearly \$78 billion of durable goods were purchased.

Table 9. Consumer Purchases by Category, Sales of Sporting Goods (2003)

Equipment	\$21,799,000,000
Footwear	\$14,446,000,000
Clothing	\$9,573,000,000
Subtotal	\$45,797,000,000
Recreational Transport (Bicycles, pleasure boats, RVs and snowmobiles; projections provided by other associations.)	\$32,788,000,000
TOTAL	\$ 78,585,000,000

- According to the Sporting Goods Manufacturers Association, between 1990 and 2002 (est.) the U.S. wholesale market for sports apparel and athletic footwear grew to \$31.3 billion from \$20.6 billion (Columbia, 2004)
- Consider the various sports that take place in your park or along your trail system. Use the following tables for ideas of sporting equipment that people may use when they participate and how much such equipment costs. The Sporting Goods Manufacturers Association also publishes data manufacturers' shipments in wholesale dollars for the industry.⁴

Table 10. 2003 Consumer Equipment Purchases by Sport (NSGA, 2004)

Archery	\$281.1 million
Baseball & Softball	\$340.9 million
Basketball	\$306.3 million
Camping	\$1,484.4 million
Exercise	\$4,726.9 million
Fishing Tackle	\$1,981.4 million
Football	\$83.2 million
Hockey & Ice Skates	\$149.7 million
Hunting & Firearms	\$2,508.6 million
Optics	\$840.1 million
Skin Diving & Scuba Gear	\$337.8 million
Skiing, Cross-Country	\$44.6 million
Soccer Balls	\$63.5 million
Tennis	\$343.1 million
Volleyball & Badminton Sets	\$30.8 million
Water Skis	\$51.0 million
Wheel Sports & Pogo Sticks	\$439.7 million
Team Goods Sales	\$2,467.8 million

⁴ <http://www.sgma.com/reports/data/2004/market-rec-report2004.pdf>

Table 11. 2003 Sport Footwear Purchases by Average Price (NSGA, 2004)

Aerobic Shoes	\$39.91
Baseball/Softball	\$40.55
Basketball Shoes	\$54.50
Boat/Deck	\$29.39
Cross Training Shoes	\$45.96
Cycling	\$48.94
Fitness	\$41.75
Football	\$45.71
Hiking Shoes/Boots	\$45.01
Hunting Boots	\$64.82
Jogging/Running	\$50.08
Soccer Shoes	\$33.60
Sport Sandals	\$23.07
Tennis Shoes	\$34.16
Trail Running Shoes	\$48.55
Walking Shoes	\$41.61
Water Sport	\$14.25
Average Price⁵	\$38.88

How much outdoor recreation and leisure is attributable to the activities pursued in parks, and along rivers and trails? This is difficult to quantify but many outdoor recreation activities can be observed in such areas. Patterns vary significantly due to factors such as proximity, accessibility, weather, recreation opportunities, income, and educational levels. Surveys and studies of particular parks and surrounding areas can help understand where the local population is participating in outdoor recreation and whether related spending is a direct result of activities in those areas. Often spending on durable goods is attributable to a number of different activities and cannot be completely ascribed to the presence of a specific park or trail.

3.3.2 Spending by Local Residents

Local residents who use parks and trails may spend money to get to and from the site, on supplies, equipment, clothing and footwear to pursue their recreation experience, at on-site concessions and events, and nearby attractions. The magnitude of the impact of these expenditures depends upon the boundary and character of your local economy and the level of spending by local residents. If a new resource is created which attracts visitors, or non-residents, then outside dollars may be brought into your local economy. Park, river and trail resources which attract visitors can stimulate economic activity and create new jobs and income. These non-resident expenditures are discussed in the *Travel and Tourism* section.

⁵ Average price also includes bowling shoes, cheerleading, fashion sneakers, golf shoes, gym shoes, and skateboard shoes.

If a community, state, or region provides parks and trails for its local residents, they will have less of an inclination to travel outside of the area for recreation. This keeps the residents' expendable income in their community rather than spending those dollars in another area.

The local economy can be defined as the area for which you want to quantify the recreation activity and expenditures related to your park or trail. A park project can attract residents not only to the particular open space or trail, but also to nearby businesses, and motivate residents to purchase recreation-related equipment and services. These related expenditures help support the local economy through generation of employment and income. Use caution, however, when considering these expenditure values. It is common for spending to be only partially due to the presence of a specific park or trail.

3.3.3 Trends and Expenditures by Activity

The following discussion provides information on trends associated with uses of parks and trails and provides evidence where associated spending has been quantified. Activities include fish and wildlife-related recreation, boating, and trail-related recreation, and traditional park pursuits. As you prepare your analysis, consider the activities listed below

Table 12. Park and Trail Based Activities

Fish and wildlife-related recreation	Fishing Hunting Birdwatching Wildlife photography
River and lake activities	Rafting Rowing Kayaking Canoeing Motorboating Sailing Sailboarding Houseboating Waterskiing Jet skiing
Trail-related recreation	Walking Jogging Hiking Roller skating/in-line skating Bicycling/mountain bicycling Horseback riding Cross-country skiing Snowmobiling
Traditional park pursuits	Photography Camping

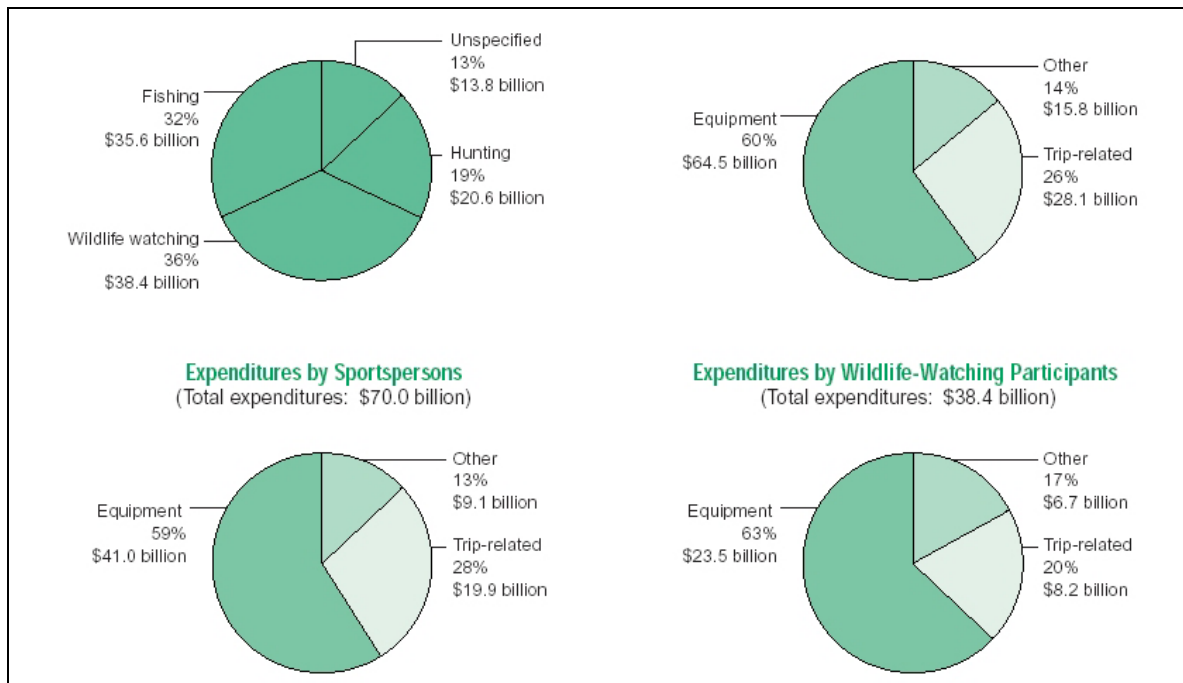
	Hostelling Attending special events Concerts Reenactments Festivals Driving for pleasure Picnicking
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3.3.4 Fish and Wildlife-Related Recreation

Activities associated with fish and wildlife-related recreation include fishing, hunting, birdwatching, and wildlife photography. More than 82 million U.S. residents fished, hunted, and watched wildlife in 2001 with considerable overlap among the activities. Expenditures by these participants exceeded \$108 billion, 1.1% of the Gross Domestic Products (GDP), which contributed to millions of jobs in industries and businesses that support wildlife-related recreation. Of the total spending, \$28.1 billion was trip-related, \$64.5 billion was spent on equipment, and \$15.8 billion was spent on other items. From 1996 to 2001, the number of wildlife watchers increased by 5% and spending on wildlife-watching equipment, such as binoculars and birdhouses, jumped by 33% (U.S. Dept. of the Interior, 2001). Details of participation and spending are outlined in the tables below.

Table 13. Total Wildlife-Related Recreation- Participants and Expenditures (USDOL, 2001)

Participants	82 million
Expenditures	\$108 billion
Sportspersons	
Total participants	37.8 million
Anglers	34.1 million
Hunters	13.0 million
Total days	786 million
Anglers	557 million
Hunters	228 million
Total expenditures	\$70.0 billion
Fishing	\$35.6 billion
Hunting	\$20.6 billion
Unspecified	\$13.8 billion
Wildlife Watchers	
Total participants	66.1 million
Residential	62.9 million
Nonresidential	21.8 million
Total expenditures	\$38.4 billion



Source: U.S. Department of the Interior, 2001

Figure 1. Expenditures for Wildlife-Related Recreation (2001): Total expenditures: \$108 billion

Table 14. Expenditures for Wildlife Watching: 2001

Expenditure item	Expenditures	Average per spender
Total, all items	\$38,414,488,000	\$738
TRIP-RELATED EXPENDITURES		
Total trip-related	\$8,162,439,000	\$448
Food and lodging, total	\$4,818,843,000	\$314
Food	\$2,835,868,000	\$186
Lodging	\$1,982,975,000	\$351
Transportation, total	\$2,595,542,000	\$152
Public	\$702,231,000	\$354
Private	\$1,893,311,000	\$115
Other trip costs, total	\$748,054,000	\$118
Guide fees, pack trip or package fees	\$113,034,000	\$94
Public land use fees	\$114,813,000	\$30
Private land use fees	\$50,430,000	\$58
Equipment rental	\$105,198,000	\$91
Boating costs (launching, mooring, storage, maintenance, insurance, pumpout fees, and fuel)	\$326,461,000	\$309
Heating and cooking fuel	\$38,118,000	\$24

EQUIPMENT AND OTHER EXPENSES		
Total	\$30,252,049,000	\$631
Wildlife-watching equipment, total	\$7,353,977,000	\$161
Binoculars, spotting scopes	\$507,387,000	\$108
Cameras, video cameras, special lenses, and other photographic equipment	\$1,656,755,000	\$372
Film and developing	\$910,423,000	\$67
Bird food, total	\$2,604,692,000	\$68
Feed for other wildlife	\$503,006,000	\$52
Nest boxes, bird houses, feeders, baths	\$732,671,000	\$46
Day packs, carrying cases, and special clothing	\$323,043,000	\$110
Other wildlife-watching equipment (such as field guides and maps)	\$116,000,000	\$31
Auxiliary Equipment, total	\$716,900,000	\$188
Tents, tarps	\$185,552,000	\$95
Frame packs and backpacking equipment	\$129,382,000	\$119
Other camping equipment	\$266,382,000	\$136
Other auxiliary equipment (such as blinds)	\$135,583,000	\$441
Special Equipment, total	\$15,468,716,000	\$10,971
Off-the-road vehicles	\$6,677,688,000	\$12,300
Travel or tent trailer, pickup, camper, van, motor home, house trailer, recreational vehicle (RV)	\$6,272,294,000	\$15,196
Boats, boat accessories	\$996,463,000	\$2,150
Magazines, books	\$331,955,000	\$40
Land leasing and ownership	\$4,761,010,000	\$8,585
Membership dues and contributions	\$920,183,000	\$119
Plantings	\$699,309,000	\$124

Recreational fishing is the most popular outdoor leisure time activity in the U.S. according to a 2001 Harris poll. Overall, sportfishing is estimated to generate \$116 billion worth of benefits to local, state and national economies. This is based on forty-five million Americans spending over \$42 billion on fishing tackle, trips and related services in 2001 with each angler averaging \$1,046 in expenditures on fishing. Furthermore, over one million jobs are related to sportfishing, accounting for more than \$30 billion in wages (ASA, 2002). Benefits by type of fishing are shown below.

Table 15. Fishing Benefits

	Total	Freshwater	Saltwater
Anglers	34.1 million	28.4 million	9.1 million
Expenditures	\$41.5 billion	\$29.5 billion	\$11.3 billion
Economic Output	\$116.1 billion	\$74.8 billion	\$31.1 billion
Jobs	1,068,046	683,892	296,898
Wages & Salaries	\$30.1 billion	\$19.4 billion	\$8.1 billion
Taxes	\$7.3 billion	\$4.8 billion	\$2.0 billion

*Anglers aged 16 years and over. Approximately 10.3 million children aged 6 to 15 also fish, but are not included in the spending analysis.

**Some expenditures were not classified by respondents as freshwater or saltwater. As a result, individual categories may not add to the total.

Statistics also show how fishing has a significant impact on a regional basis. In 2001, 1.4 million Ohio anglers spent \$944.6 million in fishing related expenditures (US FWS, 2001).

3.3.5 Boating

Recreational boating is one of the nation's most popular outdoor activities and includes rafting, rowing, kayaking, canoeing, motorboating, and jetskiing. It can take place on rivers, lakes and reservoirs, and along the nation's ocean coastline. On a national scale, boating's impacts are significant and continue to grow.

- Over 72 million Americans participated in recreational boating in 2003 and 5.5 million went waterskiing. An estimated 840,800 new boats were sold for a total retail value of \$10.6 billion, with an average retail price of \$12,611. Another \$2.5 billion was spent on new outboard motors (NNMA, 2003)
- The number of recreational watercraft owned in the U.S. is over 17 million, representing a 10% increase since 1988 (Ohio DNR, 2003).
- There were 86,700 canoes and 324,000 kayaks sold in 2003 at an average unit cost of \$573 and \$466, respectively. The total retail value of these two segments alone was \$200 million (NMMA, 2003).
- Over \$30 billion is estimated to be spent nationwide on the purchase of new and used boats, motors, engines, trailers, accessories and other marine related expenditures. This is nearly triples the \$11.2 billion that was spent in 1993 (Ohio DNR, 2003).
- There are 1,782 federally-operated reservoirs/lakes that support 900 million recreational visits per year, representing an economic value of \$44 billion annually (NRLSC, 1999).
- Between 1987 and 2003, participation in kayaking rose by 80% (SGMA, 2004).

Table 16. Retail Boating Market: 2003

	Canoes	Kayaks
Total Units Sold	86,700	324,000
Retail Value	\$49,644,420	\$151,048,800
Average Unit Cost	\$573	\$466

Table 17. Estimates of Retail Expenditures on Recreational Boating: 2003

New Boats	
Number Purchased	840,800
Total Retail Dollars	\$10,603,725,600
Average Retail Price	\$12,611
New Outboard Motors	
Number Purchased	305,400
Total Retail Dollars	\$2,554,533,570
Average Retail Price	\$8,365
New Boat Trailers	
Number Purchased	130,600
Total Retail Dollars	\$202,012,080
Average Retail Price	\$1,547
Estimated Boat/Motor/Trailer Dollars	\$21,425,010,741
Estimated Accessory Aftermarket Sales	\$2,123,640,093
Sub Total	\$23,548,650,835
Estimated Other (fuel, finance, insurance, docking, maintenance etc.)	\$6,448,429,689
Total Expenditures	\$29,997,080,523
New Boat/Motor Expenditures	\$13,158,259,170

Statistics also show how boating has a significant impact on a regional basis.

- Retail expenditure by recreational boaters in the Great Lakes states is \$600 million annually, one-third of all nation expenditures in this category (Voinovich, 2003).
- In the state of Maryland, recreational boaters contribute over \$2 billion to the economy (MD Sea Grant, 2003).
- In 2002, Ohio had 56,813 registered canoes and kayaks. These paddlers spent \$55 per trip on food and lodging (Ohio Greenways, 2004).
- A 1999 recreational boating economic impact study revealed that Ohio's economy benefits from nearly \$1.4 billion spent annually by boaters, and that approximately 19,500 jobs exist in Ohio due to recreational boating. Annual boating expenditures per household averaged \$5,625 and additional boating-related expenditures included an annual average of \$919 per household on maintenance, repairs and fees; \$2,310 on boat purchases and \$293 each on boat loan payments and equipment. For each boating trip, boaters travel an average of 38 miles one-way to reach a boating access point. (Ohio DNR, 2000).

3.3.6 Trail-related Recreation

Much of the population enjoys trail-related recreation including walking for pleasure and health, jogging, hiking, bicycling, roller-skating, in-line skating, horseback riding, and cross-country skiing. People also use trails for transportation. For example, more than 60 million Americans, including a million daily commuters, ride their bikes (America Bikes, 2004). Participation and expenditures on these activities and gear are significant, and growth has been strong in recent years. In 2001, there were 84.2 million recreational

walkers (SGMA, 2002) and the average sport footwear recently retailed for \$38.88 (NSGA, 2004). Between 1987 and 2003, mountain bike participation rose by 359%, fitness walking rose almost 40%, and trail running 16.4% (SGMA, 2004). Even on a regional level, such expenditures are worth noting. In Los Angeles County alone, hikers supported a \$300 million hiking equipment industry (AHS, 2004).

Horseback riding continues to be a popular activity within parks and trails and often entails significant expenditures. As interest in trail riding has grown, so have organizations devoted to preserving trails and many ranches across the U.S. offer vacations revolving around horses. The positive economic impact from recreational horseback riding revolves around horse owners, breeders, stables, veterinarians, truck and trailer dealers, and feed and tack stores. There are 4.3 million participants in the horse industry, generating 317,000 full-time jobs and generating an impact on the U.S. economy totaling \$23.8 billion (American Horse Council Foundation, 1996). The impact on a few specific states is shown below.

Table 18. Economic Impact of Recreational Trail Horseback Riding

	Economic Impact	FTE Jobs
California	\$2.8 billion	23,000
Idaho	\$221 million	3,600
Texas	\$955 million	14,000

The Heritage Trails Fund estimated the total amount contributed by equestrians to the economy of California and local communities to be \$1.8 billion dollars. This is based upon a horse population of over one million, and includes annual costs for feeding, license fees, trucks and trailers, horse shelters, and other horse equipment.

The impacts of a variety of spending related to winter sports are demonstrated below.

- A 1998 assessment showed the average snowmobiler in Michigan spent \$4,218 annually on snowmobiling activity and equipment in the state of Michigan. With 290,000 snowmobiles registered, that generates over a \$1 billion economic impact in Michigan, and an estimated 6,455 full time jobs are created by snowmobiling in Michigan (ACSA).
- In 2003 New Hampshire assessed the total impact on the state's economy by snowmobilers at nearly \$1.2 billion. This volume of spending by snowmobilers equaled 1% of the gross state product and more than 10% of all spending by travelers in the state (New Hampshire Snowmobile Association, 2003). A similar study in 1995-1996 indicated that only \$363 million was generated for the state's economy in direct and indirect spending, indicating an increase of 60% in economic activity over one decade. Analysis also showed that the average daily spending per resident snowmobiler in New Hampshire was \$67.07 (accommodations, ground transportation, eating at restaurants, retail shopping, and other activities). In addition to spending on their trips, each snowmobiler spends \$1,830.00 annually on equipment, clothing, club membership, insurance and state license fees. Over 8,000 jobs exist in New Hampshire because of snowmobiling, the majority (79%) in the hospitality and leisure sector (Minnesota United Snowmobilers Association).

Table 19. U.S. Ski & Snowboard Industry Retail Statistics (SIA, 2004)

	Total Dollar Sales (2004)
Specialty Stores	
Alpine Equipment	\$392,012,000
Snowboard Equipment	\$207,550,000
Nordic Equipment	\$36,799,000
Telemark Equipment	\$7,040,000
Total	\$643,401,000
Alpine Apparel	\$418,049,000
Snowboard Apparel	\$96,510,000
Total	\$514,559,000
Accessories	\$561,263,000
Total Specialty Stores	\$1,719,222,000
Total Chain Stores	\$493,829,000
Total Industry by Year	\$2,213,051,000

3.3.7 Trends and Expenditures by Park or Trail

Numerous studies have been done to assess visitation and average spending in specific parks, trails, and recreation areas. These studies often indicate that some users are residents, coming from within a 50 mile radius, while others are tourists, who come from farther away and may spend an overnight. Thus, expenditure data from such studies cannot be attributed wholly to local residents, but it gives a sense of the volume of spending.

- A study during the 2002 trail season of the Allegheny Trail system in Western Pennsylvania indicated that the average person spent \$8.84 per trip in trailside communities on small items such as food, gasoline, bike rental, etc. Overall, roughly \$3 million was estimated to be spent over the entire season on such items. However, spending varied among trailheads, ranging from \$2.87 per person per to \$15.61. It was noted that spending varied greatly with distances traveled, ranging from \$4.03 per person per trip if the distance was less than 10 miles one way to a trailhead, to \$15.44 per person per trip for those traveling over 60 miles to the trail. Among all respondents, the average spending on bikes and equipment was \$117.47 per person annually, and they spent 47.2% of their time biking on the Allegheny Trail system. Thus, it was estimated that for the average person, \$55.45 per person in 2002 was spent on bikes and equipment as a result of the trail system ($\$117.47 \times 47.2\%$) (Farber, 2003).

- Resident, day-use visitors to Missouri State Parks spent an average of \$48.83 per person per day. This is comparable to spending patterns found in other economic impact studies of state park visitors (MO DNR, 2003).

Table 20. Average Daily Spending by State Park Visitors

State	Avg. Spending (per person/day)
Arizona	\$50.28
Michigan (day users on day trips)	\$37.77
Missouri (day-use, residents)	\$48.83
Montana	\$32.29
West Virginia (residents)	\$11.57

- A 2001 study of the Heritage Rail Trail, in York County, Pennsylvania and connected to the Maryland Central Rail Trail, showed that 72% of the respondents had purchased “hard goods” in the past year related to trail use. Most of these hard good purchases were bicycles and bike supplies and gear, at an average amount of \$367.12. Note, however, that these types of purchases are not annually recurring, but they do add to a significant volume of expenditures. Other purchases were “soft goods” (water, soda, candy, ice cream, lunches, etc.). Over 65% of the respondents purchased these types of items on their latest trip to the trail, at an average total price per person of \$8.33 (York County, 2002).

- 72.2% of the sample responded that their use of the Trail had influenced a purchase of one of these items:

27.34 %	Bike
32.31 %	Bike supplies
7.46 %	Running/walking/hiking shoes
12.43 %	Clothing
20.46 %	Nothing

- Purchases during most recent trip:

29.46 %	Bottled water/soft drinks
16.67 %	Candy/snack foods
8.91 %	Sandwiches
9.88 %	Ice cream
13.76 %	Lunch at a restaurant along the Trail
2.71 %	Film

- The American River Parkway, 23 miles long and covering about 5,000 acres in Sacramento, CA, is estimated to generate \$259,034,030 in annual economic activity in the local economy. This includes direct spending by Parkway visitors, the County of Sacramento and other operators involved in providing Parkway services. The portion spent by visitors is based on an average spending rate of \$16 per visitor per day. These expenditures provide stimulation to the local economy through purchases of goods and services, fees and charges to enter and utilize Parkway facilities, local merchants (grocery stores, gas stations, sporting goods stores, etc.),

and from services related to the Parkway (rafting companies, golf courses, etc) (American River Parkway Funding Group, 2000).

- A 1997 survey of visitors along a 27-mile stretch of the Little Miami Scenic Trail in Warren County, Ohio showed that 66% of users were bicycling; 25% were walking or jogging, and 8.5% were in-line skating. These users spent \$3.1 to \$3.7 million annually on trip-related expenditures and trail-related durable goods. This was broken out into an average of \$13.54 per visit on food, beverages and transportation to the trail, as well as an estimated \$277 per person each year on clothing, equipment and accessories to use during these trail trips (OKI Regional Council of Governments, 1999).
- The East Bay Regional Park District (EBRPD) is responsible for over 91,000 acres of parks and open space, as well as 1,000 miles of trails in Alameda and Contra Counties in the San Francisco Bay area of California. A detailed study of the impact of the park showed that the presence of EBRPD generated \$254 million annually in direct expenditures by park users at Easy Bay retail businesses, with \$213 in durable goods and \$41 in non-durable goods. About \$75 million (25%) represents net new direct expenditures in the local economy- spending on goods in the Easy Bay that would not have occurred without the Park District land and facilities (EBRPD, 2000).

Table 21. Net New Direct Expenditures Resulting from East Bay Regional Park District

	Net new direct expenditures in the East Bay economy
Non-durables	\$10 million
Durables	\$64 million
TOTAL	\$74 million

- The value of non-durables was calculated by applying an average per visit expenditure estimate of \$4.85 to the roughly 14 million annual visits, yielding \$68 million in spending. About \$40 million of that is believed to be spent in the East Bay, with 25% spent by non-East Bay residents. Thus, \$10 million in net new direct expenditures on non-durable goods is attributed to the District, and the remaining \$30 million is spent on non-durables by residents.
- Using an estimate of \$100 expended on durables per user each year in conjunction with roughly 2.8 million District users, total direct expenditures on durables are calculated to be \$280 million, with 76% spent by local residents, and 24% by non-East bay residents. Due to the East Bay’s number of recreation/sporting goods stores and the location of the regional parklands in the East Bay, it was assumed that 95% of East Bay user purchases and 50% of non-East Bay user purchases were captured by East Bay stores. Thus \$236 million was kept in the East Bay.

Table 22. Spending on Durables from East Bay Regional Park District that Remains in the East Bay

	Total direct expenditures on durables	% of purchases captured by East Bay stores	Expenditures on durables captured in the East Bay (general disposable)
East Bay residents	\$213 million	95%	\$202 million
Non-East Bay residents	\$67 million	50%	\$34 million
			TOTAL: \$236 million

However, the \$202 from East Bay residents is disposable income that could have been spent on a different set of goods, but still within the East Bay. A conservative estimate of net new expenditures by East Bay residents is 15%, yielding only \$30 million in net new direct expenditures from residents. When combined with non-residents, this yields a total of \$64 million in new durables.

Table 23. Expenditures on Durables in the East Bay due to the Park District

East Bay residents	\$30 million
Non-East Bay residents	\$34 million
	TOTAL: \$64 million

3.3.8 Bond Initiatives

Another indicator of the importance of parks, trails and open spaces to residents is the approval of bond referenda which protect such spaces. Voters often demonstrate that they are willing to invest substantial capital resources to preserving land and open space. Furthermore, ballot measures seeking funds for conservation and open space have received the highest rates of approval among ballot measures seeking approval for new capital expenditures (TPL, 1999).

- In 2001, voters approved nearly 70% of local and state ballot measures for open space around the U.S., creating nearly \$1.7 billion in funding for parks and open space conservation. From 1998-2001, voters have supported over \$19 billion in open space funding, passing a total of 529 referenda. Some of the measures include:
 - \$192 million in Morris County, NJ, for open space, recreation and farmland preservation
 - \$188 million in Middlesex County, NJ, for land conservation, recreation, farmland or historic preservation
 - \$160 million in Santa Clara County, CA, for the acquisition, preservation and development of open space, parks, trails, and waterways.
 - \$125 million in DeKalb County, GA, for parks and green space
 - \$80 million in Houston, TX, for acquisitions of and additions and improvements to parks and recreational facilities
 - \$68.5 million in McHenry County, IL, for open space, wildlife habitats, recreation and water supply protection

- \$60 million in Harris County, TX, for acquisition and development of parks (LTA, 2002).

Table 24. Percent and Value of Ballot Measures Approved

Year	Measures approved	New funding
1998	126 of 150 (84%)	\$8.3 billion
1999	92 of 102 (90%)	\$1.8 billion
2000	174 of 209 (83%)	\$7.5 billion
2001	137 of the 196 (70%)	\$1.7 billion

- Sixty-seven of Oregon voters chose to set aside \$45 million from state lottery proceeds to purchase river corridors, watersheds and wetlands, and native salmon habitat in 1998 (TPL, 1999).
- In 1995 voters in Larimer County, CO passed an eight-year, 1/4 cent “Help Preserve Open Spaces” sales tax, which yielded over \$18 million. The money is used for the purchase of land or development rights so that open lands can be preserved and farms and ranches can be kept in agricultural use (TPL, 1999).
- Between 1961-1995 New Jersey voters approved nine open space bond acts, which raised \$1.4 billion for New Jersey’s Green Acres land acquisition program. In 1998, New Jersey voters also approved a referendum that created a stable source of funding for open space, farmland, and historic preservation and recreation development (NJ Dept of Environmental Protection, 2002).

3.3.9 How to Use These Rationales in Your Community

Demonstrate how leisure and recreation expenditures are important in your state, region, or community. Cite some of the examples given to show how people value recreation and open space opportunities. Gather similar information for your state, region, or community and present them at meetings and in publications. Take advantage of local universities that may be able to provide expertise on gathering such information.

Quote the above examples to show how park- and trail-related expenditures are important to other economies. The examples provided focus upon a variety of aspects of how recreation/open space expenditures support local, regional, state, and national economies. If appropriate, local examples can be found and listed. Choose the activities most relevant to your planning area; the size of the economy, and the type of impact.

Recognize the multiplier effect of park expenditures. The effect of spending related to parks and trails is multiplied as local businesses patronized by park users purchase supplies and services from manufacturers and other businesses. This concept is further discussed in Section 3.5, Estimating the Effects of Spending, under the subsections “Direct, Indirect and Induced Effects” and “Multipliers.”

Compare the economic effects of the park or trail to those of another facility or program. Compare the number of jobs supported or created by your park to those

supported by a well-known local employer.

Discuss effects of decisions that could alter visitation. Many activities such as natural area restoration, fish habitat improvement, increased publicity, better access, etc., can increase recreational use. If such activities are proposed, calculate the effects of such a change. Use this information as base data for illustrating how changes in management (supply) or visitor needs (demand) affect the park’s impact on the local economy.

3.3.10 Sources of Information

Recreation and Sports Associations. Information on participation and spending related to outdoor activities can be obtained from a number of recreation organizations. A partial listing of such groups is below. Also consider contacting state and local recreation associations in your area for additional information.

Table 25. Angling Organizations

American Sportfishing Association	http://www.asafishing.org	Promote the social, economic, and conservation values of sportfishing in America. Publishes “Sportfishing in America” which features the economic and social importance of sportfishing. Economic impact data is broken down by state as well as freshwater/saltwater.
International Association of Fish and Wildlife Agencies	http://www.iafwa.org/	Promotes sound resource management and strengthens federal, state, and private cooperation in protecting and managing fish and wildlife and their habitats in the public interest.
Recreational Boating and Fishing Foundation	http://www.rbff.org	Works to increase participation in recreational angling and boating through increased public awareness and appreciation of the need for conserving and restoring aquatic natural resources.

Table 26. Biking Organizations

International Mountain Biking Association	http://imba.com	Creates, enhances and preserves trail opportunities for mountain bikers worldwide. Website contains research on the
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		economic and social benefits of off-road bicycle and pedestrian facilities.
League of American Bicyclists	http://www.bikeleague.org	Promotes bicycling for fun, fitness and transportation and works through advocacy and education for a bicycle-friendly America.
National Center for Bicycling and Walking	http://www.bikewalk.org	Works to create bicycle-friendly and walkable communities and offers economic development and tourism planning and analysis in support of that mission.

Table 27. Boating/Water Organizations

American Canoe Association	http://acanet.org/	Maintains information on programs, events, and information sources on canoeing, kayaking & rafting trails.
American Rivers	www.amrivers.org/	Dedicated to protecting and restoring healthy, natural rivers and the variety of life they sustain for people, fish and wildlife.
Recreational Boating and Fishing Foundation	http://www.rbff.org	Works to increase participation in recreational angling and boating through increased public awareness and appreciation of the need for conserving and restoring aquatic natural resources.

Table 28. Hiking/Walking Organizations

American Hiking Society	http://www.americanhiking.org/	Promotes and protects foot trails and the hiking experience.
National Center for Bicycling and Walking	http://www.bikewalk.org	Works to create bicycle-friendly and walkable communities and offers economic development and tourism planning and analysis in support of that mission.
Rails-to-Trails Conservancy	http://www.railtrails.org	Enriches America's communities and countryside by creating a nationwide network of public trails from former rail lines and

		connecting corridors. Offer a variety of information on the benefits of trails.
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Table 29. Horseback Riding Organizations

American Horse Council	http://www.horsecouncil.org/	Promotes and protects all horse related interests through national coordinated industry action in Washington. Site includes horse industry statistics and information on the economic impact of the horse industry.
Disabled Equestrians Organization	http://www.disabledequestrians.org/	Works to support the use of trails, public parks, forests and open space by disabled equestrians.
Equestrian Land Conservation Resource	http://www.elcr.org/	Dedicated to promoting access to and conservation of land for equestrian use by supporting and facilitating local projects and educational programs.
Equisearch	http://www.equisearch.com/	A comprehensive site for the equestrian community with a section dedicated to trail riding.
Trail Rider Magazine	http://www.trailridermagazine.com/	America's Trail & Pleasure Riding Magazine

Table 30. Recreation Sports Organizations

American Recreation Coalition	http://www.funoutdoors.com/	Works to enhance and protect outdoor recreational opportunities and conducts research, organizes national conferences and meetings and disseminates information regarding recreational needs and initiatives.
National Sporting Goods Association	http://www.nsga.org	Publishes survey results of participation in numerous sports throughout the nation as well as information on consumer purchases.
Outdoor Industry Association	http://www.outdoorindustry.org	Provides trade services for the Outdoor Industry and publishes market research reports including participation and spending studies, retail sales, and state of

		the industry.
Sporting Goods Manufacturers Association	http://www.sgma.com	This association of the sports product industry publishes general reports on sport participation as well as market segmentation and manufacturers' shipments in wholesale dollars for the industry.

National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR).

This survey on fishing, hunting, and other wildlife-associated recreation, such as wildlife observation, photography, and feeding was last conducted in 2001 by the Census Bureau for the Fish and Wildlife Service, Department of the Interior. Data include state in which these activities occurred; number of trips taken; duration of trips; and expenditures for food, lodging, transportation, and equipment. For more details, see <http://www.census.gov/prod/www/abs/fishing.html>.

National Survey on Recreation and the Environment (NSRE).

Begun in 1960, National Recreation Survey (NRS) series began as a four-season, in-the-home survey of outdoor recreation participation in the United States. Since then, five additional surveys have been conducted: 1965, 1970, 1972, 1977, and 1982-83, and one NSRE in 1994-95. The National Survey on Recreation and the Environment (NSRE) represents the continuation of the ongoing National Recreation Survey (NRS) series. Results from household interviews around the nation as well as expected trends in numerous recreation activities are covered. The latest NSRE is a telephone survey and has already begun. For more details about this USDA Forest Service effort, see <http://www.srs.fs.usda.gov/trends/Nsre/nsre2.html>.

Academic Resources. Many universities have departments focusing on recreation economics. They may have already done studies in the region that can be used as reference, or may be interested in providing faculty guidance or graduate student assistance for new studies. One particularly useful site is Michigan State's Department of Park, Recreation and Tourism Resources which maintains a website on "Economic Impacts of Recreation and Tourism" at <http://www.msu.edu/course/prr/840/econimpact/>.

Table 31. Academic Institutions with Expertise in Recreation Economics

Clemson University; Department of Parks, Recreation and Tourism Management	www.hehd.clemson.edu/PRTM/	The Recreation, Travel and Tourism Institute provides a recreation and tourism research information base to assist management or evaluation and to support community and economic development while enhancing environmental improvement.
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Colorado State University; Department of Agricultural and Resource Economics, College of Agricultural Science	http://dare.agsci.colostate.edu/csugecon/department/welcome.htm	Faculty has particular experience in experience in Environmental and Recreation Economics. Website offers access to some research and outreach reports.
Michigan State University; Department of Community, Agriculture, Recreation and Resource Studies	http://www.prr.msu.edu/ and http://www.msu.edu/course/prr/840/econimpact/	Includes Park, Recreation and Tourism Resources which has a research focus on Economic Impacts of Recreation and Tourism.
North Carolina State University; Parks, Recreation and Tourism Management	http://natural-resources.ncsu.edu/prtm/	Specializes in the planning and management of parks, recreation and sport areas and facilities, tourism attractions and leisure activities.
University of Florida; Department of Tourism, Recreation and Sport Management	http://www2.hhp.ufl.edu/rpt/	The Department houses the Center for Tourism Research and Development, serving the tourism industry through programming and research projects.
University of Utah; Department of Parks, Recreation, and Tourism	http://www.health.utah.edu/prt/	Shares knowledge about park, recreation, and tourism resources to serve social needs, inform policy, promote economic development, and foster quality of life of communities.

Media. Recreation is covered by the news almost daily. Look for feature articles and relevant information. Review newspapers, periodicals, and newsletters for information relevant to trends, activities, and expenditures that could be useful in building your case. Keep a file of related clippings.

3.3.11 Considerations When Using These Rationales

Realize the policy implications of your data. This information can be helpful in setting economic development policy. Knowledge of who spends the most, where these people are from, and what services they desire, can assist in providing direction for development or changes aimed at increasing the economic benefits to an area. Bear in mind that more is not

necessarily better, especially in sensitive resource areas, which might be adversely impacted by overuse. Make protection of the park and trail resources your bottom line and manage use accordingly.

Use caution when interpreting data. Many studies define “economic impact” in different ways and may include data in their analysis that you wish to exclude based on standard definitions. Carefully read the background and methodology on how a report was created before taking advantage of its data.

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3.3.13 Additional Information

Data on consumer spending is available on a regional basis or broken down by demographics. Consider the following data from the Outdoor Industry Foundation, which publishes the number of participants in each state in the following sports: backpacking, bicycling (paved road, off-road, and single track), bird watching, camping, canoeing, climbing (natural rock, artificial wall, and ice), fly fishing, hiking, kayaking (recreation, touring/sea, and whitewater), rafting, skiing (cross-country/Nordic and Telemark), snowshoeing, and trail running. Note that this expenditure data is based on the estimated amount consumers spent on outdoor products and that it reflects the amount spent by residents of each state, but does not take into account in which state they bought their merchandise.

- Total Annual Expenditures on merchandise (outdoor gear, apparel, footwear) by state (OIF, 2002):
 - Alabama: \$264 million
 - Arizona: \$269 million
 - Arkansas: \$91 million
 - California: \$1,723 million
 - Colorado: \$200 million
 - Connecticut: \$139 million
 - Delaware: \$52 million
 - Florida: \$596 million
 - Georgia: \$402 million
 - Idaho: \$40 million
 - Illinois: \$457 million
 - Indiana: \$235 million
 - Iowa: \$201 million
 - Kansas: \$236 million
 - Kentucky: \$320 million
 - Louisiana: \$175 million
 - Maine: \$47 million
 - Maryland: \$222 million
 - Massachusetts: \$216 million
 - Michigan: \$831 million
 - Minnesota: \$269 million
 - Mississippi: \$83 million
 - Missouri: \$243 million
 - Montana: \$39 million
 - Nebraska: \$61 million
 - Nevada: \$141 million
 - New Hampshire: \$48 million
 - New Jersey: \$314 million
 - New Mexico: \$53 million
 - New York: \$707 million
 - North Carolina: \$492 million
 - North Dakota: \$23 million
 - Ohio: \$583 million
 - Oklahoma: \$208 million
 - Oregon: \$124 million
 - Pennsylvania: \$459 million
 - Rhode Island: \$32 million
 - South Carolina: \$142 million
 - South Dakota: \$21 million
 - Tennessee: \$188 million
 - Texas: \$1,249 million
 - Utah: \$96 million
 - Vermont: \$31 million
 - Virginia: \$364 million

- Washington: \$209 million
- West Virginia: \$73 million
- Wisconsin: \$263 million
- Wyoming: \$24 million
- Annual Expenditures on merchandise (outdoor gear, apparel, footwear) by region (OIF, 2002):
 - West: \$2.9 billion
 - North Central: \$3.4 billion
 - Northeast: \$2.0 billion
 - South Central: \$4.9 billion
- Average amount spent annually on outdoor activities by age group (OIF, 2002):
 - 16-24: \$540
 - 25-34: \$863
 - 35-44: \$928
 - 45+: \$822

Table 32. Economic Impact of Sportfishing by State for 2001

	Economic Output	Retail Sales	Salaries and Wages	Jobs	Sales and Motor Fuel Taxes	State Income Taxes	Federal Income Taxes
Alabama	\$1,676,108,986	\$858,124,876	\$412,447,847	19,467	\$43,660,478	\$16,729,004	\$42,448,901
Alaska	\$959,821,921	\$587,028,597	\$238,011,311	11,064	\$2,785,026	No Tax	\$24,665,604
Arizona	\$844,638,887	\$446,416,439	\$216,362,618	8,478	\$25,605,136	\$5,142,988	\$35,548,103
Arkansas	\$843,349,209	\$471,099,603	\$210,183,369	10,009	\$27,534,616	\$10,208,912	\$21,543,819
California	\$4,899,389,802	\$2,388,562,665	\$1,285,643,099	43,130	\$163,348,768	\$61,818,827	\$231,709,736
Colorado	\$1,579,687,512	\$790,901,984	\$413,856,808	15,253	\$32,011,239	\$13,434,236	\$70,720,789
Connecticut	\$389,375,629	\$224,198,630	\$94,948,732	3,097	\$15,059,935	\$2,879,110	\$17,362,296
Delaware	\$112,253,889	\$70,029,106	\$22,904,413	1,036	\$1,348,021	\$840,911	\$2,402,398
Florida	\$7,455,766,835	\$4,117,176,994	\$1,994,632,271	79,949	\$227,212,765	No Tax	\$322,666,622
Georgia	\$1,140,197,359	\$568,712,185	\$283,998,584	10,649	\$19,453,652	\$15,123,091	\$48,016,130
Hawaii	\$186,562,268	\$107,906,440	\$49,796,556	2,095	\$5,170,991	\$3,453,889	\$7,774,762
Idaho	\$681,065,982	\$409,453,451	\$157,402,757	7,773	\$22,889,647	\$6,846,807	\$15,856,844
Illinois	\$1,623,449,163	\$736,575,125	\$398,275,277	12,886	\$50,445,665	\$9,377,569	\$73,123,710
Indiana	\$1,113,114,874	\$538,729,555	\$280,477,686	11,171	\$27,166,764	\$7,010,563	\$45,574,350
Iowa	\$741,050,479	\$362,542,553	\$167,146,947	7,119	\$21,199,312	\$9,156,477	\$25,853,206
Kansas	\$403,200,176	\$205,141,349	\$94,633,538	4,226	\$12,817,515	\$4,329,705	\$14,084,709
Kentucky	\$1,299,964,305	\$671,707,079	\$290,656,549	13,268	\$39,806,964	\$16,086,082	\$42,449,138
Louisiana	\$1,535,277,920	\$842,362,796	\$371,864,510	15,993	\$46,771,991	\$9,116,979	\$57,081,560
Maine	\$541,188,350	\$322,122,047	\$129,380,734	6,109	\$16,702,617	\$7,180,670	\$13,313,231
Maryland	\$1,063,396,570	\$557,544,005	\$270,916,901	11,020	\$31,348,481	\$10,012,837	\$43,370,816
Massachusetts	\$888,486,177	\$494,165,471	\$225,328,262	8,169	\$29,055,826	\$10,605,484	\$38,887,196
Michigan	\$2,173,318,216	\$1,139,130,590	\$553,768,441	21,301	\$70,897,258	\$14,714,425	\$92,110,866
Minnesota	\$2,862,561,056	\$1,460,636,605	\$713,190,334	28,421	\$102,379,875	\$24,886,332	\$115,838,653
Mississippi	\$463,103,315	\$239,212,966	\$110,060,719	5,020	\$18,860,467	\$3,971,979	\$11,501,798
Missouri	\$1,621,784,787	\$832,776,355	\$362,817,536	14,889	\$40,800,571	\$14,131,111	\$57,714,034
Montana	\$544,795,715	\$318,535,459	\$136,106,672	7,029	\$7,087,276	\$5,601,108	\$13,404,645
Nebraska	\$339,682,059	\$187,235,156	\$82,706,084	3,798	\$11,116,714	\$3,365,147	\$8,617,548

	Economic Output	Retail Sales	Salaries and Wages	Jobs	Sales and Motor Fuel Taxes	State Income Taxes	Federal Income Taxes
Nevada	\$390,760,146	\$252,830,058	\$81,944,131	2,952	\$18,688,745	No Tax	\$14,194,924
New Hampsh.	\$316,568,146	\$181,455,471	\$71,705,209	3,123	\$3,094,988	No Tax	\$10,895,051
New Jersey	\$1,423,621,649	\$756,719,035	\$342,898,387	12,553	\$44,511,791	\$8,093,460	\$58,834,557
New Mexico	\$397,705,209	\$235,182,142	\$87,854,656	4,234	\$13,737,550	\$3,340,603	\$8,954,843
New York	\$2,068,763,922	\$1,148,533,163	\$517,763,888	17,568	\$56,298,335	\$16,036,983	\$92,755,747
N. Carolina	\$2,327,232,596	\$1,140,239,634	\$590,474,148	25,418	\$55,736,201	\$27,988,527	\$90,573,395
North Dakota	\$303,445,966	\$177,548,262	\$65,434,168	3,181	\$10,608,650	\$672,760	\$6,642,317
Ohio	\$1,860,851,503	\$874,135,410	\$455,121,550	18,624	\$53,368,117	\$27,731,570	\$72,546,658
Oklahoma	\$992,311,004	\$484,178,493	\$245,076,035	11,403	\$27,521,684	\$14,233,512	\$25,386,851
Oregon	\$1,304,519,242	\$733,412,813	\$298,749,523	12,776	\$17,309,930	\$23,274,649	\$46,063,809
Pennsylvania	\$1,615,513,600	\$800,382,494	\$387,863,429	14,611	\$43,174,405	\$10,860,176	\$65,385,923
Rhode Island	\$172,660,051	\$108,880,448	\$39,607,448	1,736	\$10,756,333	\$1,557,165	\$5,989,098
S. Carolina	\$1,291,563,827	\$658,703,543	\$318,923,456	13,600	\$40,235,213	\$12,328,793	\$49,284,530
South Dakota	\$360,685,439	\$207,327,717	\$89,267,618	4,453	\$12,276,623	No Tax	\$8,948,400
Tennessee	\$1,159,593,818	\$564,667,336	\$292,858,357	11,478	\$39,442,500	No Tax	\$48,110,852
Texas	\$4,563,411,333	\$2,183,190,258	\$1,103,501,405	41,313	\$124,785,654	No Tax	\$186,753,520
Utah	\$903,087,618	\$441,976,667	\$227,988,510	9,827	\$27,805,344	\$9,235,282	\$24,396,152
Vermont	\$166,974,800	\$108,658,893	\$37,344,227	1,845	\$7,543,916	\$902,611	\$3,760,878
Virginia	\$1,213,253,238	\$640,728,462	\$278,441,172	11,238	\$33,621,463	\$12,262,382	\$44,823,018
Washington	\$1,656,548,494	\$932,431,598	\$417,164,967	15,965	\$67,185,935	No Tax	\$69,620,399
West Virginia	\$179,517,111	\$105,874,521	\$38,765,880	2,038	\$8,227,010	\$1,387,563	\$3,781,579
Wisconsin	\$2,315,761,994	\$1,206,013,375	\$590,202,492	26,226	\$75,412,621	\$14,309,573	\$62,369,489
Wyoming	\$337,426,900	\$227,239,545	\$63,323,800	3,511	\$9,493,295	No Tax	\$5,996,797
United States	\$116,064,518,700	\$41,528,003,337	\$30,108,800,941	1,068,046	\$1,913,373,871	\$470,239,851	\$4,885,011,975

NOTE: The figures above only include fishing activity attributed to anglers 16 years old and older. There are additional economic impacts generated by minors.

NOTE: The U.S. total does not equal the sum of state data as economic activity across state borders are not included in state totals, in addition to other factors.

NOTE: The expenditures reported here are greater than those reported by the U.S. Fish and Wildlife Service. Sportsmen often attributed purchases to both fishing and hunting (especially vehicles and big-ticket items). These items were not included in the Service's fishing expenditure estimates. Such items were included above by prorating each item's cost based on each respondent's total days of hunting and fishing activity.

Source: American Sportfishing Association; Southwick Associates

Table 33. Economic Impact of Freshwater Fishing by State for 2001

	Economic Output	Retail Sales	Salaries and Wages	Jobs	Sales and Motor Fuel Taxes	State Income Taxes	Federal Income Taxes
Alabama	\$1,191,396,760	\$612,356,566	\$296,763,917	13,790	\$30,195,055	\$12,080,184	\$30,759,005
Alaska	\$546,999,500	\$334,081,322	\$135,116,132	6,345	\$1,676,502	No Tax	\$13,938,342
Arizona	\$827,179,903	\$437,940,160	\$211,790,160	8,334	\$25,508,983	\$5,022,177	\$34,698,392
Arkansas	\$811,847,874	\$452,726,701	\$203,777,465	9,691	\$27,524,404	\$9,900,853	\$20,900,033
California	\$3,081,544,025	\$1,497,205,476	\$810,978,134	26,707	\$106,435,211	\$39,172,538	\$147,573,115
Colorado	\$1,544,589,516	\$774,507,578	\$404,916,831	14,979	\$32,007,331	\$13,128,188	\$69,036,544
Connecticut	\$235,096,406	\$134,090,860	\$56,495,590	1,775	\$9,021,133	\$1,743,647	\$10,522,510
Delaware	\$31,104,395	\$19,030,722	\$6,650,015	289	\$641,632	\$248,061	\$709,053
Florida	\$1,892,228,731	\$1,056,538,098	\$484,394,984	19,519	\$55,183,298	No Tax	\$78,068,685
Georgia	\$1,007,329,833	\$502,784,919	\$250,452,867	9,400	\$18,559,061	\$13,335,153	\$42,319,233
Hawaii *	-	-	-	-	-	-	-
Idaho	\$657,461,318	\$396,364,348	\$151,598,738	7,504	\$22,697,010	\$6,581,745	\$15,254,668
Illinois	\$1,320,809,468	\$605,702,760	\$328,390,239	10,744	\$42,907,145	\$7,708,237	\$59,954,920
Indiana	\$782,718,458	\$375,910,076	\$191,663,873	7,701	\$19,477,071	\$4,775,356	\$30,951,997
Iowa	\$728,440,888	\$356,059,646	\$164,124,784	7,006	\$21,179,560	\$8,987,343	\$25,342,797
Kansas	\$391,023,862	\$199,262,778	\$91,831,501	4,121	\$12,762,821	\$4,194,243	\$13,612,959
Kentucky	\$1,283,779,057	\$663,900,004	\$286,980,475	13,130	\$39,790,639	\$15,879,586	\$41,827,852
Louisiana	\$759,096,419	\$418,288,158	\$185,187,115	7,921	\$23,857,572	\$4,555,883	\$28,549,306
Maine	\$410,490,839	\$244,342,627	\$99,109,242	4,645	\$12,974,721	\$5,522,511	\$10,233,302
Maryland	\$406,864,490	\$214,046,801	\$102,153,229	3,933	\$12,608,083	\$3,838,582	\$16,981,819
Massachusetts	\$288,952,590	\$159,271,637	\$72,541,663	2,543	\$9,345,527	\$3,435,772	\$12,765,376
Michigan	\$1,019,603,932	\$532,201,225	\$258,018,238	9,731	\$33,376,833	\$6,933,794	\$43,465,871
Minnesota	\$2,566,930,657	\$1,306,395,085	\$644,321,093	25,955	\$94,147,638	\$22,307,618	\$103,865,437
Mississippi	\$352,537,472	\$182,607,906	\$84,578,739	3,897	\$14,792,746	\$3,040,260	\$8,799,252
Missouri	\$1,597,871,536	\$820,970,981	\$357,142,565	14,683	\$40,760,992	\$13,896,380	\$56,735,859
Montana	\$531,821,954	\$311,847,703	\$132,917,790	6,887	\$7,087,276	\$5,457,135	\$13,067,829

	Economic Output	Retail Sales	Salaries and Wages	Jobs	Sales/ Fuel Taxes	State Inc. Taxes	Federal Inc. Taxes
Nebraska	\$320,791,063	\$176,796,252	\$78,076,989	3,610	\$10,912,624	\$3,164,911	\$8,110,256
Nevada	\$382,303,623	\$247,936,468	\$79,717,258	2,882	\$18,546,712	No Tax	\$13,781,000
New Hampsh.	\$202,757,872	\$116,468,729	\$46,507,230	1,925	\$1,803,317	No Tax	\$7,352,480
New Jersey	\$566,903,391	\$300,656,198	\$134,401,111	4,703	\$17,681,219	\$3,177,613	\$23,675,443
New Mexico	\$362,818,933	\$211,874,732	\$81,167,335	3,922	\$12,840,867	\$3,081,717	\$8,263,143
New York	\$535,518,522	\$298,280,827	\$132,325,116	4,468	\$16,976,457	\$4,116,633	\$23,767,374
N. Carolina	\$1,553,463,220	\$742,504,013	\$399,815,134	16,676	\$36,754,028	\$19,231,918	\$62,838,166
North Dakota	\$299,056,480	\$175,218,081	\$64,429,826	3,141	\$10,594,020	\$660,542	\$6,531,805
Ohio	\$1,122,527,187	\$521,620,496	\$274,867,494	10,782	\$32,856,064	\$16,792,268	\$45,128,474
Oklahoma	\$978,908,874	\$477,948,200	\$241,821,461	11,269	\$27,506,247	\$14,040,924	\$25,032,136
Oregon	\$991,779,210	\$561,850,608	\$227,163,400	9,758	\$15,339,886	\$17,685,218	\$34,902,374
Pennsylvania	\$1,174,492,010	\$584,427,846	\$283,127,507	10,958	\$31,765,433	\$7,927,570	\$46,904,455
Rhode Island	\$36,540,918	\$22,148,301	\$8,743,532	347	\$1,910,640	\$370,496	\$1,424,985
S. Carolina	\$706,995,396	\$366,046,138	\$175,570,781	7,613	\$22,831,632	\$6,694,126	\$26,774,187
South Dakota	\$353,491,690	\$203,361,169	\$87,534,485	4,391	\$12,274,463	No Tax	\$8,750,425
Tennessee	\$1,102,253,703	\$534,118,034	\$280,805,418	11,031	\$39,374,093	No Tax	\$46,059,030
Texas	\$3,094,656,108	\$1,492,479,289	\$733,697,159	26,953	\$85,365,806	No Tax	\$125,624,694
Utah	\$862,532,694	\$420,703,806	\$219,061,558	9,459	\$27,749,384	\$8,862,310	\$23,424,350
Vermont	\$160,398,597	\$104,961,886	\$35,689,325	1,782	\$7,480,508	\$858,324	\$3,576,350
Virginia	\$734,968,076	\$383,496,833	\$170,256,220	6,824	\$18,945,760	\$7,513,953	\$27,542,869
Washington	\$994,368,756	\$561,058,124	\$252,259,180	9,536	\$42,094,299	No Tax	\$42,433,449
West Virginia	\$173,640,477	\$102,812,820	\$37,490,403	1,981	\$8,226,189	\$1,341,111	\$3,647,201
Wisconsin	\$1,878,736,707	\$988,711,943	\$478,493,775	21,459	\$64,091,141	\$11,421,361	\$50,369,136
Wyoming	\$326,394,230	\$221,168,080	\$60,686,610	3,395	\$9,477,542	No Tax	\$5,716,001
United States	\$74,790,354,657	\$26,520,968,298	\$19,410,929,282	683,892	\$1,287,916,577	\$338,686,239	\$3,127,973,643

* sample size too small to report reliably

NOTE: Great Lakes fishing is not included (see page 10).

NOTE: The U.S. total does not equal the sum of state data as economic activity across state borders are not included in the state totals, in addition to other factors.

NOTE: The expenditures reported above are greater than those reported by the U.S. Fish and Wildlife Service. Sportsmen often attributed purchases to both fishing and hunting (especially vehicles and big-ticket items). These items were not included in the Service's fishing expenditure estimates. Such items were included above by prorating each item's cost based on each respondent's total days of hunting and fishing activity.

Source: American Sportfishing Association; Southwick Associates

Table 34. Economic Impact of Saltwater Fishing by State for 2001

	Economic Output	Retail Sales	Salaries and Wages	Jobs	Sales/Motor Fuel Taxes	State Income Taxes	Federal Income Taxes
Alabama	\$463,519,587	\$235,936,051	\$110,462,221	5,477	\$13,442,389	\$4,427,651	\$11,105,726
Alaska	\$390,797,443	\$240,822,120	\$97,609,346	4,556	\$1,108,524	No Tax	\$10,096,871
California	\$1,701,526,349	\$837,885,007	\$445,384,919	15,652	\$56,790,968	\$21,163,421	\$78,263,290
Connecticut	\$139,845,697	\$82,381,724	\$34,630,141	1,211	\$5,743,435	\$1,013,401	\$6,102,183
Delaware	\$77,792,682	\$48,928,560	\$15,697,027	724	\$1,209,180	\$571,474	\$1,632,190
Florida	\$5,432,151,596	\$2,987,155,721	\$1,482,103,679	59,418	\$171,883,333	No Tax	\$239,723,442
Georgia^	\$115,486,330	\$57,797,862	\$29,169,622	1,112	\$2,151,996	\$1,550,033	\$4,880,497
Hawaii	\$180,473,064	\$104,108,471	\$48,433,020	2,041	\$4,981,768	\$3,358,726	\$7,554,616
Louisiana	\$745,689,901	\$409,570,714	\$179,406,578	7,786	\$22,914,419	\$4,373,258	\$27,341,004
Maine	\$113,603,978	\$67,829,568	\$26,556,468	1,287	\$3,708,939	\$1,453,411	\$2,699,950
Maryland	\$640,964,531	\$335,934,459	\$165,036,290	6,981	\$18,727,532	\$6,023,710	\$25,664,989
Massachusetts	\$571,647,389	\$320,741,735	\$145,467,272	5,423	\$19,304,475	\$6,809,952	\$24,683,666
Mississippi	\$98,274,976	\$50,499,699	\$22,521,341	1,003	\$3,997,176	\$820,213	\$2,377,908
New Hampsh.	\$103,666,563	\$59,331,936	\$22,998,860	1,103	\$1,291,670	No Tax	\$3,209,561
New Jersey	\$841,796,756	\$448,756,613	\$205,104,996	7,762	\$26,830,572	\$4,834,912	\$34,477,192
New York	\$678,233,859	\$389,330,066	\$150,876,052	5,122	\$14,033,635	\$4,670,710	\$27,020,562
N. Carolina	\$753,935,885	\$388,014,715	\$185,724,269	8,551	\$18,945,695	\$8,511,601	\$26,918,555
Oregon	\$289,176,767	\$160,015,148	\$66,003,208	2,842	\$1,970,044	\$5,136,583	\$10,121,780
Rhode Island	\$135,225,129	\$86,234,218	\$30,662,027	1,382	\$8,842,711	\$1,177,013	\$4,526,972
S. Carolina	\$518,904,400	\$264,053,210	\$129,738,396	5,498	\$16,217,822	\$5,040,404	\$20,145,233
Texas	\$1,328,150,852	\$622,204,552	\$339,302,521	13,322	\$39,419,847	No Tax	\$55,672,267
Virginia	\$456,511,406	\$246,802,602	\$103,262,854	4,251	\$14,672,202	\$4,519,916	\$16,388,294
Washington	\$617,214,306	\$348,172,741	\$154,429,160	6,102	\$25,074,428	No Tax	\$25,229,231
United States	\$31,085,904,333	\$11,318,249,621	\$8,138,400,181	296,898	\$493,262,762	\$85,456,389	\$1,357,945,118

^ small sample size

NOTE: The U.S. total does not equal the sum of state data as economic activity across state borders are not included in the state totals, in addition to other factors.

NOTE: The expenditures reported above are greater than those reported by the U.S. Fish and Wildlife Service. Sportsmen often attributed purchases to both fishing and hunting (especially vehicles and big-ticket items). These items were not included in the Service's fishing expenditure estimates. Such items were included above by prorating each item's cost based on each respondent's total days of hunting and fishing activity.

Source: American Sportfishing Association; Southwick Associates

Table 35. Economic Impact of Sportfishing in the Great Lakes States for 2001

	Economic Output	Retail Sales	Salaries and Wages	Jobs	Sales and Motor Fuel Taxes	State Income Taxes	Federal Income Taxes
Illinois [^]	\$273,333,804	\$118,109,932	\$62,701,834	1,943	\$7,524,069	\$1,493,370	\$11,753,228
Indiana*	-	-	-	-	-	-	-
Michigan	\$1,115,439,183	\$587,073,306	\$285,874,501	11,274	\$37,338,845	\$7,484,775	\$46,766,771
Minnesota	-	-	-	-	-	-	-
New York	\$820,466,926	\$442,004,505	\$226,862,890	7,785	\$25,288,243	\$6,954,671	\$40,395,251
Ohio	\$678,840,789	\$321,659,605	\$167,543,035	7,351	\$20,419,991	\$10,161,996	\$25,308,470
Pennsylvania*	-	-	-	-	-	-	-
Wisconsin	\$384,497,785	\$190,177,889	\$98,620,428	4,265	\$11,321,480	\$2,498,540	\$10,538,571
United States	\$7,357,258,224	\$2,549,290,453	\$1,904,013,545	66,324	\$101,892,628	\$28,593,352	\$303,352,277

[^] small sample size

* sample size too small to report reliably

NOTE: The U.S. total does not equal the sum of state data as economic activity across state borders are not included in the state totals, in addition to other factors.

NOTE: The expenditures reported above are greater than those reported by the U.S. Fish and Wildlife Service. Sportsmen often attributed purchases to both fishing and hunting (especially vehicles and big-ticket items). These items were not included in the Service's fishing expenditure estimates. Such items were included above by prorating each item's cost based on each respondent's total days of hunting and fishing activity.

Source: American Sportfishing Association; Southwick Associates

Table 36. Angler Travel and Equipment Expenditures for 2001

	All Anglers	Non-Resident/ Tourist Anglers
Travel Expenditures	\$14,655,726,628	\$3,645,584,234
Food	\$4,141,113,867	\$876,319,357
Lodging	\$1,739,746,502	\$794,265,773
Public Transportation	\$400,428,515	\$348,754,126
Private Transportation	\$3,115,200,967	\$654,946,079
Boat Fuel	\$1,259,752,575	\$170,523,871
Guides	\$686,903,337	\$345,423,603
Public Land Use Fees	\$121,273,734	\$26,409,895
Private Land Use Fees	\$92,961,112	\$10,450,234
Boat Launching	\$127,802,965	\$10,952,723
Boat Mooring	\$1,242,873,295	\$137,865,981
Equipment Rental	\$253,514,176	\$83,830,794
Bait (live, cut, prepared)	\$1,105,343,950	\$129,904,155
Ice	\$290,912,828	\$44,804,294
Heating & Cooking Fuel	\$77,898,806	\$11,133,348
Fishing Equipment Expenditures	\$4,408,109,353	\$350,732,194
Rods, Reels, & Components	\$1,897,311,389	\$169,404,725
Lines and Leaders	\$459,333,062	\$35,311,061
Lures, Flies, & Artificial Baits	\$597,074,744	\$54,454,744
Hooks, Sinkers, other Terminal Tackle	\$342,748,972	\$24,147,195
Tackle Boxes	\$132,337,859	\$6,172,102
Creels, Stringers, Landing Nets, etc	\$101,241,979	\$8,368,552
Bait Buckets, Minnow Traps and Other Bait Containers	\$52,804,029	\$2,891,587
Depth Finders, Fish Finders and Other Electronics	\$457,040,672	\$28,663,117
Ice Fishing Equipment	\$82,831,463	\$1,376,194
Other Fishing Equipment (knives, hook removers, etc.)	\$285,385,183	\$19,942,918
Auxiliary Purchases for Fishing	\$861,504,256	\$58,776,926

	All Anglers	Non-Resident/ Tourist Anglers
Camping Gear	\$460,424,334	\$17,772,173
Binoculars	\$71,891,432	\$6,790,111
Special Fishing Clothing, Foul Weather Gear, Waders	\$329,188,489	\$34,214,643
Special Equipment Purchased for Fishing	\$17,353,409,220	\$1,918,626,317
Bass Boats	\$1,300,387,302	\$299,628,231
Other Motorized Boats	\$2,998,953,006	\$524,440,937
Canoes / Non-Motorized Boats	\$199,438,886	\$12,045,692
Boat Motors, Trailers, Hitches, and Accessories	\$1,243,547,634	\$104,423,121
Pick-ups, Campers, Travel Trailers, Motor Homes, etc.	\$7,221,153,483	\$371,821,249
Cabins	\$2,220,763,728	\$557,116,863
4x4 and Off-road Vehicles, Snowmobiles	\$1,954,960,575	\$47,822,531
Other Special Equipment	\$214,204,607	\$1,327,693
Other Miscellaneous Fishing Expenses	\$4,249,253,879	\$1,249,147,026
Taxidermy & Processing	\$41,298,946	\$15,064,051
Books and Magazines Devoted to Fishing	\$158,714,902	\$13,053,004
Dues and Contributions to Organizations	\$158,895,362	\$14,567,340
Fishing Licenses	\$597,210,000	\$143,330,400
Tags, Permits and Other Specialized Licenses	\$42,666,186	\$9,760,016
Land Owned Primarily for Fishing, 2001 expense only	\$2,992,008,447	\$1,012,331,140
Land Leased Primarily for Fishing, 2001 expense only	\$160,585,521	\$41,041,076
Other Misc. Fishing Related Expenditures	\$97,874,516	\$35,025,508
US Total	\$41,528,003,337	\$7,257,892,205

Source: American Sportfishing Association; Southwick Associates

3.4 Travel and Tourism

Parks, rivers and trails and greenways which attract visitors from outside the local area can stimulate the local economy. This section begins with examples stressing the importance of natural and cultural areas for attracting visitors, followed by examples showing how parks, rivers, trails, and greenways can contribute to the travel and tourism sectors through spending by visitors to the communities around the park. The last subsection demonstrates how park projects can leverage tourism appeal and increase marketing potential of a local community.

3.4.1 The Travel and Tourism Industry

The travel and tourism industry is huge but not clearly delineated. Although there are many references to the “travel” or “tourism” industry, neither is a clearly defined industry because the businesses that serve it do not provide a common product or service, nor do they use the same technologies (Smith, 1997). Tourism is not listed as an official industry in the Census Bureau’s Standard Industrial Classification system, however, the following industries which meet travelers’ needs are listed: hotel, restaurant, airline, automobile, shipping, retail and advertising industries. Thus, travel and tourism expenditures can be considered those spent on transportation, lodging, eating establishments, retail, and service businesses. Such spending, in turn, supports local jobs, personal income, and government tax revenues. Collectively, travel and tourism continue to grow, generating significant economic impacts and employment opportunities within regions and local communities.

- Travel and tourism is the first or second largest industry in many states and is expected to soon be the leading industry worldwide. Tourism in the U.S. is a half-trillion dollars-a-year industry, employing more than 15.5 million people directly and indirectly (NPS, 1999).
- The U.S. travel industry received more than \$554.5 billion from domestic and international travelers in 2003 (including international passenger fares). These travel expenditures generated nearly 7.2 million jobs for Americans, with nearly \$158 billion in payroll income for Americans, as well as \$94.7 billion in tax revenue for federal, state and local governments. Furthermore, approximately 1 out of every 18 U.S. residents in the civilian labor force was employed due to direct travel spending in the U.S. in 2002 (TIA, 2004a).
- Tourism receipts, particularly on a per capita basis, can indicate how dependent states or regions are on tourism. The West is the most tourism dependent region in the United States, with ten of the 13 western states being among the 13 most tourism dependent states in the country. Nevada and Hawaii are the most tourism-dependent states in the U.S. The importance of tourism in the West is also evident in employment data. Nine of the 13 western states are among the top 13 states in the nation in share of total employment generated by domestic travel (Western States Tourism Policy Council, 2002).

Table 37. Per Capita Travel Receipts for the Western States (2002)

	Travel Expenditures (Millions)			Population (Millions)	Per Capita Receipts	
	Domestic	International	Total			Rank
Alaska	\$1,163.8	\$116.2	\$1,280.0	0.60	\$2,133.3	6
Arizona	\$5,866.8	\$1,297.4	\$7,164.2	3.94	\$1,818.3	10
California	\$43,981.8	\$11,530.0	\$55,511.8	31.20	\$1,779.2	13
Colorado	\$6,396.2	\$501.2	\$6,897.4	3.57	\$1,932.0	8
Hawaii	\$6,178.8	\$5,679.5	\$11,858.3	1.17	\$10,135.3	2
Idaho	\$1,536.1	\$57.0	\$1,593.1	1.10	\$1,448.3	22
Montana	\$1,445.8	\$151.4	\$1,597.2	0.84	\$1,901.4	9
Nevada	\$14,484.9	\$1,790.8	\$16,275.7	1.39	\$11,709.1	1
New Mex.	\$2,836.9	\$107.0	\$2,943.9	1.62	\$1,817.2	11
Oregon	\$3,937.9	\$272.2	\$4,210.1	3.03	\$1,389.5	27
Utah	\$2,845.6	\$468.5	\$3,314.1	1.86	\$1,781.8	12
Washington	\$5,590.0	\$805.1	\$6,395.1	5.26	\$1,215.8	34
Wyoming	\$1,129.8	\$123.9	\$1,253.7	0.45	\$2,786.0	5
Total	\$97,394.4	\$22,900.2	\$120,294.6	56.03	\$2,147.0	

- Tourism is the second largest portion of Ohio’s economy. Ohio travelers spent \$23.1 billion in 2001 on accommodations, food, recreation, transportation and retail. This spending directly supported 552,000 jobs. In 2001, travelers contributed \$1.8 billion in state taxes and \$1.7 billion in local taxes in the state (Ohio Division of Travel and Tourism, 2001).
- Over 49 million travel trips were made to Maine in 1999. Fifty-four percent were made by residents of other states and tourists spent over \$5 billion in total, with 75% spent by non-residents of Maine (Maine DOT, 2001).
- Tourism to Lake Erie accounts for 50,000 jobs and \$1.5 billion annually (Voinovich, 2003).
- Marin County, CA just north of San Francisco, has a \$450-million annual tourist industry (NPS, 2003).
- The Southern Selkirk Region of the US and Canada (northeastern Washington, northern Idaho, and southeastern British Columbia) had historically been dependent on commercial extraction activities which have declined in the past decade. The current economic vitality in the region is tied to three economic forces that overcame declining trends in the natural resource sector in the 1990s. The first was tourism and recreation, the second was the residential decisions of retirees, and the third is the location decisions of households and businesses that are pursuing higher quality living environments (Power, 2002).

For purposes of this section, travel and tourism-related expenditures refer to those visits that originate from beyond the boundaries of your local economy. Typically, these are trips from at least 50 miles away and any trips which may involve an overnight stay. Spending by residents is discussed in Section 3.3, but expenditure patterns for visiting tourists are

generally higher than for users who are local residents because of higher spending in the areas of food and lodging.

- A survey on the Allegheny Trail, 152-mile bicycle and walking trail connecting Cumberland, MD with Pittsburgh, PA, showed that spending varied substantially with distances traveled, ranging from \$4.03 per person per trip for those traveling less than 10 miles one way to a trailhead to \$15.44 per person per trip for those traveling more than 60 miles (Farber, 2003).
- Of the 2 million bicycle tourists in Maine, 98% were day trip cyclists. Those on multiple day bike tours were 2% of the total but accounted for 17% of spending (Maine DOT, 2001).
- Rural trails with historic or natural characteristics that encourage "vacation"-style trips generate more revenue per user than urban and suburban trails used for light recreation and commuting. Half of all trail users to Wisconsin's Elroy-Sparta State Trail were identified as out-of-state visitors who bring new money into the state. Studies of the Elroy-Sparta Trail and Sugar River Trail found that spending by out-of-state visitors for lodging, bike rentals, bus shuttle service, and restaurant meals was roughly twice as high as for in-state visitors (Schwecke, 1988).
- Analysis of survey data gathered on six rail-trails in Minnesota between 1980 and 1988 found that users who traveled less than 25 miles to the trail spent an average of just \$.61 to \$2.68 per day, while those traveling 25 miles or more spent up to \$53.20 per day on average (Regnier, 1989).

3.4.2 Natural/Cultural Areas Attract Travelers

Parks, protected rivers, scenic lands, wildlife habitat, and recreational open space play a large role in supporting the travel and tourism industry, as do historical and cultural resources. The latter is sometimes referred to as Heritage Tourism. Often, tourism is thought to be supported by the private sector, but parks, recreational attractions, and heritage places draw many visitors. In terms of visitor days, large-scale commercial developments such as theme parks and cruise ships account for only a small fraction of pleasure travel in the U.S. For example, DisneyWorld and Disneyland attract over 40 million visitors annually but that is only 12% of the visitor days tracked in national parks, and fewer than 3% in all federal recreational areas. Even the volume of visits to state parks, 740 million, is small when compared to visits to regional, county, and local parks and beaches. Thus, tourists consider the many attractions that are operated by park and recreations agencies and their partners, including parks, trails, beaches, festivals, events, sports tournaments, and historical sites (Crompton, 2000).

- Bicycling activity in the northern Outer Banks of North Carolina provides substantial economic benefits to the area — an estimated \$60 million annually with 1400 jobs created or supported annually (mid-range estimates). The availability of an extensive system of special bicycle facilities is a key factor for many tourists deciding to visit the area. Of survey respondents, 43% reported that bicycling was an important factor in their decision to come to the area, and 53% reported bicycling was a strong influence in

their decision to return in the future. Over the past decade, an estimated \$6.7 million of public funds was spent to build off-road paths and add wide paved shoulders to roads in the region (NCDOT, 2004).

- The Virginia Civil War Trails are favorite heritage tourism destinations, generating new economic activity around the state, but particularly in rural areas where 80% of the trails are located. Thus, tourists are attracted to previously unvisited areas and data suggests that over 80,000 people explore the Virginia Civil War Trails each year. On average, a visitor spends \$66 per person per day, amounting to more than \$5.2 million annually (National Transportation Enhancements Clearinghouse, 2002). On a local scale, Civil War markers have greatly increased traffic at the new Visitors Center at the Victorian B&O Railroad Station in Oakland. It has brought as many as 83 people in one day and the store at Heritage Square, located in the train station, has experienced increased sales (Garret County Chamber of Commerce, 2004).

Many national parks are icons that are on "must see" lists for domestic and international travelers. According to a 2004 study nearly 40% of all U.S. adults have visited a national park, in particular, at least once in the past five years. In 2002, there were 87 million leisure person-trips from U.S. households to both national and state parks. (A person-trip is one person on one trip traveling 50 miles or more from home, one way.) Additionally, 20% of international visitors made a trip to a national or state park that year, and one in three national park travelers visited a national park as their primary activity (TIA, 2004b).

The reasons park travelers are drawn to national parks include experiencing nature, educational benefit, experiencing culture and history, and spending time with family. The wide range of activities that visitors to national parks enjoy include outdoor sports, recreation, general tourism and sightseeing, water recreation and National Park Service programs. The economic impact of these visitors is demonstrated by the fact that among those visiting a national park while traveling in the last five years, 75% stayed overnight in or within 10 miles of the parks on their most recent trip and 42% stayed three or more nights. Overall, households that took park leisure trips spent an average of \$627 in 2002, not including transportation to the destination. This is substantially higher than the average spending for U.S. leisure trips in general: \$420 (TIA, 2004b).

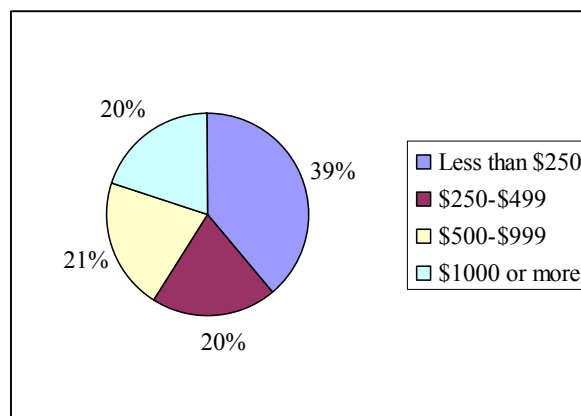


Figure 2. Per Trip Spending by Household on National/State Park Leisure Trips (not including transportation)

3.4.3 Attributing Expenditures to Parks and Trails

Parks, rivers, trails, and greenways have varied levels of tourist drawing power. They can be travel destinations in themselves, encourage visitors to extend their stay in the area or enhance business and pleasure visits. The level of tourist draw determines the appropriate proportion of the visitor’s time and travel expenditures that can be attributed to the park or trail. If visitors extend their trip an extra night to visit, the additional night’s lodging and meals can be attributed to the park.

- The San Antonio River Walk is considered the anchor of the visitor industry in San Antonio, Texas. The Hospitality Industry is the second largest economic sector in the city, accounting for \$7.2 billion annually. Statistics from the Office of the Governor Economic Development and Tourism show that the River Walk is the number one leisure visitor attraction in the entire state of Texas. The River Walk provides a downtown staging ground for public festivals and celebrations such as Fiesta Noche del Rio, Fiesta de Las Luminaries and Las Posadas and it offers a safe and attractive pedestrian system for the downtown area (San Antonio Convention and Visitors Bureau, 2003).
- Bicycle tourism is a key aspect of Maine’s tourism market and it benefits the state economy significantly. In 1999, 2 million bicycle tourists spent an estimated \$36.3 million in direct expenditures. The total impact, including spin-off and multiplier effects (see Section 3.5.2) worth \$30.5 millions, is \$66.8 million. The East Coast Greenway route alone is estimated to generate \$530,000 per year. The equivalent of 1,200 full-time jobs is attributed to bicycle tourism overall (Maine DOT, 2001).

Table 38. Direct Spending Distribution of Bicycle Tourism in Maine

Food & Groceries	\$16.2 million
Transportation	\$9.6 million
Retail and services	\$8.5 million
Lodging	\$2.0 million
TOTAL	\$36.3 million

- In 2002, \$410 million was spent by Missouri state park visitors. Of that, 24%, or \$100 million was from out-of-state visitors. The average expenditure of these visitors was \$37.09 per person per day. Ninety-six percent of that \$100 million was sales generated in the tourism industry, and the expenditures from out-of-state supported 2,013 jobs and generated \$43 million in income. Furthermore, out-of-state visitors contributed \$19 million in taxes, with about \$11 million in federal taxes and \$8 million in state and local taxes (Missouri Dept of Natural Resources, 2003).

Table 39. Visitors and Spending in Missouri State Parks

Park Type	Number of Visitors	Average Spending Person/Day (out-of-state)	Spending of Visitors from Other States
Overnight	11,140,577	\$31.47	\$72,604,058
Day use	1,689,122	\$50.71	\$17,724,102
Historic Site	972,764	\$45.60	\$10,156,938
TOTAL	13,802,463	\$37.09 (average)	\$100,485,098

"This is new money being brought into Missouri because of state parks and historic sites," Gov. Bob Holden said. "It also emphasizes what a major attraction our state park system is, not only to residents but to out-of-state tourists as well." (Missouri State Government Press Release, 2003)

- Several studies in Montana and Utah indicate that the average daily expenditure by wilderness visitors across seven different areas equals \$39.47 (Rudzitis, 1999).

Table 40. Average Daily Expenditures by Wilderness Visitors

Location of Study	Expenditures / person / day
Montana wilderness (backpacking)	\$39.10
Montana wilderness (fishing)	\$42.83
Montana wilderness (nature study)	\$35.06
Utah wilderness (Box Death Canyon)	\$38.44
Utah wilderness (Dark Canyon)	\$47.02
Utah wilderness (Grand Gulch)	\$37.66
Utah wilderness (Paria Canyon)	\$36.16
Average	\$39.47

Table 41. Average Expenditures of Wilderness Visitors by Category of Purchase

Industry	Average Expenditures / person / day
Gasoline	\$ 8.22
Groceries	\$ 8.23
Restaurant/Bar	\$ 6.78
Lodging and Campground	\$ 6.47
Auto/RV Rental	\$ 1.56
Licenses/Admissions	\$ 1.14
Recreation Equipment / Outfitter / Guide	\$ 1.59
Retail	\$ 5.48
Total	\$39.47

- A study of visitors to Rio Grande National Forest (52% of whom listed hiking as their primary activity) estimated that each individual spent \$567.93 for lodging, \$319.44 for food and drink, and \$168.44 for transportation per visit. This spending was done within a 50 mile radius of the recreation site (USDA Forest Service, 2001).

Table 42. Average per person national forest trip expenditures on the Rio Grande National Forest

Expenditure Category	Average expenditure
Government owned lodging	\$1
Privately owned lodging	\$567
Food/drink at restaurants and bars	\$122
Other food and beverages	\$197
Gasoline and oil	\$159
Other transportation (plane, bus, etc.)	\$9
Activities (including guide fees and equipment rental)	\$23
Entry, parking, or recreation use fees	\$4
Souvenirs/ clothing	\$34
Any other expenses	\$21

- Economic modeling of wildlands in the Eastern Sierra Nevada region (5.5 million acres under management by the Forest Service, Bureau of Land Management, and National Park Service in Mono and Inyo Counties of California) shows that visitors support 2,812 jobs (15.0% of total jobs), \$98.1 million in total income (11.9%), and \$131.2 million in output (10.6%) for the two-county region (Richardson, 2002).

Table 43. Impact of Counties in Eastern Sierra Nevada region

Regional Impact	Mono County	Inyo County	Region Total
Employment Impact	1,511 jobs	1,300 jobs	2,812 jobs
Total Employment	8,663 jobs	10,032 jobs	18,695 jobs
% of Total	17.4%	13.0%	15.0%
Income Impact	\$ 51.8 million	\$ 46.3 million	\$ 98.1 million
Total Income	\$393.9 million	\$427.2 million	\$ 821.1 million
% of Total	13.1%	10.8%	11.9%
Output Impact	\$ 69.4 million	\$ 61.8 million	\$ 131.2 million
Total Output	\$585.1 million	\$654.7 million	\$1,239.8 million
% of Total	11.9%	9.4%	10.6%

- A small survey conducted by California Trout during the summer of 2002 indicated trip expenditures for the 17 anglers in the Golden Trout Wilderness (near Inyo National Forest trailheads in California) totaled \$7,085 and averaged \$109 per day during an average four-day stay. The majority of trip-related expenditures, such as food and lodging, were local and most of the visitors came from other parts of California (Alkire,

2003). Data from California Department of Fish and Game supplement these expenditure trends.

Table 44. Average Angler Expenditures for Forks of the Kern Trailhead, Sequoia National Forest

Year	Number of Surveys	Total	Gas	Food	Lodging	Tackle	Other
2001	26	\$112	\$43	\$35	\$66	\$19	\$3
2000	16	\$139	\$61	\$61	\$16	\$12	\$0
1999	13	\$78	\$33	\$30	\$19	\$10	\$0

Source: CA Dept. of Fish and Game, 2002

- There was enormous growth in Colorado’s river rafting industry from 1988 to 1998, with increases ranging from 4.4% to 23.1% per year. This leveled out in 1999-2001 as the industry matured, and dropped in 2002 due to a record-breaking drought and wildfires. However, the industry recovered dramatically in 2003 with a statewide increase in participation of 45%. Average growth from 1988 to 2003 was therefore 9.6%. In 2003, there were 463,421 user-days on the river, and based on an 1991 survey that was adjusted for inflation, average daily expenditures per person were estimated at \$97.78, and total direct expenditures were calculated to be \$45,311,785 (Colorado River Outfitters Association, 2004).
- In Fayette County, West Virginia, rafting provides 1,000 seasonal jobs and contributes \$50 million to the local economies—mostly from the sale of videos, photos, T-shirts, cookbooks, food, and lodging (Webb, 1998).

3.4.4 A Boon For Businesses

Parks, trails and greenways often foster new businesses and strengthen existing ones from increased visitation to the area or to gateway communities. There are many examples of new enterprises opening along a trail or river, or in the vicinity of a park or greenway. Similarly, businesses already in operation often report increased sales and may extend hours and hire new staff to accommodate an increased customer base. This benefits the business owners, employees, as well as their families and the community that receives input through taxes and indirect spending.

- After the Mineral Belt Trail opened in Leadville, CO, there was a 19% increase in sales tax revenues. Owners of restaurants and lodging facilities said many of their customers had come to town specifically to ride the trail. The trail has helped Leadville prevent an economic recession through revitalization and development of recreation and tourism opportunities (National Transportation Enhancements Clearinghouse, 2002).
- Along the Allegheny Trail, in the town of Boston (Allegheny County, PA), the high volume of trail users has spurred entrepreneurship in the community. In 1998, four new trail-oriented businesses opened there, including bike rentals, restaurants, a bed-and-breakfast and a novelty shop. In Confluence, a town on the trailhead, new business development included three restaurants, two bed-and-breakfasts and a bicycle rental

program at the local video store, all as a result of the trail (National Transportation Enhancements Clearinghouse, 2002). Total direct and indirect spending in communities located within 10 miles of the trail system has increased by \$3,174,593 due to trail related spending coming from outside those communities (Farber, 2003).

- The Silver Comet Trail, spanning three counties in Georgia, resulted in a bicycle shop and a bed-and-breakfast coming to downtown Rockmart, GA, along with an unprecedented number of people. "In the last 12 months, we've had more tourists than in the last 30 years," Mayor Lewis said. "Before there wasn't anything to bring them here." (Williams, 2002) The trail has also brought new life to the economies of Cobb, Paulding and Polk Counties because new businesses are opening and connector trails have been constructed in subdivisions and local downtown areas to provide direct access to the trail. Other bike stores, such as the Silver Comet Depot, opened in Cobb and Polk Counties and offer bike or inline skate rentals, while others have opened in Paulding for trail users who want to buy bikes and accessories (National Transportation Enhancements Clearinghouse, 2002).
- Since construction was started on the Heritage Rail Trail (in Pennsylvania), many new businesses have opened along it, including bed and breakfasts, bicycle shops and delicatessens. Existing businesses along the trail have also enjoyed benefits from increased numbers of customers (National Transportation Enhancements Clearinghouse, 2000). The new and expanded businesses have added employment in southern York County and vary from the Whistle Stop Bike Shop and Railroad Café in New Freedom, PA to numerous refreshment stands along the length of the trail. The Jackson House Bed and Breakfast in Railroad, PA is located next to the trail and adjacent to the Railroad trailhead; the New Freedom Hotel is being refurbished and converted into a bed and breakfast across the street from the restored New Freedom train station; and the Glen Rock Mill, located along the trail in Glen Rock, PA, has reopened after being closed for a number of years and caters to trail users by serving lunch on an open air patio and welcoming trail users' pets. Additional new business enterprises have been formed to serve the needs of trail users, such as the Cycle Inn, another bed and breakfast that opened near the Brillharts Station trailhead (York County Dept. of Parks and Recreation, 2002).
- In Dunedin, Florida, store vacancy rates tumbled from 35% to zero after the Pinellas Trail was built through town beginning in 1990 (Rails-to-Trails Conservancy, 1997).
- Hearthstone, a country hotel, strategically chose a location directly on the bike trail in Cedarville, Ohio. According to Stewart Zaharek, manager, the bike trail is a significant component of the inn's marketing plan which provides maps, web links and information about trails throughout the county (Hearthstone, 2003).
- Five out of seven businesses which opened over a three-year period in a study area of the Little Miami Scenic Trail cite the trail as the main reason for opening their business. One out of every three businesses believed that the trail increased their patronage by more than 20% (Ohio Greenways, 1999).
- Rental and sales figures for recreational vehicle (RV) travel continue to rise. Three-fourths of RV owners expect to travel more in spring/summer 2004 than they did last year, expecting to log nearly 3,000 miles over 40 days, and the desire to enjoy nature is the top reason cited (66%) for using their RVs more. Factory-to-dealer deliveries of RVs are expected to set a new quarter-century record in 2004, increasing nearly 8%

over 2003, despite high gas prices, and the number of RV-owning households is expected to rise 15% between 2001-2010, which is more than overall U.S. household growth of 10%. Similarly, RV rental companies have seen a 30% increase in domestic rentals since 2002 and the rental business is expected to grow 34% in 2004 (RVIA, 2004).

3.4.5 Marketing Potential

Parks, rivers, trails, and greenways provide unique resources which nearby travel and tourist-serving establishments, chambers of commerce, and local visitors' bureaus can capitalize on and feature in their advertising. Because a park or trail is a desired and profitable amenity for these businesses, they may also be willing to contribute to the funding and development of the park or trail.

- As a condition for development, the Campbell Inn (near San Jose, California) was required to provide an easement for the Los Gatos Trail. Upon realizing the marketing potential of the trail, developers constructed part of the trail, an additional spur, and now provide complimentary use of bicycles for hotel guests and promote the trail in their marketing efforts.

3.4.6 How to Use These Rationales in Your Community

Quote examples. Choose relevant information from the examples provided to include in newsletters and presentations. Gather your own testimonies from lodging, restaurant owners, and travel agents. Cite quotes from their promotional materials and advertisements.

Find out whether any studies have been done in your area. Contact local university departments of tourism, recreation, business, or economics, to see if anyone has done research or special projects related to the economic impacts of tourism in your area. Discuss your park with them. Also contact federal, state, regional, and local agencies to see if there are any relevant studies. At the state level, try the agencies that govern commerce and tourism. At the regional and local levels, try local convention and visitors bureaus, chambers of commerce, marketing specialists, and major banks. There may be current reports on average tourism expenditures in your community.

Depending upon what studies you can acquire, and their focus, you may be able to adapt them to your needs. Consult the authors of those studies, or other specialists, before doing so.

List park or trail related resources that attract visitors and impact their travel trends. Determine how natural/cultural park-related resources play a part in determining travel preferences and trends in your area. List programs, events, sports events, competitions or facilities related to the park or trail that attract visitors from other communities. Cite examples with which your audience will be familiar. Look at promotional materials in your area, including newspapers, brochures, magazines, and phone books to see how resource-based attractions are being promoted and featured in advertisements. Compare the number

and types of attractions that the park or trail hosts to those supported by non-profit organizations or commercial attractions to showcase the importance of the park or trail within the community.

Get to know your visitors. Check with local visitor information centers and chambers of commerce. Find out who your visitors are; where they come from; why they visited the park; how long they are staying in the area; what brought them there; and their expenditures while in the area. This can be accomplished in a variety of ways, ranging from casual conversations with visitors at the park, to intensive phone, mail, and/or visitor interviews at park or trail entrances. It may be possible to do surveys of local overnight accommodations and businesses around the park. The appropriate method will depend upon the desired level of detail and reliability of results. Many tourism expenditure studies focus upon guests staying in commercial lodging facilities but don't neglect those staying in camp grounds, or with friends and relatives, who are also an important part of total visitor expenditures.

Determine the level of visitor draw of your resource. Is it a destination in itself? If not, would visiting the park or trail require people to spend more time, or the night, in your area? Would it encourage business and pleasure travelers to patronize businesses near your resource, or pay more to stay, dine, or shop near it?

Estimate where expenditures are going. Your promotion will have more impact if you can state who benefits from tourism expenditures. This may include tax revenues, jobs, and payroll expenditures.

Estimate corresponding expenditures attributable to your resource. The level of visitation to your project will determine the type and amount of expenditures that can be attributed it. If your park project is a separate destination in itself, the resource can be credited with all or most of the expenditures associated with the visit. If a park, trail or river encourages staying another day in your area, figure the expenditures associated with spending one night and the following day, and credit the resource with that amount. If people will pay more to be near your trail, for example, find out how much, and credit the resource with that amount. Expenditures in your area can include transportation, food, lodging, entrance fees, outfitter/guide fees, and taxes.

Design your visitor surveys to determine what types of activities visitors participated in; how much each visitor spent per day for food, lodging, retail products; and other visitor-related services. The survey results would then provide an estimate of total annual expenditures. Sample survey questions are listed in Section 3.9.1.

If you cannot perform a site-specific survey, the expenditure information from past studies may be applicable if they are in the same area or if the park project is similar. You should note the year the expenditures were calculated in any study findings you may use. Remember the actual value of money changes each year. Be certain you work with expenditure values calculated for the same year, or corrected for inflation.

Project impacts from changes in visitation. If travel trends and/or potential park

management changes or actions are expected to alter visitation, you may be able to quantify the economic impacts of this change. To do this, you need to estimate the increase in expenditures and use relevant multipliers if available (see Section 3.5.2 for an explanation of multipliers).

Estimate total impacts. If you have economic expertise on your staff or within your citizen group, you may be able to estimate total impacts. Visitor expenditures for your project can be estimated by conducting a survey. Once you have determined the expenditures, you can use appropriate multipliers to determine the total impacts. Multipliers for your city, county, or state may already be available.

Promote your resource to the tourism community. Develop a plan for marketing your park, river or trail. Be careful the designated name of the project and any related brochures or information, accurately reflect the nature of the project and create the image you desire. Combine efforts with tourism promoters such as the local chamber of commerce, visitors bureau, hotels, event planners, travel agents, convention and visitor bureaus, tour guides, and transportation operators to include promotion of the park, trail or open space in their literature/brochures. Assist in distributing this information to visitor centers, conference centers, and other traveler information locations.

Consider that park, river and trail users can be divided into segments based on the benefits they seek. It may be possible to profile several target segments such as Fitness Seekers, Typical Outdoorsmen, Group Naturalists, and Enthusiasts who each have different views of benefits like fitness and health, experiencing nature, spending time with others, exploring new places, or seeking solitude. Some of these segments may be easier to reach than others and specialized marketing messages may better attract a particular segment than others. Such a benefit segmentation was performed for users of the Katy Trail in Missouri (Bichis-Lupas, 2001).

3.4.7 Sources of Information

Office of Travel and Tourism Industries <http://www.tinet.ita.doc.gov/links/index.html>
Tourism Industries functions as the U.S. federal tourism office. It maintains statistics and links to information on the travel and tourism industry.

Online Travel/Tourism Information

Many sites maintain links to information sources on the travel and tourism industry, including:

- **Travel Industry Indicators** <http://www.travelindicators.com/>

Publishes a monthly executive newsletter that monitors the travel marketplace, and maintains links to recommended statistical data and information sources.

- **Tourism Research Links** <http://www.waksberg.com/research.htm>

This site lists numerous sources and organizations focused on recreation and tourism around the world, including many state associations.

- **Dean Runyan Associates** <http://www.deanrunyan.com/resources.html>

Offers links to state tourism research for every state in the U.S., and well as key tourism related organizations and associations, and other useful sites. This firm specializes in economic and market research for travel, tourism and recreation, with public and private sector projects throughout the U.S. The website posts economic impact studies that have been performed by several states including California, Colorado, Idaho, North Dakota, Oregon, Texas, Washington, and Wyoming: <http://www.deanrunyan.com/traveldata.html>

Travel and Tourism Research Association <http://www.ttra.com/>

This is an international association of travel research and marketing professionals, which facilitates access to numerous sources of information in support of research efforts by its members.

Travel Industry Association of America. www.tia.org

The Travel Industry Association of America (TIA) represents the U.S. travel industry and facilitates increased travel to and within the country. TIA's Research Department gathers, conducts, analyzes and publishes economic, marketing and international research that demonstrates the significance of the travel and tourism industry at national, state and local levels. It defines the size, characteristics and growth of existing and emerging travel markets, and provides qualitative trend analysis and quantitative forecasts of future travel activity and impact.

TIA offers special segment studies that address such topics as historical/cultural travelers and leisure trips to national or state parks. It publishes *The National Parks Traveler*, which presents the results from national surveys about trips that include a visit to national/state parks. It highlights details of the most recent trip taken by national park travelers and examines travelers' awareness of U.S. National Park areas and their attitudes about national park travel. Other TIA publications include:

- *Impact of Travel on State Economies*- presents estimates of both domestic and international traveler expenditures in the U.S., travel employment and income in the nation and each state, and travel-generated tax receipts for federal, state, and local governments. The report covers detailed estimates for travel-related categories, such as public transportation, auto transportation, lodging, food service, entertainment and recreation, and incidentals.
- *Auto Travel in the U.S.*- provides a detailed profile of U.S. trips that are taken by owned cars and trucks, camper/recreation vehicles, and rental cars as primary modes of transportation. The report includes a profile of trips that include a rental car as a secondary mode of transportation and auto travel is further segmented by primary purpose of trip, relativity of origin and destination, hotel stay, and trip duration.

Finally, TIA offers the Travel Economic Impact Model (TEIM) for estimating traveler expenditures and related economic impact in the U.S. The TEIM estimates travel expenditures and the resulting employment, personal income, and tax revenue generated by these expenditures. The TEIM also has the capability of estimating the economic impact of various types of travel as well, such as business and leisure, by transport mode and type of

accommodations used, and other trip and traveler characteristics. TIA publishes national and state level estimates annually, and can use the model to estimate the economic impact of travel at the county and local level on a contract basis.

Sources Listed in Section 3.3, Expenditures By Residents

Many of the sources listed in the previous chapters are applicable for tourism, not just spending by residents, including:

- **Recreation and Sports Associations**
- **National Survey of Fishing, Hunting, and Wildlife-Associated Recreation**
- **National Survey on Recreation and the Environment (NSRE)**
- **Academic Resources**, particularly Michigan State's Department of Park, Recreation and Tourism Resources which maintains a website on "Economic Impacts of Recreation and Tourism" at <http://www.msu.edu/course/prr/840/econimpact/>

3.4.8 Considerations in Using These Rationales

Use existing information. Make every effort to use available, existing information. Generating original economic impact information can be time consuming and expensive. When adapting existing information, list the assumptions and limitations of your analysis.

Use good survey methods. Consult with someone experienced in designing and conducting surveys, and interpreting survey results. Someone on your staff may have these skills. If not, contact your local college or university. Be wary about using license plate tallies to determine visitor origin, since a high percentage of domestic and international tourists use rental cars to explore the countryside. If possible, gather survey information that is comparable to locally published per person tourism expenditure data.

Be careful in the policy implications of your results. Be careful in considering the implications of your analyses and the tradeoffs between tourism/economic development and resource protection. For example, development of vacation homes or tourist attractions in the local area may bring dollars to the economy, but could also alter the community and its ecological character.

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3.5 Estimating the Effects of Spending

Economic impacts are often measured in terms of sales, income, jobs, tax receipts and value added as a result of a park, river or trail, and these impacts of spending flow through the economy in several ways. The actual amount spent by park and trail visitors at businesses within your local economy represents only a portion of the total economic activity resulting from this spending. For instance, park visitors may purchase goods and services from local businesses. In turn, these businesses and their employees purchase goods and services from other businesses, thereby creating a chain reaction. These purchases of goods and services between firms occur between different economic sectors, such as manufacturing, agriculture and transportation. Therefore, an increase in visitor expenditures is likely to impact many related sectors in the economy.

3.5.1 Direct, Indirect, and Induced Effects

The total impact resulting from an increase in visitor expenditures can be described in terms of *direct*, *indirect*, and *induced* effects. Understanding these three types of effects is important because they show how the initial park related expenditure generates additional economic activity within your local or regional economy.

- **Direct effects** are the sales, income and jobs in those businesses selling directly to visitors, i.e., hotels, campgrounds, restaurants, amusements, gas stations, grocery stores, and retail shops.
- **Indirect effects** result when directly impacted businesses such as hotels and service providers buy goods and services from other businesses within the region, called “backward linked” industries.
- **Induced effects** stem from household spending of income earned directly or indirectly from the visitor spending. For example, hotel and restaurant employees live in the area and spend their income on housing, groceries, etc. This spending supports jobs in a variety of local businesses. Note that the primary impacts of park or trail operations themselves are the induced effects of the park payroll.

Visitor expenditures that may be attributed to a protected river corridor, for example, may include food and beverage, fishing equipment, and gasoline for vehicles and boats. *Direct effects* result directly from the actual purchases by visitors. Local businesses meeting the river visitors’ demand for goods and services, must purchase supplies to meet this demand. These purchases (of food and beverage supplies, fishing equipment and gasoline, for example,) by the local businesses, are direct effects. Direct effects are also referred to as first round purchases or primary effects in some studies.

Indirect effects occur when the suppliers to these local businesses must increase their purchases of production materials and services from other businesses, and those businesses in turn increase their purchases. A chain reaction is created as each supplier must increase their purchase of inputs. Each exchange increases the total indirect effects. For food and

beverage, indirect effects are when the local food manufacturers purchase additional produce from local farmers, and the farmers then purchase additional supplies in order to grow products necessary to meet the demand. Another example might be fishing equipment. For instance, the indirect effects attributed to a fishing rod would include purchases by the rod manufacturer for graphite and other materials, and the graphite manufacturers (if local) purchases of local supplies. Thus, indirect effects extend to sectors of the economy beyond recreation-oriented businesses, such as agriculture, manufacturing, and transportation.

The direct and indirect effects of increased spending by park or trail visitors can result in an overall increase in the production of goods and services in the local economy. This increase in economic activity can also increase jobs and household incomes within the economy. A portion of the incomes is then spent on other goods and services.

Consumer purchases resulting from the increased income of business owners and households set in motion another sequence of expenditures and purchases. The sum of these impacts over and above the direct and indirect effects is the *induced effects*. For example, the induced effects would include all the purchases made by households which receive wages from their employment at the rod manufacturer or local market. Induced effects result from wages paid to households by both directly and indirectly affected businesses. These induced effects can be estimated from economic impact models. Together, the direct and indirect effects are called secondary effects.

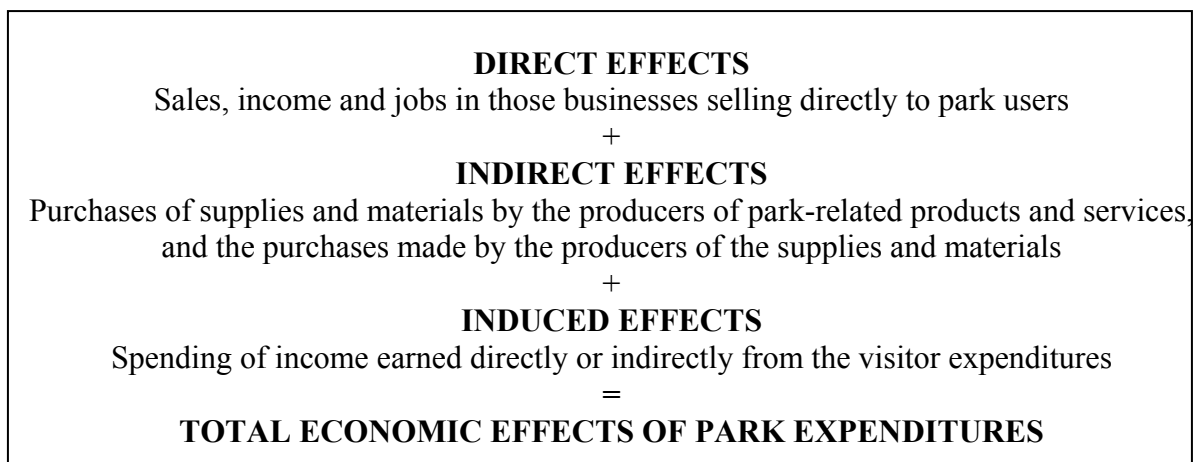


Figure 3. Economic Effects of Park or Trail Expenditures

If you estimate the direct, indirect, and induced effects of visitor expenditures, you can show the total economic activity which can result from your park or trail project. For recreation expenditures, the total economic effects, whether sales, jobs or income, are often approximately one and a half to three times more than the amount of the actual recreation-related expenditures. The magnitude of direct, indirect, and induced impacts depends on the number of visitors attracted to the park; the amount they spend; the structure and diversity of the local economy; and the quantity of input supplies purchased within your local community. Goods that are purchased from outside the local economy constitute a

“leakage” of money from the region because it is no longer circulating within the community. If the local businesses purchase all their input supplies from outside the area, the direct and indirect impacts on the local economy would be zero. Similarly, if employees reside outside the community they are much less likely to spend their income at local businesses and induced impacts are likely to be minimal. When defining the bounds of your local economy, remember that wider bounds may allow the money to circulate within it longer, but that less new money will come into the region.

3.5.2 Multipliers

How are the indirect and induced effects estimated? Economists often use multipliers to estimate what the size of the secondary effects relative to the direct effects. Type I multipliers only capture indirect effects while Type II multipliers capture both indirect and induced effects. A multiplier is a ratio, which for Type II multipliers, is the total effects divided by the direct effect. They are usually written in decimal format, such as 1.7. The greater the multiplier, the greater the increase in economic activity in the local economy. There are many variations on these multipliers; some are expressed in terms of sales, jobs, income, or value added, and there are caveats associated with each.

- Sales by firms in the region; equated with visitor spending. Reporting economic impact in terms of sales is extremely common because it often generates the highest economic impact number, but it doesn't necessarily reflect how residents are affected. Thus, it may be a less meaningful indicator for elected officials and decision-makers.
- Jobs, while often reported consistently as the number of people employed by firms and businesses in the local region, may not differentiate between part-time and full-time jobs and therefore can be misleading. Thus, employment estimates may not be the best way to compare impacts across sectors or regions because they don't reflect seasonality or variation in wage rates. For special events in particular, the managing agencies or local businesses may not hire new full-time employees because of the short duration of the event; instead existing employees may simply work longer hours. Even if new jobs are created, there is no guarantee they will be filled by residents from within your economic boundary. Finally, using employment multipliers assumes that all current employees in a community are completely occupied so when visitor spending increases, there will need to be increased levels of employment. This may not be the case, but all jurisdictions face the same limitations when performing their analyses.
- Income may have different ways of measurement. For example, payroll income includes wages and salaries, payroll benefits and income of sole proprietors, while total income also includes profits and rents of businesses. Personal or total income is often reported because it is straightforward to understand.
- Value added is most often preferred by economists because it captures the contribution of the activity or industry to gross regional or national product. It includes personal income to households, profits of private firms and indirect business taxes accruing to government units in the region. However, value added is

not widely understood.

$$\text{Type I sales multiplier} = (\text{direct sales} + \text{indirect sales}) / \text{direct sales}$$

$$\text{Type II sales multiplier} = (\text{direct sales} + \text{indirect sales} + \text{induced sales}) / \text{direct sales}$$

Figure 4. Sales Multipliers

Multipliers are derived from rather complex economic models. To estimate what the total effects (direct, indirect, and induced) will be, you multiply the direct effect (first round purchases) by the multiplier to obtain the total effects. Thus, by using multipliers you can show the total amount of economic activity in your community per dollar of direct effect of park visitor spending. For a park or trail project, an economist could use an employment multiplier to estimate how many jobs would result from a specific level of park-related expenditures. An economist could also use an income multiplier to predict the additional income which would result from an increase in park-related expenditures.

Relatively large multipliers mean that new or expanded recreation facilities within these regions would bring new dollars into the area, which, through multiplier effects, would stimulate considerable economic activity. Multipliers vary by county, in part, because the structures of the local economies are different. Generally, as local economies diversify and become more self-sufficient, visitor spending will have an even larger effect on the local economy. *Aggregate Type II multipliers typically range from 1.3 for rural areas to 1.6 for larger metropolitan areas. Multipliers for statewide regions generally range from 1.5 to 1.8, and tourism sales multipliers for a national model may be around 2.5* (Stynes, 2004).

An employment multiplier for a park of, say, 1.52 means that there will be 1.52 jobs created in the local economy for every one job resulting from the direct impacts of recreation spending at that park. Therefore, if 10 new jobs resulted from the direct impacts of recreational spending, 15 total new jobs would eventually be created. Ten of these 15 would be the result of the direct impacts, and five additional jobs from the indirect and induced impacts. Remember the direct impact on employment results from the jobs provided by the recreation-related businesses themselves. The indirect impact on employment results if the recreation business buys production materials and services locally from other businesses, thereby increasing the number of jobs in those businesses.

Once again, multipliers are derived from rather complex economic models. However, in many cities, counties, and states, multipliers have already been calculated and may be appropriate for your project. Multipliers may be a convenient way to estimate secondary impacts in a region from direct spending, but they can be applied incorrectly. For example, using published multipliers of those from another study may give the mistaken impression that a single recreation multiplier can be used for any area or application. Caution should be exercised when using or interpreting multipliers. Make certain you know what the multipliers are describing. To use multipliers correctly, it is best to work with an economist or someone familiar with their use.

Keep in mind that multipliers are specific to the economic structure of a particular set of industries in a particular region during a given year. They depend on the geographic extent and level of economic development of the region. Thus, they tend to be lower in rural areas, higher in metropolitan or multi-state regions, and highest in national studies. Multipliers also depend on the particular industries being considered. Different sectors of the economy have different production characteristics and purchase different quantities of goods and services from local firms. Multipliers also have a propensity to change over time as prices change or the industry structure shifts. Check the date on published multipliers.

Remember that multipliers are only relevant if you are considering secondary effects. By looking only at direct effects, the need for multipliers can be avoided. If the expertise of an economist is not feasible or warranted, it is still important to recognize that multiplier effects will be generated in the economy, even if they cannot be calculated. When multipliers are used, they can clearly show how attracting new visitor dollars into a region can stimulate considerable economic growth. Multipliers can also be used to show how a decline in recreation services and visitor expenditures results in decreased local economic activity.

3.5.3 Economic Impact Models

Economists often use computerized *input-output models* to derive multipliers. These models are very helpful for understanding the inter-relationships in a local economy. Input-output models which can be used to estimate the impacts of outdoor recreation are the USDA Forest Service's IMPLAN, RIMS-II from the Bureau of Economic Analysis, and the Money Generation Model (MGM) developed at Michigan State University and now in its second version, MGM2. There are other types of economic impacts analysis models used, such as econometric models, social accounting matrices and computable general equilibrium models, but they are not discussed here.

Input-output models are the main tool for performing an economic impact analysis because they show the relationships between industries in a particular local economy through inter-industry transactions and exchanges between businesses, households and government units in a particular region. This flow of dollars includes all the sales and purchases made by the different sectors of the economy over a period of time. For example, in a state parks study, researchers must determine how recreation expenditures would be allocated through increased purchases of materials and supplies across various economic sectors. Recreational spending could include purchases of gasoline for automobiles, recreational vehicles, and boats. Thus an increase in purchases of gasoline by park visitors would result in increased purchases by producers of gasoline, i.e., lubricating oils and greases, petroleum and coal. To capture the circulation of money within the local economy, an input-output model must identify what percentage of goods and services that are purchased by local firms as opposed to those imported from outside the area. Such imports are leakages from the home region, while local purchases yield additional jobs and income in "backward linked industries."

In the past, estimating the input-output model for a particular region required extensive

surveys of businesses in all sectors of the region, but computer-based systems and non-survey methods based on economic databases are widely accepted. Non-survey approaches, like IMPLAN and RIMS-II, adapt national input-output tables to local regions and provide a strong framework for analyzing the economic structure of a region. Methods that use multipliers from these models, such as MGM2, make such analyses very straightforward.

IMPLAN is a PC-based economic impact modeling system that provides the tools, data, and support to do in-depth examinations of state, county or multi-county regions. It has been widely used in both public and private organizations since 1993. A full working demonstration copy of IMPLAN Professional 2.0 is available for download from the Minnesota IMPLAN Group at <http://www.implan.com>. In order to build an IMPLAN model you will need both the software and data files for your region, whether that is a single county, multiple counties, or state-level. The company can also provide multipliers for a particular region which includes descriptions of the structure of the local economy in terms of levels of employment, income, and output by sector, and regional multipliers for output, income, other value added, and employment.

MGM2 is a set of Microsoft Excel workbooks for estimating the economic impacts of visitor spending on a local region. It can be used to evaluate specific management alternatives but its primary use is to generate overall impacts of current use in order to demonstrate the contribution of a particular park to the local economy. MGM2 separates park users into local visitors or tourists to the area, as well as day visitors or overnight visitors. They may also be segmented by activity, trip purpose, transportation mode or any other variables that help to explain spending patterns. The model estimates the impacts that park visitors have on the local economy in terms of their contribution to sales, income and jobs in the area, and it itemizes spending into twelve spending categories:

- motel, hotel cabin or B&B
- camping fees
- restaurants and bars
- groceries, take-out food/drinks
- gas and oil
- other vehicle expenses
- local transportation
- admissions and fees
- clothing
- sporting goods
- gambling
- souvenirs
- other expenses.

For parks or trails that don't have recent data, the MGM2 Shortform can be used to estimate visitor spending and impacts based on the judgment of the researchers regarding the mix of visitors and spending patterns at the park or trail. The MGM website, <http://www.prr.msu.edu/mgm2/>, contains the model's estimates of economic impacts of visitor spending for individual national park units based on year 2001 recreation visit figures. Parks can download the MGM2 models and complete their own analysis free of charge.

3.5.4 How to Use These Rationales in Your Community

Unlike previous chapters, “Estimating the Effects of Spending” adds a layer of complexity to the initial spending that results from parks, rivers, trails, and greenways. Therefore, it is important to carefully consider both expenditures as well as how they impact related sectors in the economy. This is the first chapter that begins to sum the various aspects of spending discussed previously. Therefore it is key to have a firm understanding of the figures generated by previous chapters in order to aggregate their effects and apply add direct, indirect, and induced effects, multipliers, and/or use economic impact models.

Calculate the economic impacts of your project. The following are four steps you might work through to determine what to calculate, as well as how to do it. Be sure to use constant dollars which can be calculated by using the appropriate Consumer Price Index (CPI) Values.

Step 1: Define the geographic boundaries of your economy and your project. An economy can be a commercial area, a town or city, a region, state, nation, or any other unit. It is where the majority of users and employees live and spend their money. Usually, the larger the economic land unit, the greater the value added from the original expenditures, because dollars circulate within the defined economy without “leaking out.” However, the larger the area, the less *new* money from outside the area is coming into it. Often the economy is defined for political reasons. If the County Supervisors are the relevant decision-makers, they will be interested in how the existing or proposed park or trail affects the County. The region chosen should include major gateway communities around the park or trail, typically within a 30-60 mile radius, where visitors may stay overnight or purchase supplies and souvenirs as a result of their visit.

A project can be an existing park, or one that is proposed. You should be as specific as possible regarding the geographic extent of the project, the type of recreation activities that occur there, who the users are and where they come from, the resources necessary to construct and maintain it, and the expenditures visitors make as a result.

Step 2: Determine user expenditures per site visit. An effective method to determine resident expenditures associated with the park or trail is to hand out a mail-back questionnaire to a random sample of users. Make certain to provide a map with the survey which includes the park or the boundaries of the economy you have defined. You may also wish to consider on-site interviews and/or telephone surveys using staff, volunteers, and/or user groups. Contact a local university for assistance in constructing and analyzing the survey, and sample survey questions and tips are included in Section 3.9. Test the survey before conducting the actual survey. When you hand out mail-back surveys, ask for the name and phone number of the respondents so you can contact them if the completed survey is not returned promptly. Use caution if your response rate or sample size is small. A few “outlier” responses or missing observations can skew the data significantly if results are extrapolated to a larger population. One suggestion for minimizing this source of error is to disregard the data from the 5% of respondents who report the highest expenditures as well as the 5% with the lowest expenditures (Crompton, 2000).

The survey results should allow you to determine the number of users, number of visits, expenditures per user in the local area, activities they are participating in, and how much of their activity occurs within the park, frequency of use, percentage of residents compared to non-resident users. From this, calculate local expenditures per day for each type of user surveyed. Multiply those expenditures by the number of annual users in each category, then add these together for an estimate of total annual expenditures associated with your park. If use varies by season, day of the week, or time of day, be sure your calculations incorporate an annual average. If you are proposing a new park or trail, make some assumptions about likely expenditure patterns.

The default recreation visitor spending profile used in MGM2, and based on studies at several national parks, is shown below for reference.

Table 45. MGM2 Spending Averages, Medium Spending Profiles, 2004 (dollars per party per day/night)

Spending Category	Segment				
	Day Trips		Overnight Trips		
	Local	Non-local	Camp-in	Camp-out	Motel
Motel, hotel, cabin, or B&B	\$0.00	\$0.00	\$0.00	\$0.00	\$79.68
Camping Fees	0.00	0.00	15.94	21.91	0.00
Restaurants & bars	12.66	16.88	10.55	12.66	40.09
Groceries	6.30	6.30	13.65	9.45	10.50
Gas & oil	4.51	9.01	9.92	9.92	8.11
Other transportation	0.53	1.05	1.05	1.05	2.10
Admission & fees	4.36	7.63	6.54	14.17	13.08
Souvenirs and other expenses	8.72	12.29	10.12	19.25	19.25
TOTAL	37.08	53.17	67.75	88.41	172.81

Step 3: Apportion expenditures on recreation equipment, supplies, and clothing.

Spending on durable goods such as equipment and clothing can be tricky because such goods are used over time rather than on just one trip, are often used at many different sites, and the associated economic impacts may be difficult to track to a particular region. Gear is often bought near home, rather than the trip destination, and the greatest economic impacts typically accrue to the place where the equipment is manufactured.

To undertake this aspect of the analysis, a survey could include questions regarding annual expenditures made on equipment, supplies, and apparel. To assess effects on the local

economy, only those expenditures that were made within the region outlined on the survey map can be counted. Also, you can only attribute the portion of the equipment expenditures that relate to the proportion of the total use that occurs at the park or trail. For example, if a person spends \$50 per year on running clothes and half of their running is done along the trail, then the trail-related expenditure is \$25. If purchases are made that will last a number of years, divide the expenditures by the typical life of the equipment, then apportion for annual information.

To make these calculations, calculate the annual amount your users spent on equipment, supplies, and clothing for their activity. Determine if the equipment and supplies were purchased from businesses in your local economy. Find out what percentage of time they pursue their activity within the park. Then multiply this percentage by the amount spent on the equipment within the local economy. Make an estimate of how many new entrants could be expected as a result of the park, river, or trail, and multiply the number of entrants by the estimated expenditures for new entrants into a particular recreational activity. Estimates will vary by community so you may wish to contact local retailers for best estimates for your project. A standard way of thinking about an analysis is to consider changes in economic activity within a region that result from some action, namely the creation of a park or trail. Economic impacts should be assessed with the park or trail versus without it.

Step 4: Show how your project supports the local economy.

Total the resident expenditures in the region from the preceding steps and summarize your findings.

Determine the potential impacts of a proposed project. Your project can stimulate the local economy by increasing the demand for recreation-related goods and services. To estimate expenditures which may result from establishing your park, trail, river, or greenway project, work through the calculations in steps 1 through 4 listed above. Rather than conduct a survey to determine actual expenditures, you can forecast the types and number of users your project is likely to attract. Document your assumptions carefully and thoroughly.

Perform your own study or secure assistance for it. Analyses can be conducted by local universities that have faculty expertise or graduate students available to conduct such a study. See Section 3.3, Expenditures By Residents, for a listing of academic institutions. There are also consultants who specialize in travel impact studies. In most large cities, travel related businesses pool their funds to commission expenditure pattern studies. You may wish to coordinate with them to get your park or trail on their list of visitor attractions. Finally, contact your state Department of Commerce, Parks Department, or Fish and Wildlife agency to determine if an Input-Output model has been developed that could be applied to your economy.

3.5.5 Sources of Information

Input-Output Models

- IMPLAN, <http://www.implan.com>
- MGM2, <http://www.prr.msu.edu/mgm2/>
- RIMS-II, <http://www.bea.doc.gov/bea/regional/data.htm>

U.S. Army Corps of Engineers: Economic Impacts of Corps parks and lakes
<http://www.corpsresults.us/recreation/recfastfacts.asp>

The Army Corps of Engineers maintains a website with the economic impact of visitor spending for 456 of its projects around the country. Economic effects are calculated according to the following formula:

$$\# \text{ of visits} \times \text{average spending per visit} \times \text{capture rate} \times \text{regional economic multiplier}$$

The visitation data used was derived from the National Recreation Management System and the spending profiles were estimated from a 1999/2000 national visitor spending survey. Capture rates and economic multipliers came from IMPLAN, and generalized spending profiles were developed for two types of visitor segments: (1) campers, other overnight visitors and day users, and (2) boaters and non-boaters.

An example report, for Dale Hallow Lake in the Cumberland Watershed of Tennessee is below.

Table 46. Economic Impact of Visitor Spending at Dale Hallow Lake

3,426,800 visits per year resulted in:
\$57.47 million in visitor spending within 30 miles of the Corps lake.
66% of the spending was captured by local economy as direct sales effects.

With multiplier effects, visitor trip spending resulted in:
\$62.44 million in total sales.
\$32.97 million in total income.
Supported 1,615 jobs in the local community surrounding the lake.

3.5.6 Considerations in Using These Rationales

Be cautious. Your analysis of a park or trail may be closely scrutinized if there are project opponents. Document all your assumptions and be able to retrace your calculations upon request. The best defense is a good offense. Be knowledgeable concerning your data inputs and method, results, and potential limitations. This will also put you in a good position to scrutinize other economic analyses presented by opposing interests, though most studies are case and time-specific with methods tailored to the unique situation, making it difficult to generalize between studies.

For example, be aware of the difference between spending by local residents and those from out of the area. If you include local residents in your analysis, this represents a recycling of money that already was circulating in the region. If you exclude them, then you are focused on only new money injected into the economy. Also consider, excluding “time-switchers” and “casuals,” the non-local people who were already planning a visit to the area but changed the timing of their trip, and visitors who were already drawn to the community by other attractions (Crompton, 2000).

Also consider the purpose of the economic impact study. Few studies are undertaken to evaluate a specific course of action; rather measure the amount of economic activity associated with the current level of use. In this case, the with/without scenario is whether the park is closed entirely and spending by current visitors is entirely lost. In such a case, it is likely that people would substitute other nearby attractions, so not all spending would actually be lost.

Use accurate input. The output of an economic impact analysis is only as good as the data that goes into it. Models rely on park visitation counts and spending patterns. Without recent and precise data, these numbers can be inaccurate. Measuring or predicting the number of visitors or the change in visitation can be the most difficult part of the analysis, yet it also one of the most important. Directly measuring visitor spending in surveys can also be challenging and one of the most expensive parts of conducting a study. It may be possible to capture expenditure data by getting expenditure questions added to other surveys.

Remember the big picture. While economic impact analyses can provide a valuable representation of a park or trail project, it only captures the effects of spending, and only those expenditures within your defined region. There may be related expenditures outside the local area, and there are many other benefits of parks that are not incorporated in such a study, like those listed in the remaining chapters and intrinsic values that are hard to quantify. Don't focus on the economic impacts from computerized models to the exclusion of these other benefits.

It is also recommended that you undertake an economic impact analysis with a clear understanding of the intended uses of the results and the accuracy needed. Many studies are used for public relations purposes. By demonstrating the economic significance of a park or trail, public support can be garnered in favor of budget increases and expanded partnerships. This may not require the same detailed accuracy as using the study to evaluate management alternatives.

3.5.7 References

Crompton, John. 2000. Measuring Economic Impact. Available at <http://rptsweb.tamu.edu/faculty/EconomicImpact.pdf>

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3.6 Health Care and Fitness

This section of the Resource Book presents how use of parks, trails, rivers and greenways can improve and maintain physical and mental fitness, and how savings from subsequent reduced health care costs can be dramatic. The United States is facing an epidemic of chronic ailments including obesity and cardiovascular disease, much of which can be reduced or prevented through increased physical activity. Currently 95% of the \$1.4 trillion that is spent on health care goes to direct medical services, while only 5% goes to disease prevention and promoting healthy, active lifestyles (Suk, 2002). Parks, trails, and rivers can help fill this void by providing the opportunity for leisure and recreation that involves a variety of physical activities that lead directly and indirectly to reduced health care costs for individuals and health care providers.

3.6.1 Prevalence of Inactivity and Poor Health

Despite the known benefits of physical activity, over 50% of American adults do not get enough physical activity to provide health benefits, and 25% of the U.S. population reported no leisure time physical activity at all in 2002, with the highest prevalence of inactivity in rural areas (CDCa). This has led, in part, to both youth and adults showing increased rates of obesity, with 15% of children ages 6-19 years and nearly two-thirds of adults being overweight or obese (CDCb). Physical inactivity and being overweight contributes to numerous physical and mental health problems including an increased risk for developing heart disease, type 2 diabetes, and some forms of cancer.

Cardiovascular disease is the leading killer in the U.S., accounting for over 40% of all deaths. Lack of physical activity is a key risk factor, and the American Heart Association reports that about 250,000 deaths every year in the U.S., 12% of total deaths, are due to a lack of regular physical activity. In fact, physically inactive people are 1.5-2.4 times more likely to develop cardiovascular heart disease, a risk increase similar to that for those who have high blood cholesterol, high blood pressure or cigarette smoking (AHAa).

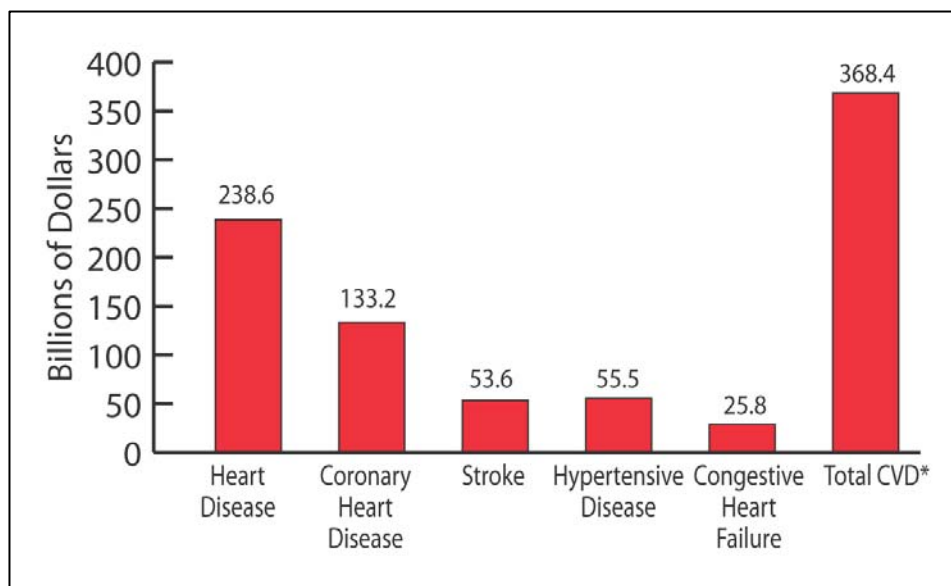
3.6.2 Cost of Health Care

According to the Surgeon General, the total direct and indirect costs of 129 million American being overweight or obese, which includes medical costs and lost productivity and wages, were estimated at \$69-\$117 billion in 2003 (USDHHS, 2003). This accounts for up to nearly 10% of all national healthcare expenditures. About half of these costs were paid by Medicaid and Medicare (Finkelstein, 2003). Other costs of obesity include re-engineering of stadiums, hospitals and other public spaces with wider seats, beds, and doors. For example, hospitals spend \$3,500-\$5,000 annually to accommodate the growing obese population (White, 2004).

Research has shown that the need for health care and its resulting costs rise significantly with higher body mass. One study indicates that obesity results in health costs for inpatient

and ambulatory care that are 36% higher than for people in a healthy weight range, and that medication costs are 77% higher (Sturm, 2002). Another study backs up this trend, finding that health care costs increase 44% among people who are moderately or severely obese compared to those of normal weight (Sturm, 2004).

Finally, the costs of individual diseases that often result from inactivity are staggering. The national cost of diabetes in 2002 was \$132 billion, and the costs of cardiovascular disease exceed \$300 billion each year (USDHHS, 2003). The cost of treating heart disease and stroke, the first and third leading causes of death in the U.S., was \$2.9 billion in the state of Massachusetts alone in 2002 (Mass. DHCFP). Direct costs include physician services, hospital and nursing home services, medications, home health care, and other durable goods. Indirect costs include lost productivity resulting from morbidity and mortality (days of work lost due to absence from work or premature death). The deaths of skilled employees between the ages of 35-64 are particularly difficult for businesses because the economic loss of management and production skills, as well as the costs of training new personnel, is high. Other costs to consider include disability and life insurance costs.



Source: AHAb

Figure 5. Estimated Direct and Indirect Costs of Cardiovascular Diseases and Stroke in the U.S., 2004

A study done by researchers at the Centers for Disease Control and Prevention not only showed that physically active people had lower annual direct medical costs than did inactive people, but that by increasing regular moderate physical activity among inactive Americans over the age of 15, annual national direct medical costs could be lowered by up to \$76.6 billion in 2000 dollars (Pratt, 2000). A 2003 study of Michigan’s 7.6 million adults showed that physical inactivity results in the loss of approximately 20 days per worker for a statewide cost of \$8.6 billion annually. If current trends continue, costs associated with physical inactivity in Michigan will increase to over \$12.65 billion in 2007— a 42% increase in only five years. However, if only 1 in 20 sedentary adults became physically

active, approximately \$575 million per year could be saved over the next four years (Chenoweth, 2003).

The costs of mental health are also staggering, but could be reduced by regular physical activity. In the U.S., mental health disorders are a major public health burden and are often the cause of hospitalization and disability. Such disorders cost approximately \$148 billion per year (USDHHS, 1996).

3.6.3 Benefits of Activity: Physical and Mental Well-Being

Physical activity is widely known to reduce the many costly health problems mentioned above as well as others. This includes obesity, cardiovascular disease (heart disease, stroke, hypertension, congestive heart failure), colon cancer, high blood pressure and diabetes. Furthermore, regular physical activity contributes to healthy bones, muscles and joints, thus reducing the number of falls by older adults and relieving arthritis pain. As a result, there are fewer hospitalizations, physician visits and medications needed for active people. In order to be beneficial, physical activity does not need to be strenuous. Moderate-intensity physical activity on a regular basis, such as 30 minutes of brisk walking five or more times a week, is valuable to people of all ages (CDCa).

- People already recognize the benefits of outdoor recreation. Three-quarters of Americans see it as having a role in helping to reduce childhood obesity, and 93% of Americans believe that if people participated more in outdoor physical activities, the health effects would be beneficial. In fact, 90% of Americans think outdoor recreation is seen as the best way to be physically active (Outdoor Recreation in America, 2000).
- A 2004 survey of municipal Chief Administrative Officers showed that 67% of them believe that opportunities for physical activity, such as walking to work or playing in parks, are an important issue to residents in the community and another 23% believe it is an emerging issue for residents. The vast majority (98%) felt that it was important for local government to encourage and provide opportunities for residents to be physically active. Finally, nearly 89% said Parks and Recreation Departments should play a leading role in developing a community conducive to active living (ICMA, 2004).
- Outdoor physical activity as alternative transportation, which displaces automobile use, has the effect of improving air quality through reduced pollution from vehicle exhaust. This in turn can result in better health and reduced health care costs for the entire community. For example, during the 1996 Atlanta Olympic Games, when driving was reduced and ambient ozone levels fell by 27.9%, emergency room visits for asthma dropped by 41.6% (EPA, 2003).

Physical activity is also known to have a positive impact on mental well being. For adults who have affective disorders, physical activity is known to be beneficial for symptoms of depression and anxiety. Evidence indicates that physical exercise may stimulate the growth of new brain cells that enhance memory and learning—two functions hindered by depression. Studies have also demonstrated that exercise is a viable treatment for

depression in older adults (Williams, 1996).

- Between 80%-90% of participants in outdoor activities reported that they feel the natural setting allows them to escape the stress of daily life, gives them a feeling of accomplishment and keeps them feeling young (Exploring the Active Lifestyle, 2004).
- Another study found that users of greenway trails experience changes in emotion while using recreational trails and that as they move through the physical and social surroundings their emotions generally became more positive (Lee, 1999).
- Walking is known to stimulate the release of endorphins, calming brain chemicals that act as natural tranquilizers. Walking also releases adrenaline, which is produced by the body when it senses danger. When adrenaline accumulates in the body rather than being released, it causes muscle tension and can lead to anxiety (Bricklin, 1992).

Thus, physical activity has positive effects on mental fitness and it can reduce the symptoms of anxiety and depression. This may be due, in part, to the fact that using parks and trails often gives people a chance to relax and spend quality time with family and friends.

Wilderness therapy is evolving as an alternative to conventional mental health services and mental health providers, insurance companies, and juvenile authorities are recognizing its effectiveness and lower cost compared to traditional treatment. The wilderness environment, with its solitude and natural setting, can be a therapeutic environment for adolescents trying to overcome emotional, addiction, and psychological problems and benefits participants both physically and emotionally.

- An estimated 10,000 youth participating in wilderness treatment⁶ generated \$60 million in annual revenue in 1998. The costs of wilderness therapy averaged about \$325 per day in the five programs, and roughly 40 % of clients received financial assistance from medical insurance. Another study extrapolated the data to all known wilderness treatment programs, resulting in annual gross revenues of \$143 million dollars in 1998 (Russell, 1999).
- Listed below are some of the benefits of regular physical activity.
 - Helps people achieve and maintain a healthy body weight
 - Boosts energy level
 - Reduces the risk of heart disease by improving blood circulation throughout the body
 - Helps manage stress and promotes psychological well-being
 - Reduces the risk of stroke
 - Releases tension
 - Reduces the risk of having a second heart attack in people who have

⁶ Includes only adolescence wilderness treatment, meaning programs that have specific treatment purposes and active field participation or at least clinical supervision by professional therapist; does not include youth adventure camps or personal growth programs.

- already had one heart attack
- Improves the ability to fall asleep quickly and sleep well
- Lowers both total blood cholesterol and triglycerides and increases high-density lipoproteins (HDL or the "good" cholesterol)
- Improves self-image
- Prevents and manages high blood pressure
- Counters anxiety and depression and increases enthusiasm and optimism
- Lowers the risk of developing non-insulin-dependent (type 2) diabetes
- Increases muscle strength, increasing the ability to do other physical activities
- Reduces the risk of developing colon cancer
- Prevents bone loss and maintains health joints
- Establishes good heart-healthy habits in children and counters the conditions (obesity, high blood pressure, poor cholesterol levels, poor lifestyle habits, etc.) that lead to heart attack and stroke later in life
- Helps older adults become stronger and better able to move about without falling or becoming excessively fatigued
- In older people, helps delay or prevent chronic illnesses and diseases associated with aging and maintains quality of life and independence longer
- Provides a way to share an activity with family and friends.

3.6.4 Importance of Accessibility to Parks and Trails

Alaska Congressman Don Young, speaking in support of the Get Outdoors Act in 2004 said that “the bill encourages more recreation activity, because studies have shown that adequate lighting, good trails, easy access, and community-based recreation infrastructure all result in increases in physical activity.” (NRPA, 2004)

The many recreational activities that take place in parks and along rivers, trails and greenways are an ideal way to meet recommendations for physical activity. Walking, for example, is one of the easiest and most beneficial ways to treat overweight conditions. It is the most common physical activity among both the general population as well as certain subpopulations such as older people and racial/ethnic minorities. Hiking and walking along trails is simple, free, and a great way to get active. It is suitable for all ages and is convenient for families because trails are usually open during all daylight hours and can be found in many locations. Accessibility to such places is vital because people who have access to recreational facilities are about twice as likely to get recommended levels of exercise (Huston, 2003). For example in one study, 43% of people with safe places to walk nearby met recommended activity levels, compared to 27% of people who did not have access to such trails (Powell, 2003).

While people use parks and trails for many different reasons, health is a common motivator. Half of the those responding to an Outdoor Industry Foundation survey said they participate in outdoor activities as the main way they get their exercise (Outdoor Industry Foundation, 2004), and in a study of six Indiana communities, 70% of people said they visited their trails primarily for health and exercise, while 70%-90% of trail users were exercising solely because there was a trail nearby. Moreover, 70% of trail users in Indiana increased their amount of activity (walking, biking, running, and skating) after beginning to use the trail (Wolter, 2001). In a Missouri study, women and people with a high school education or less were more than twice as likely to have increased the amount of walking since they began using the walking trails. Lower-income groups were also more likely to have increased their levels of walking due to trail use than were people with higher income. This indicates that walking trails are especially important in encouraging physical activity among portions of the population at highest risk for inactivity (Brownson, 2000).

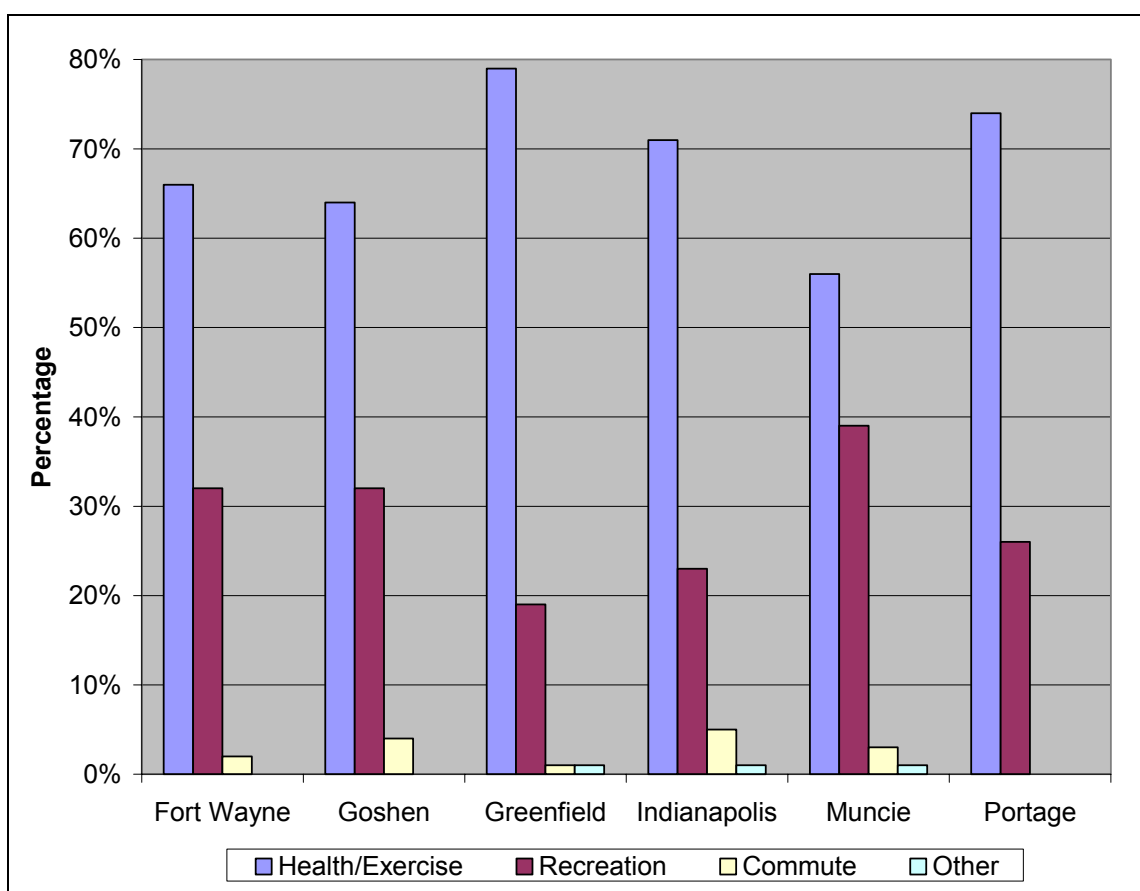
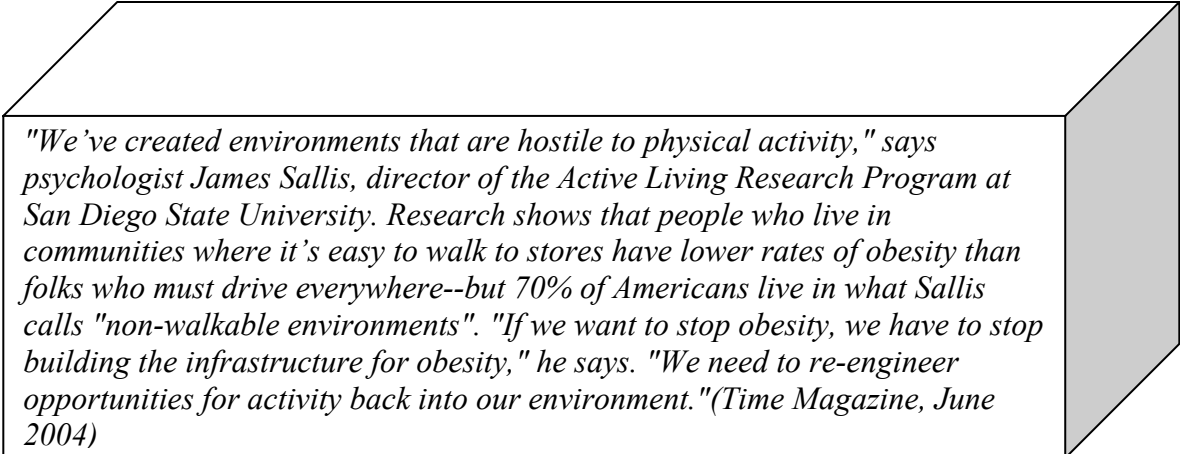


Figure 6. Trail User's Primary Reasons For Visiting Trail

Studies show that people are more likely to be overweight in areas without public outdoor recreation facilities, and that if parks and trails are closer and more easily accessible people are more likely to use them. Furthermore, being outside is particularly important for children, since that is the strongest factor in getting physical activity for them (Sallis, 1998). Communities across the country have realized that parks and trails are pivotal in keeping adults and children healthy. Both researchers and practitioners recommend that trails be

built as part of sound policy to promote physical activity, and believe that incremental increases in levels of activity are beneficial to the population (Brownson, 2004).

- Creating or improving access resulted in a 25% increase in the percent of persons who exercise at least 3 times a week in one study (Guide to Community Preventive Services, 2002).
- In another survey of residents in rural Missouri, 55% were walking more after a new trail opened, and this trend was even higher among people without a college education: 62% reported walking more (Brownson, 2000).
- The Arkansas River Trail is a 14-mile loop trail that winds through Little Rock, but about three miles of the primary stretch are still not complete. Dubbed the "Medical Mile," about \$350,000 is needed to finish the trail and create benches, trees, resting areas and kiosks displaying heart-healthy information in what will be called "At the Heart of It Plaza." Recognizing the need to educate people about the benefits of physical activity and heart disease, 22 physicians at Heart Clinic Arkansas have pledged to donate or raise the funds to finish the project. As part of their effort, they're partnering with other physicians, medical institutions, pharmaceutical companies, insurance companies and hospital equipment companies (Broadwater, 2004).



"We've created environments that are hostile to physical activity," says psychologist James Sallis, director of the Active Living Research Program at San Diego State University. Research shows that people who live in communities where it's easy to walk to stores have lower rates of obesity than folks who must drive everywhere--but 70% of Americans live in what Sallis calls "non-walkable environments". "If we want to stop obesity, we have to stop building the infrastructure for obesity," he says. "We need to re-engineer opportunities for activity back into our environment." (Time Magazine, June 2004)

Other park and trail programs combine physical activity with information about healthy eating habits and exercise. The Hearts N' Parks Program, supported by the National Recreation and Park Association as well as the National Heart, Lung, and Blood Institute, is aimed at reducing obesity and the risk of coronary heart disease through community-based park and recreation programs. Example programs include ranger-led interpretative hikes with talks on healthy eating by a dietician, and a mountain biking course which includes nutrition information in the curriculum.

- In Montgomery County, MD various departments have partnered to launch the county's first Heart Smart Trail to promote a healthful environment conducive to regular physical activity while increasing pedestrian safety. Partnering departments include Health and Human Service African American Health

Program, Latino Health Initiative, and Recreation Department/Hearts N' Parks Wellness Program, as well as the Maryland National Capital Park and Planning Commission. The Heart Smart Trail initiative will improve trail infrastructure in order to provide safer routes to walkers and joggers, and Kaiser Permanente's sponsorship provided 1/10 mile markers along a one-mile trail for walkers/joggers to keep track of their distance while exercising off the main streets. The initiative also offers a Hearts Smart Trail 4-fold brochure that includes walking tips, a map of the trail and a walking log to keep track of the walks. Moving forward, Montgomery County Department of Recreation/Hearts N' Parks Program and Maryland National Capital Park and Planning Commission are partnering to add health education classes that will also focus on the use of the trail and to further the mile marker placement to other Montgomery County trails (Atkinson, 2004).

3.6.5 Impact on Employers

Businesses and other employers are increasingly bearing the burden of treating the results of physical inactivity. Primary costs include lost productivity and paid sick leave associated with obesity and disease treatment, as well as the increased costs of health, life and disability insurance. The private sector pays the highest proportion of total health care costs attributable to being overweight or obese in the U.S. (about 36%) and while employees themselves may suffer from increased premiums, the majority of the costs are paid by employers through private employer-sponsored group health insurance, for example (Finkelstein, 2003). The indirect impact on employers includes less obvious costs such as low productivity, reduced employee morale and high turnover. Absenteeism, for example, leads to costs for overtime, employing part-time replacements, time spent by supervisors dealing with the issue, and expenditures for absence control programs.

- Studies of overweight and obese employees have shown that obese employees take more sick leave than non-obese employees and are twice as likely to have high-level absenteeism (seven or more health-related absences during the last six months) and one-and-a-half times more likely to have moderate absenteeism (three to six absences due to illness during the past six months). (Tucker, 1998)
- In 1994, the costs that U.S. businesses bore for obesity-related health problems reached \$13 billion, broken down into:
 - health insurance expenditures: \$8 billion
 - sick leave: \$2.4 billion
 - life insurance: \$1.8 billion
 - disability insurance: \$1 billion (Thompson, 1998)
- UnumProvident, the U.S.'s largest disability insurer, reports that obesity-related disability claims have grown tenfold in the past decade, reaching an average of \$8,720 per employee each year. People who are obese cost employers, on average, about \$6,000 to \$7,000 a year more in terms of lost productivity and presenteeism" (wherein employees may be physically present but mentally absent). (Shutan, 2004)
- Research has shown that people with diabetes lost 8.3 days per year from work,

accounting for 14 million disability days, compared to 1.7 days for people without diabetes (USDHHS, 2003).

- The data showed a deteriorating trend over a six-year period, including a 50% increase in lost productivity, a 36% increase in restricted activity and a 28% increase in number of bed days, which were all primarily related to type 2 diabetes, coronary heart disease and hypertension, conditions that can be improved with physical activity (Wolf, 1998).

Many companies are realizing how lack of physical activity is affecting their bottom line. They're utilizing creative ways to promote health and disease prevention programs. Such programs have been shown to have a positive return on investment based on improved employee health and increased productivity. A review of health promotion and disease management programs found the benefit-to-cost ratios range from 1.49 to 4.91 in benefits for every dollar spent on the program, with a median of 3.14 (USDHHS, 2003). As a result, 71% of 354 U.S. companies surveyed in 2003 promoted wellness among their staff, and 29% offer incentives to employees who participate in the wellness programs (Patton, 2004).

- Workplace physical activity programs can reduce short-term sick leave by 6 to 32%, reduce health care costs by 20 to 55%, and increase productivity by 2 to 52% (USDHHS, 1996).
- Researchers estimated that improving the levels of physical activity for sedentary obese workers at General Motors would have saved about \$790,000, or about 1.5% of healthcare costs for the whole group of 23,490 workers. Company-wide, the potential savings reached an estimated total of \$7.1 million per year (Wang, 2004).
- Xerox employees could get up to \$200 off their health insurance premiums if they filled out a health assessment survey in 2004. The confidential assessment identifies employees that are subsequently eligible for free health counseling (Tahmincioglu, 2004).
- "Walk Out on Your Job Day" was created by a health care provider in Kearney, Neb. One day each summer employees in the rural farming community walk from work to the local park, which can take up to an hour, for a healthy picnic lunch (Patton, 2004).
- Children's Memorial Hospital in Chicago offers points to employees who participate in healthy activities, including organized walks and climbs, running, or playing on a sports team. The points can be cashed in online at various retailers (Patton, 2004).
- The Washoe County School District in Reno, Nev., implemented a wellness program that included wellness adventures, such as kayaking on nearby Lake Tahoe. A follow-up impact study during 2001 and 2002 showed that absentee rates for program participants dropped by 20%, saving local taxpayers \$3 million (Patton, 2004).

3.6.6 How to Use These Rationales in Your Community

Determine which parts of your park, trail or water surfaces are used most often for physical activity and outline the types of activities that people participate in. Common physical activities that lead to health benefits may include:

- trail walking
- jogging
- running
- cycling
- in-line skating
- kayaking
- canoeing
- windsurfing
- sailboarding
- swimming
- rock climbing
- cross-country skiing
- horseback riding
- team sports such as soccer, football, softball, baseball, and basketball

Determine how many people are regularly active around the park or trail primarily or in part for health and fitness. How many have increased their level of physical activity as a result of the parks' presence? Consider analyzing the area(s) with highest use first since the largest impacts may occur there, and surveys of the entire area and all types of users may not be feasible. Consider that exercise opportunities in the trail or park may be beneficial in promoting physical activity among segments of the population at highest risk for inactivity, particularly women and persons in lower socioeconomic groups. Such demographics could be one aspect of the data collected.

Compile statistics on how many miles are run or walked, and/or how many hours people spend actively recreating. Data can be broken down by type of activity and/or demographics to highlight a notable trend.

Consider developing a survey that asks participants how else they have benefited from physical activity in the park. It is possible that by participating in new physical activities and/or improving their performance in others, people may feel healthier and experience less pain in their daily lives. They may branch out into other activities they would not have tried otherwise solely or in part because of amenities the park offers, or they may have joined a team once they are more confident in their skills and level of fitness from using the park or trail regularly. People may also sleep better at night, have reduced levels of stress, and adopt better eating habits to match their healthier level of physical activity.

Identify local organizations whose employees use the park or trail due to its proximity and survey them. Find out whether the park or trail has been or could be incorporated into an employee fitness plan. Determine whether the organization is seeing higher productivity, and/or lower health care costs compared to offices in other cities or regions that do not have

park amenities available or do not take advantage of them.

Identify employers and/or insurance agencies that offer discounts or rewards for physical activity and determine whether a park has played a role in that program.

Take advantage of research that these organizations may have done in regard to health care costs and levels of physical activity within the local community to find out what benefits have resulted from parks and trails and the extent of their impacts.

Use the physical inactivity cost calculator to estimate the financial cost of physically inactive people to your community. This online tool will help you better understand the cost of medical care, workers compensation and lost productivity associated with physical inactivity. It was developed by Active Living Leadership, with an econometrics expert conducting the scientific research and experts from the private sector, academia and government serving as reviewers. To use the calculator you will need the following information:

- your state
- number of adults in the community
- number of working adults
- percentage of adults 65 year or older
- percentage of workers who are physically inactive (the average inactivity rate for your selected state according to the Center for Disease Control will be automatically entered for you; if you have a more accurate figure for your business or community, you may use it instead.)
- median per capita salary of workforce (a link is provided to the Census Bureau's searchable database which provides detailed median salary information for your area)

The results show what physical inactivity is costing your business or community annually based on that the data provided. It also calculates the cost on a per person basis and lays out medical care costs, workers compensation costs, lost productivity costs, and total costs. Finally, it estimates how much money could be saved annually if 5% of the inactive people in your business or community became physically active, and offers recommended follow-up actions such as strategies for implementing programs and policies, or information from other sources. The calculator can be accessed at <http://www.activelivingleadership.org/costcalc.htm>

Identify partnerships the park has to develop health and fitness programs or consider creating such an alliance. Partners may include other government agencies, local businesses, insurance agencies, HMOs, non-profits or private entities such as groups of doctors or athletes. There are many organizations whose focus is to promote the health benefits of increased physical activity. Partnerships can make it easier to bring expertise into the analysis of health benefits and to fund or organize data collection.

Identify major events and training opportunities that are held in the park or on a trail. Walkathons, Bike-athons and long distance athletes who train for these public events often increase the awareness of health issues while popularizing the park or trail.

Combine the data on the variety of health benefits the park has influenced, promote the array of people and organizations that benefit, and consider extrapolating national or regional savings and costs to the local community. For example, if there is sufficient data on level of visitation, participant behavior and characteristics, the savings achieved from the portion of the area’s populations that exercises could be estimated. Conversely, the costs of treating obesity, coronary heart disease, or other diseases that result in part from lack of physical activity could be extrapolated to a segment of the local population.

3.6.7 Sources of Information

USDHHS (United States Department of Health and Human Services)	http://aspe.hhs.gov/health/index.shtml	U.S. Department of Health and Human Services, Office of Health Policy- maintains statistics and information on preventing disease through physical activity
CDC (Centers for Disease Control and Prevention)	http://www.cdc.gov/nccdphp/dnpa/physical/importance/index.htm	National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition and Physical Activity: The Importance of Physical Activity- maintains statistics, lists of health benefits and resources including those on economic impacts.
Robert Wood Johnson Foundation	http://www.rwjf.org	This is the largest foundation devoted exclusively to health and health care in the U.S. It’s Active Living, Obesity and Nutrition Program works to create activity-friendly communities, promote more physical activity, and conduct research on effective health policies and programs.
Active Living Research	http://www.activelivingresearch.org	This program, supported by The Robert Wood Johnson Foundation and administered by San Diego State University investigates policies and environments to support active communities, and the site includes literature references related to physical activity, health, and economic analyses.
Active Living Leadership	http://www.activelivingleadership.org	This national initiative is supported by the Robert Wood Johnson Foundation and was developed to support government leaders as they create and promote policies, programs and places that enable active living. The website offers an online physical inactivity cost calculator that provides an estimate of

		the financial cost of physically inactive people to a particular community, city, state or business.
National Coalition for Promoting Physical Activity	http://www.ncppa.org	National network of public, private, and industry organizations seeking to increase physical activity in America through physical fitness, sports, physical education, and worksite health promotion. The web site provides tools to promote physical activity, new research and statistics, federal and state policy issues, information about state coalition activities, issue forums and policy summits, and funding for grant programs
National Business Group On Health	http://www.businessgrouphealth.org	This NGO represents the perspective of large employers and provides practical solutions to important health care problems. Website contains numerous fact sheets on costs and health effects of obesity from peer reviewed journals.
National Recreation and Park Association (NRPA)	http://www.nrpa.org/ (Click on Programs & Partnerships > Magnet Centers > Hearts N' Parks)	Supports the Hearts N' Parks program, which is aimed at reducing obesity and the risk of coronary heart disease in the U.S. by encouraging Americans of all ages to reach a healthy weight, follow a heart-healthy eating plan, and engage in regular physical activity. This national, community-based program is also supported by the National Heart, Lung, and Blood Institute of the National Institutes of Health.
National Heart, Lung, and Blood Institute	http://www.nhlbi.nih.gov (click on Networks and Outreach > Hearts N' Parks) http://www.nhlbi.nih.gov/health/prof/heart/obesity/hrt_n_pk/	Includes data about the Hearts N' Parks Program, NRPA's partnership with the U.S. Department of Health and Human Services, as well as performance reports, press releases, a list of magnet center sites, pilot projects and a video.
President's Council on Physical Fitness and Sports	http://fitness.gov/	This program serves as a catalyst to promote, encourage and motivate Americans to become physically active and participate in sports. Contains links to many health related organizations
HealthierUS Initiative	http://www.healthierus.gov	Discusses the benefits of physical activity as well as demands on the

		public health system, and medical and social services as a result of chronic diseases.
International City/County Management Association	http://icma.org/activeliving	The Active Living initiative section of ICMA’s website contains information about promoting physical activity and presentations from communities that have made strides in integrating physical activity into daily routines.
Michigan Governor's Council on Physical Fitness, Health & Sports and the Michigan Fitness Foundation	http://www.michiganfitness.org/	Produced an informative report titled “The Economic Cost of Physical Inactivity in Michigan”
American Hiking Society	www.americanhiking.org	AHS is a nationwide consortium of member organizations devoted to promoting and protecting foot trails and the hiking experience. Have a 3-page fact sheet on the health benefits of hiking and trails; how walking can increase overall fitness and health levels and prevent disease and illness.
American Trails	http://www.americantrails.org/resources/benefits/HealthGrnwy.html	This national non-profit works on behalf of all trail interests and maintains a website on the Health-Based Benefits of Parks, Trails, and Open Space which contains research documenting the benefits of regular exercise provided by community trails.
Outdoor Behavioral Healthcare Industry Council	http://www.obhic.com	OBHIC is an organization of behavioral health providers who are committed to the utilization of outdoor modalities to assist young people and their families to make positive change. It maintains information on revenues and number of field days use of public and private lands for the Outdoor Behavioral Healthcare industry.

3.6.8 Considerations in Using These Rationales

Allocating health benefits exclusively to the park or trail can be difficult.

- It is unlikely the people get healthier solely from the use of a single park. They may be exercising in other places, and modifying their diets as well. Do not allocate

100% of all health benefits to a single park or trail if there are alternative places people are being physically active.

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3.6.10 Additional Information

Prevalence of Inactivity and Poor Health

- Individuals are considered overweight if they have a body mass index (BMI) of 25 to 29.9, while obesity is defined as having a BMI greater than or equal to 30.0 (CDC). Having a BMI greater than 40.0 has been termed extreme obesity (Hedley, 2004).
- In 2005, being overweight is predicted to surpass smoking as the leading cause of preventable death in the country (Newman, 2004).
- Ninety percent of people with type 2 diabetes are overweight and they are between 2-4 times more likely to have a stroke (Newman, 2004). Type 2 diabetes is associated with obesity and physical inactivity.
- People who are obese are twice as likely to have hypertension and they typically have high cholesterol, leading to plaque buildup in the arteries. They also suffer additional strain on the spine, hip, and knee joints. This causes a deterioration of cartilage and as the joint space narrows, bones begin to grind together causing osteoarthritis (Newman, 2004).
- Even though the many positive effects of physical activity are well known, more than one quarter of the population in the U.S. remains completely inactive, with the prevalence of inactivity highest in rural areas (Brownson, 2000).
- “Because most adults in the United States and in other industrialized nations do not meet health related guidelines for physical activity, inactivity should be considered an important public health problem.” (Sallis, 1998)

Cost of Health Care

- Severe obesity is associated with 68% (men) or 60% (women) higher health care

costs than normal weight; moderate obesity increases health care costs by 18% (men) to 31% (women). Averaging across these four groups (men/women and moderate/severe obesity), there was a 44% increase in health care costs compared with people of normal weight (Sturm, 2004).

- Obesity may account for as much as a 36% increase in costs for inpatient and ambulatory care for individuals—a greater increase than that attributed to aging 20 years, smoking, or problem drinking (Sturm, 2002).
- One report suggests that being active saves almost twice as much per person as being a non-smoker (Craig, 1994).
- Costs of obesity-related lost productivity in 1994 included 39 million lost work days, 239 million restricted-activity days, 90 million bed days and 63 million physician visits (Wolf, 1998).
- Determining the total medical costs of obesity using claims data may underestimate costs because claims are not always coded with an obesity diagnosis. However, data still show that per-person claim costs for obese patients are about triple those for the average person, and the hospital admission rate is roughly 350 per 1,000 compared to about 50 per 1,000 for an average commercial population (Fitch, 2004).
- The Wall Street Journal reports that by 2020, the treatment of medical problems related to being overweight will comprise 20% of health-care dollars spent for people aged 50- 69. Severely obese older people, in particular, have about twice as many chronic medical conditions (Rundle, 2004).
- People with diabetes had per capita medical expenditures of \$13,243 while those without diabetes spent only \$2,560. After accounting for differences in age, sex, and race/ethnicity, diabetics had medical expenditures that were 2.4 times greater than if they had not had diabetes (USDHHS).
- Ferries in Puget Sound, Washington have widened their seats from 18 to 20 inches, and an ambulance company in Colorado retrofitted its vehicles with a winch a large compartment to handle patients who weight up to half a ton (Newman, 2004).
- In Louisiana, which is in particularly known for its food, statewide obesity-attributable expenditures total \$1.37 billion (White, 2004).
- Americans are estimated to spend a total \$44.5 billion in 2004 on diet services and products (Tahmincioglu, 2004), and they already spend \$1 billion a year on prescription and over-the-counter weight-loss drugs (Park, 2004).

Importance of Accessibility to Parks and Trails

- In one study, people with the best access to a variety of built and natural facilities were 43% more likely to exercise 30 minutes most days than those with poor access (Giles-Corti, 2002).
- Proximity to parks and trails is important for attracting certain segments of the population. For example, older women who lived within walking distance of trails, parks or stores recorded significantly higher pedometer readings in one study than women who did not, and the closer the destinations were, the more they walked (King, 2003). Similarly, children and adolescents are more active if they have convenient access to facilities or activity programs (Sallis, 2000).
- Longer distances to bikeways were associated with non-use of the Minuteman Bikeway in Arlington, MA (Troped, 2001).

- Evidence is accumulating that demonstrates that accessibility of facilities is important in encouraging physical activity (Humpel, 2002).
- An Outdoor Industry Association survey showed that lack of nearby parks or areas to recreate is the number five challenge for participation in outdoor activities, and a greater number of local parks or nearby recreation areas was cited as the sixth and fifth best action for encouraging youth and adults, respectively, to experience outdoor activities (Outdoor Industry Foundation, 2004).
- A study on the recreation impact of the designation of additional wilderness was conducted to determine whether designation leads to additional recreational use or whether users are just spreads across a greater range. Designation of additional wilderness areas resulted in an overall increase in wilderness recreation use. The rate of increases use was such that a 10% increase in designated wilderness would result in an average increase in visitor use of 8.9% (Loomis, 1999).

Impact on Employers

- In 1994, the costs that U.S. businesses bore for obesity-related health problems reached \$13 billion, broken down by:
 - health insurance expenditures: \$8 billion
 - sick leave: \$2.4 billion
 - life insurance: \$1.8 billion
 - disability insurance: \$1 billion (Thompson, 1998)
- Limited physical inactivity has been linked to increased costs for time away from work. The high risk category, meaning people participated in physical activity less than once a week, had a time away from work costs of \$1,088 compared to low risk groups which only had costs of \$1,005 (Wright, 2002).
- Examples of Employee Fitness Programs:
 - HealthPartners, a Minneapolis-based health insurer, offers \$25 gift cards to employees who start a walking program or join an on-site Weight Watchers group (Tahmincioglu, 2004).
 - Blue Cross Blue Shield of Western New York, based in Buffalo, gives radios and binoculars to employees who participate in company walks and wellness programs (Tahmincioglu, 2004).
 - Colonial Life and Accident Insurance in Columbia, SC implemented a comprehensive wellness program and invited officers from the local Army recruiting battalion to administer a fitness test. It was run according to the Army's active duty personnel standards, for example, by laying out a 2-mile course that met the Army's standards for maximum elevation. Those who passed received gift certificates to a local sporting goods store (Patton, 2004).

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3.7 Benefit Estimation

Parks, rivers, trails, and greenways provide many benefits which do not have established market values and are difficult to price and express in monetary terms. This section introduces techniques of economic analysis which attempt to quantify these non-market values to ensure a more complete measure of total benefits associated with rivers, trails, and greenways.

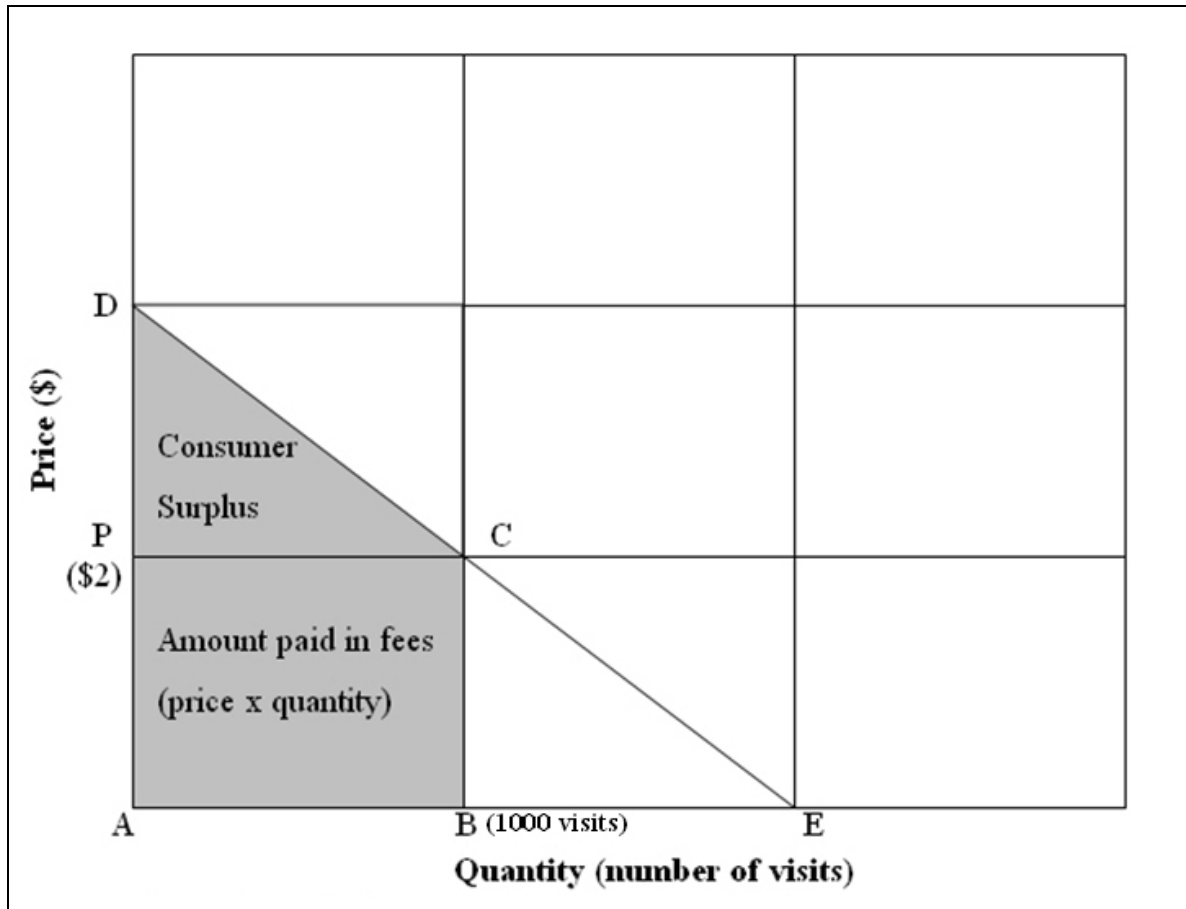
The first subsections present methods used to estimate the benefits of recreation. Also included, is a discussion of how people may value park, river, trail, and greenway resources, even when they may not visit these areas. Benefit cost analysis is also introduced as an economic technique which may be helpful for some river and greenway projects.

3.7.1 Introduction to Benefit Estimation

Total recreation benefits are defined as the sum of the maximum amount individuals are willing to pay to engage in a recreation activity, rather than forego it (Loomis, 1997). This concept is referred to as willingness-to-pay and is considered an appropriate economic measure of the benefits of outdoor recreation. As we will show, these economic benefits are distinct from monetary expenditures on recreation.

The standard method of illustrating this concept is shown in Figure 7. The downward-sloping line represents the market demand curve (for total visits to a park, outings on a trail, canoe trips, etc.). The curve illustrates that, theoretically, the lower the cost of an activity, the more likely it is that people will engage in that activity. At a \$2 fee, the park will receive 1000 visits. In this simplified example, the market value of the park is the annual number of visitors times the fee, or \$2000, shown by the shaded rectangle APCB. For some people, the \$2 fee is the maximum they would be willing to pay to visit the park. They would choose other activities if the fee were raised.

Many people, however, would be willing to pay more than the \$2 fee. Therefore, these consumers would be receiving extra benefits for which they don't pay. This concept is referred to as consumer surplus, as shown by the triangle DPC in Figure 7. The total benefits associated with the park are illustrated by the entire shaded area. If no fee were charged, visitation would be expected to increase to E and total benefit would be the entire area under the curve.



Source: Spickard, 1978

Figure 7. Demand Curve and Total Benefit

Many studies have been conducted which attempt to measure the willingness-to-pay for recreation activities. A composite table of study results is provided below that illustrates the range of willingness-to-pay, depending upon the activity. Willingness-to-pay may also vary depending upon the quality of the resource, or where the activity takes place. The table below is a result of a statistical summarization of outcomes based on 701 use value estimates from 131 different studies. It estimates the use values for 21 recreation activities for each of the U.S. Forest Service assessment regions and for the United States (Rosenberger, 2001).

Table 47. Forecasted Average Benefit Estimates Using Meta Analysis Benefit Function

Activity	Northeast Area	Southeast Area	Inter-mountain Area	Pacific Coast Area	Alaska	United States
Camping	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Picnicking	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Swimming	\$14.44	\$9.31	\$18.67	\$9.02	\$14.44	\$14.06
Sightseeing	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Off-road driving	\$12.61	\$7.48	\$16.85	\$7.19	\$12.61	\$12.24
Motor boating	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Float boating	\$43.76	\$38.63	\$47.99	\$38.34	\$43.76	\$43.38
Hiking	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Biking	\$15.64	\$10.51	\$19.88	\$10.22	\$15.64	\$15.27
Downhill skiing	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Cross country skiing	\$24.01	\$18.88	\$28.25	\$18.59	\$24.01	\$23.64
Snowmobiling	\$9.03	\$3.90	\$13.26	\$3.61	\$9.03	\$8.65
Big game hunting	\$45.34	\$40.21	\$49.57	\$39.92	\$45.34	\$44.96
Small game hunting	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Waterfowl hunting	\$39.84	\$34.72	\$44.08	\$34.42	\$39.84	\$39.47
Fishing	\$37.01	\$31.88	\$41.24	\$31.59	\$37.01	\$36.63
Wildlife viewing	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Horseback riding	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57
Rock climbing	\$91.98	\$86.85	\$96.21	\$86.56	\$91.98	\$91.60
General recreation	\$29.95	\$24.82	\$34.18	\$24.53	\$29.95	\$29.57

Source: Rosenberger, 2001

Other specific examples of willingness-to-pay studies include:

- A study was conducted on the South Platte River Basin near Denver, Colorado of WTP for multiple environmental services accruing from restoration of a degraded river basin. Pollution, mainly from agricultural use, had reduced other benefits accruing from the basin, including fish and wildlife habitat. Residents were questioned about their WTP for the combined restoration of services including dilution of wastewater, natural water purification, erosion control, fish and wildlife habitat, and recreation. Results showed a mean WTP of \$21/month among residents for the restoration. Even conservative estimates of WTP from this study would provide sufficient funding to undertake protection measures. (Loomis, 2000)
- On average 41.5% of trail users of 6 trails in Indiana were willing to pay fees. When asked how much they would pay for an annual trail use pass, the respondents who indicated they would pay a fee said they would pay between \$5-20 annually (Wolter, 2001).

- Americans are willing to pay substantial amounts for aquatic habitat and species conservation. For example, residents of Washington and Oregon would pay between \$102-330 million per year for salmon recovery efforts. That equates to \$30-97 per household (ECONorthwest, 1999). Another study of threatened and endangered fish species found the mean WTP to protect them in the Colorado, Green, and Rio Grande River basins ranged from \$50-330 per household (Ekstrand, 1998). Other studies have shown that people, even those who didn't fish, were willing to pay to increase the population of fish species that were not threatened (Loomis, 1996).

3.7.2 Assessment Methods

Several methods can be used to estimate willingness-to-pay, or the benefits to users. Several methods are generally considered acceptable for measuring the benefits of recreation activities: the unit day value, the travel cost method, contingent valuation, and benefit transfer method. These methods are somewhat complex and will likely require the assistance of a specialist in recreation economics. This Resource Book provides an introduction to these methods. For further explanations, we suggest you review the texts listed under "Sources of Information" in this section.

The *unit day value* approach is considered appropriate for estimating the benefits from recreation activities at a particular site when more detailed analyses cannot be done due to time, cost or data limitations. This approach relies on expert judgment to determine benefits to users, or the average user willingness-to-pay for the opportunity to recreate at a given site. Planners, managers, and economists have developed a wide variety of unit day value estimation methods ranging from observed estimates to models such as those discussed later in the chapter. Data for unit day values has therefore been compiled by various federal agencies and researchers. Recommended day unit values were first published by the Water Resource Council in 1979, as were procedures for adjusting them in conjunction with site quality and substitute opportunities. Recommended day unit values, updated for 2004, range from \$3.00-\$9.01 for general recreation, and from \$12.20-\$35.65 for specialized recreation (USACOE, 2004).

Using the national values listed in Table 48 above as an example, and assuming a park area received 25,000 user days of cross-country skiers and 25,000 user days of picnickers during the year, the economic benefits of recreation would be $(25,000 \times \$23.64) + (25,000 \times \$29.57) = \$1,330,250$ annually. Keep in mind that average values vary widely and should not be used without first understanding the details of they were calculated and whether they are relevant to your analysis.

Another method of computing unit day values was developed by the Water Resources Council in which the quality of the recreation opportunity is rated according to a specific set of criteria. Table 49, Guidelines for Rating Quality of Experience on a 100-Point scale, shows the ratings for various criteria. The individual scores for each criterion are totaled. The maximum score is 100. Table 50 allows you to estimate the unit day value based upon the quality of experience score.

Table 48. Guidelines for Rating Quality of Recreation Experience

Criteria	Quality of Experience, 100-point Scale				
Recreation Experience	Heavy use or crowding or other interference with use	Moderate use, other users evident and likely to interfere with use	Moderate use, some evidence of other users and occasional interference with use due to crowding	Usually little evidence of other users, rarely if ever crowded	Very low evidence of other users, never crowded
Total Points:	30				
Point Value:	0-4	5-10	11-16	17-23	24-30
Availability of Substitutes	Several within 1 hour travel time; a few within 30 minute travel time	Several within 1 hour travel time; none within 30 minute travel time	One or two within 1 hour travel time; none within 45 minute travel time	None within 1 hour travel time	None within 2 hour travel time
Total Points:	18				
Point Value:	0-3	4-6	7-10	11-14	15-18
Carrying Capacity	Minimum facility development for public health and safety	Basic facilities to conduct activity	Adequate facilities without deterioration of the resource or activity experience	Optimum facilities to conduct activities at site potential	Ultimate facilities to achieve intent of selected alternative
Total Points:	14				
Point Value:	0-2	3-5	6-8	9-11	12-14
Accessibility	Limited access by any means to site or within site	Fair access, poor quality roads to site; Limited access within site	Fair access, fair road to site, fair access, good roads within site	Good access, good roads to site; fair access within site	Good access, high standard road to site; good access within site
Total Points:	18				
Point Value:	0-3	4-6	7-10	11-14	15-18
Environmental quality	Low aesthetic factors exist that significantly lower quality	Average aesthetic quality; factors exist that lower quality to a minor degree	Above average aesthetic quality; any limiting factors can be reasonably rectified	High aesthetic quality; factors exist that lower quality	Outstanding aesthetic quality; no factors exist that lower quality
Total Points:	20				
Point Value:	0-2	3-6	7-10	11-15	16-20

Table 49. Conversion of Points to Dollar Values

Point Values	General Recreation Values	General Fishing and Hunting Values	Specialized Fishing and Hunting Values	Specialized Recreation Values other than Fishing and Hunting
0	\$3.00	\$4.32	\$21.02	\$12.20
10	\$3.57	\$4.88	\$21.58	\$12.95
20	\$3.94	\$5.25	\$21.96	\$13.89
30	\$4.50	\$5.82	\$22.52	\$15.01
40	\$5.63	\$6.38	\$23.08	\$15.95
50	\$6.38	\$6.94	\$25.33	\$18.01
60	\$6.94	\$7.69	\$27.59	\$19.89
70	\$7.32	\$8.07	\$29.27	\$24.02
80	\$8.07	\$8.63	\$31.53	\$27.96
90	\$8.63	\$8.82	\$33.78	\$31.90
100	\$9.01	\$9.01	\$35.65	\$35.65

For example, a park with these characteristics: rarely crowded, no similar areas within 50 miles, good facilities, good access and roads, and high aesthetic quality, might get a score of 70. Ratings from Table 48 which total 70 are: recreation experience (20); availability of substitutes (13); carrying capacity (11); accessibility (13); and environmental quality (13). If the most applicable category for this park is general recreation, the daily value of park use, from Table 49, would be \$7.32 per visitor day. If you receive 25,000 visitors per year, the total annual recreation benefits using this approach would be \$183,000.

We now turn our discussion from the unit day value method to the *travel cost method*. The travel cost method is based upon using the travel expenditure to and from a recreational resource to estimate a demand curve like the one in Figure 7, from which the consumer surplus or net willingness-to-pay can be calculated. It rests on the assumption that cost of travel to a park or trail is a proxy for the value of the park.

The underlying assumption of this approach is the number of trips to a recreation site will decrease as the monetary and time costs of travel increase. This is an appropriate approach when trying to estimate the demand by the current population of users. This method involves creation of demand curves to estimate how many trips would be taken as one-way travel distance to the recreation destination increases. The text by Loomis and Walsh (listed in the “Sources of Information” subsection of this section) includes a detailed discussion of how to establish the demand curves and use this method.

As opposed to the travel cost method, the *contingent valuation method* (CVM) uses a bidding approach to determine values of recreation resources via hypothetical market transactions. It can be used to evaluate the benefits of resources to the general population (users and non-users) and can also be used to evaluate the impacts from potential changes in resource availability or quality. Contingent valuation asks for willingness-to-pay from

people using carefully designed and administered surveys, and is hence often referred to as the “stated preference” method. However, concerns over this method stem from the fact that distortions may arise because the questions are only hypothetical and there are no real financial consequences to respondents, and because there may be biases introduced if respondents have incentives to achieve a certain outcome (Smith, 1997).

- Daubert and Young (1981) performed one of the first evaluations of recreational values of instream flow in 1978 to 1979 on the Cache la Poudre River in Colorado. Respondents were asked to provide willingness-to-pay information corresponding to flow levels presented in a series of photographs. Photographs were supplemented by hydrologic and fish catch information for each of the flow levels pictured. Bid curves were then estimated corresponding to flow levels and socioeconomic characteristics. Results showed that average willingness-to-pay for fishing peaked at \$30.35 per angler day at a flow level of 500 cfs. Lower or higher flows were significantly less valuable.

The unit day value, travel cost, and contingent valuation methods continue to be tested and refined. They provide alternatives to assess values of recreation resources via hypothetical market transactions. As stated before, they do have limitations because they are hypothetical valuation methods. For example, a study involving Arctic grayling and Yellowstone cutthroat trout compared results from contingent valuation against actual donations people made to protect these species. Results showed that the CVM values may overstate actual cash willingness to pay, but not by that much (Loomis, 1996).

Finally, the *benefit transfer method* to estimate economic values by transferring available data from studies that were done in another location. This can be done when it is too expensive or there is not enough time available to perform a tailored valuation study. The benefit transfer method can be used quickly to make general estimates of recreational values, but it may not be accurate unless both sites have very similar characteristics. Thus, it may be difficult to locate appropriate studies that have been recently undertaken, and unit value estimates can become outdated quickly.

3.7.3 Preservation Values

Analysis of economic benefits can also be used to determine the values which people place on resources, even if they do not use them. Sometimes called passive-use values, they can also be quantified through willingness-to-pay for the “passive” uses of wilderness or protected resources. These non-users may value the resource for several reasons. The different types of preservation values and their definitions are:

- *option value*- Knowing there is guaranteed opportunity for future access to the resource
- *existence value*- Knowing that a resource has been preserved in perpetuity, even if no recreational use is contemplated
- *bequest value*- Knowing that future generations will have the opportunity to enjoy

the resource.

Many studies have attempted to quantify these values.

- Walsh, Sanders, and Loomis (1984) used contingent valuation to evaluate the optimal number of rivers in Colorado that should be protected under Federal Wild and Scenic designation. This study was unique in that it incorporated both use and non-use values of rivers. The authors concluded that optimum benefits of river protection occurred at a level of protection for fourteen Colorado rivers. Use values were found to only account for approximately 20 percent of the total willingness-to-pay for river preservation, with the remaining 80 percent attributed to non-use (preservation) values.
- Loomis (1989) also studied the value of protecting Mono Lake, where the value of passive uses was 94% of total economic value and the value of recreation uses at the time was only 6%.

3.7.4 Benefit-Cost Analysis

Benefit-cost analysis is a systematic method of identifying and measuring the economic benefits and costs of a project. The total benefits are then divided by total costs. If this ratio exceeds one, it may be assumed that the project will provide a good return, meaning the benefits are greater than the costs. There has been increasing interest by researchers to expand the application of benefit-cost analysis to include valuation of natural systems and environmental quality. A simple benefit-cost analysis by the Forest Service showed that a \$205,900 fish habitat improvement project on Chewalla Lake (Holly Springs National Forest, MS) has the potential to attract 20,000 visitors at a net value of \$1 million (USDA Forest Service, 1999).

Valuing the benefits of environmental quality and natural resources in economic terms may be helpful to your justification for conservation of a river, or establishment of a park or greenway, but it may require assistance from either an economist, or staff and volunteers with an economics background. There are aspects of environmental quality and natural resources which are important but cannot be readily quantified. This may result in low benefit-cost ratios and underestimate the full benefits of your park. Also, performing such an analysis requires choosing a period of time to spread the value of the project over (for example, rehabilitating coastal dunes may benefit the area for 50 years) and choosing a discount rate to amortize the costs with. Both can prove problematic and skew results considerably. Thus, the approach encouraged in this publication is to more holistically assess the variety of economic impacts of park, river, trail or greenway projects, rather than boiling down the analysis to a single benefit-cost ratio.

3.7.5 Public Expression of Value

In these times of fiscal restraint, various non-profit funding initiatives, public interest organizations, and special interest legislation have emerged. This has resulted in fundraising drives and ballot initiatives which offer people the opportunity to contribute to

special government funds for causes they value. Many of these involve resource conservation. The vehicles for these expenditures include donations, special licenses, fees, and tax rebate earmarked to support these causes.

- A price function was developed that illustrates how the price per acre of open space paid by public buyers, such as counties or land trusts, is influenced by local demand and supply factors. The study was done on open space in the Front Range of Colorado. The estimate yielded a mean price per acre of \$13,635 for publicly approved sales for funded open space purchases. If a property provides access to water bodies, this feature increases the price per acre by \$937, and if the parcel is adjacent to existing park or open space the price increases \$11,039 an acre. The prediction capability may be an alternative to traditional real estate appraisal techniques and would be helpful when agencies must determine fair market values of prospective open space parcels that don't have the same attributes as existing areas (Loomis, 2004).

3.7.6 How to Use These Rationales in Your Community

Express the value of the resource. Total the willingness-to-pay for your resource and express this total as benefits gained through establishment of the park or trail. You may wish to contact your local university to see if any students familiar with recreation economics can assist you in estimating willingness-to-pay. If assistance is unavailable, you may wish to use estimates for other recreation resources which are similar to your project. If your program is threatened by cutbacks, express existing benefits as net losses to the community.

Document public support for conservation. Cite examples of bond issues and tax measures passed by voters, funds, and contributions raised by local conservation groups, etc.

3.7.7 Sources of Information

Ecosystem Valuation. This site, funded by the US Department of Agriculture's Natural Resources Conservation Service and the National Oceanographic and Atmospheric Administration, describes ecosystem valuation for non-economists. It is an easy-to-understand, comprehensive resource for anyone wanting to learn more about the techniques described in this chapter. Other methods are also described, and each one comes with example applications and steps to apply it. Available at <http://www.ecosystemvaluation.org>

Recreation Economic Decisions: Comparing Benefits & Costs. This book by Dr. John B. Loomis and Dr. Richard G. Walsh is an excellent source text on recreation economics. It is available from Venture Publishing, State College, PA.

Benefit transfer of outdoor recreation use values: A technical document supporting the Forest Service Strategic Plan (2000 revision). This annotated bibliography provides information on and reference to the literature on outdoor recreation use valuation studies.

This information is presented by study source, benefit measures, recreation activity, valuation methodology, and USDA Forest Service region. Tables are provided that reference the bibliography for each activity, enabling easy location of studies. The literature review spans 1967 to 1998 and covers 21 recreation activities plus a category for wilderness recreation. There are 163 individual studies referenced, providing 760 benefit measures. Guidelines are provided for applying the various benefit transfer methods. Several theoretical and empirical issues to applying benefit transfers are identified for use in judging the relevance and credibility of transferring specific measures. A simple example application is followed throughout the discussion of the various benefit transfer methods. A decision tree is provided as a framework for determining how to obtain benefit measures for recreation activities. Available at http://www.fs.fed.us/rm/pubs/rmrs_gtr72.html

3.7.8 Considerations in Using These Rationales

Numbers are not everything. Remember that estimates of economic impacts and benefits are only one tool available to conservation advocates. As mentioned earlier, many of the benefits of parks may still not be quantified and numbers would underestimate the total value. Parks, rivers, trails, and greenways should be promoted using the tools which are most effective. Focusing on the intrinsic values may be the most effective tool to begin building your constituency.

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3.7.10 Sample Analyses

Economic benefits of recreational fishing in the Golden Trout Wilderness (CA) in 2003

- Estimated Benefit: \$148,000-\$713,000, not including non-fishing recreation values or passive use values. In this case the option value would be what accrues from

maintaining the ability to fish for the species in the future. The existence value to the general public would come from knowing that the California state fish continues to thrive in the wild, and the bequest value stems from providing viable populations of the golden trout for future generations.

- In this report, day values for fishing in the Pacific Coast Area (defined to include the states of Washington, Oregon, and California) were applied to fishing use data for the Golden Trout Wilderness. The most recent available studies suggested an average value per person per day of \$40.67 (in 2002 dollars), which was estimated using contingent valuation. The Forest Service used \$12 per fishing day to estimate the value of fishing days in the Inyo and Sequoia national forests in 1982, which converted to \$19.92 per day in 2002 dollars. The estimates of angler days were multiplied by the values per day to derive a minimum and maximum value for various entry points in the area, yielding a range of \$147,592 to \$713,310 for recreational fishing in the Golden Trout Wilderness. Using the lower Forest Service value of \$19.92 per angler day, the total value ranged from \$72,290 to \$349,377.

Table 50. Economic Benefit of Golden Trout per Fishing Day, By Access, at \$40.67 per Angler Day

	Fishing Value Upper Bound	Fishing Value Lower Bound
Wilderness Permits		
East - Inyo National Forest	\$185,740	\$38,433
West - Sequoia National Forest	More than \$270,049	More than \$55,881
Subtotal	More than \$455, 789	More than \$94,314
Pack Stations:		
East - Inyo National Forest		
Cottonwood Creek Pack Station	\$1,870	\$407
Rock Creek Pack Station	\$5,653	\$1,179
West - Sequoia National Forest		
Balch Park Pack Station	\$5,002	\$1,017
Golden Trout Wilderness Packtrains	\$25,052	\$5,165
Mineral King Pack Station	\$2,318	\$488
Subtotal	\$39,896	\$8,256
Monache Jeep Road	\$217,625	\$45,022
Total	More than \$713,310	More than \$147,592

Source: Alkire, Carolyn. Economic Value of Golden Trout Fishing in the Golden Trout Wilderness, California. March 21, 2003. The Wilderness Society. Available at www.wilderness.org

Economic Assessment for the Necedah National Wildlife Refuge, Wisconsin (1998)

- Estimated Economic Value for Recreational Activities (in 1996 dollars): \$2,640,000-\$4,499,000, not including passive use values.
- The authors first performed a literature review to find consumer surplus values that would be applicable to the refuge. For wildlife viewing, they found data for values per day or per trip in Wisconsin, other states, and for the country with values range from \$21 to \$61 (\$1996) as shown below. They noted that this range reflects differences not only in the wildlife viewing species and activities (e.g., photographing, viewing), but also in factors such as the characteristics of the respondents surveyed, the availability of alternative sites, the quality of the wildlife viewing experience and the methods used to derive the value estimates.

Table 51. Summary of Wildlife Viewing Values (in 1996 dollars)

Author (date)	Location	Activity	Value
Hay (1988)	Wisconsin	Wildlife observation, photography, and feeding	\$21.09 per day
Waddington, Boyle and Cooper (1994)	Wisconsin	Wildlife observation	\$30.59 per day
Cooper and Loomis (1991)	San Joaquin Valley, CA	Birdwatching	\$49.51 per trip
Walsh, Johnson and McKean (1990)	U. S.	Nonconsumptive use	\$29.45 per day
Bergstrom and Cordell (1991)	U. S.	Wildlife observation	\$61.16 per day

Based on activities within the refuge, they calculated a range of economic values for each. For wildlife viewing, they chose a range of daily values and multiplied it by the number of annual trips. Then they summed the various activities to get a total economic value.

Table 52. Estimated Annual Economic Value for Wildlife Viewing of the Necedah National Wildlife Refuge (in 1996 dollars)

	Welfare Estimate Per Trip		Annual Estimate of Value	
	Lower Bound	Upper Bound	Lower Bound	Upper Bound
1996 Annual Trips				
106,835	\$21	\$31	\$2,244,000	\$3,312,000

Table 53. Total Annual Estimated Economic Value for Recreational Activities on the Necedah National Wildlife Refuge (in 1996 dollars)

Activity	Lower Bound Estimate	Upper Bound Estimate
Hunting	\$271,000	\$440,000
Fishing	\$125,000	\$747,000
Wildlife Viewing	\$2,244,000	\$3,312,000
TOTAL	\$2,640,000	\$4,499,000

Source: U.S. Fish and Wildlife Service. March 1998. Economic Assessment for the Necedah National Wildlife Refuge Comprehensive Conservation Plan. Available at <http://economics.fws.gov/necedah.html>

3.8 Preparing an Economic Impact Profile for Golden Gate National Recreation Area

3.8.1 Introduction

Golden Gate National Recreation Area (GGNRA) protects a diverse array of coastal ecosystems, landscapes and historic sites for over 20 million annual visits today as well as for future generations. GGNRA's value includes natural and cultural features and numerous recreational opportunities. GGNRA has great economic importance as well. To date, data regarding economic impacts and benefits have not been systematically and comprehensively collected and analyzed. An economic impact and benefit profile would provide a comprehensive view of how GGNRA benefits local, regional and national economies, as well as local residents and gateway communities.

An economic analysis profile would demonstrate how GGNRA delivers collective public benefits to the greater Bay Area community and beyond. This would prove useful in justifying the allocation of resources and convincing elected officials and decision-makers of the merits of GGNRA to people who may not even participate in its programs or use its facilities as well as to those who are active users. This document outlines the components of an economic analysis profile that could be undertaken to fill the current gap in understanding GGNRA's economic impacts. It provides a roadmap for acquiring the necessary information to paint a more complete picture of the various economic impacts and benefits of the region, ranging from increases in property value to expanded local businesses and sustainable tourism. Each aspect taken on its own offers valuable insight and can be useful in its own right. Taken together, they provide a thorough economic analysis stressing the value added by GGNRA.

3.8.2 Aspects of an Economic Impact Profile

The main aspects of GGNRA's economic impact profile that could be measured are outlined in the table below. They mirror the chapters being developed for the 2004 version of the NPS resource book, "Economic Impacts of Parks, Rivers, Trails and Greenways." As with the overall handbook, Richard Bole and I each wrote chapters individually. In order to provide a complete picture of what the economic impact profile looks like, all chapters are included in this section. However credit goes to Richard Bole for writing the chapters on Real Property Values, Green Infrastructure, Corporate Relocation and Retention, and Retirement Relocation and Retention.

Table 54. Sections in GGNRA Economic Impact Profile

Section	Description
Agency Expenditures	NPS and its partner agencies that are responsible for managing the parks support local businesses by their payroll and purchases of supplies and services. Capital projects

	result in construction constructs, and jobs created by the managing agencies help increase local employment opportunities and benefit local economies.
Commercial Uses	GGNRA hosts many concessioners and special events, which boost local businesses as well as generate funds for parks management purposes.
Expenditures by Residents	Spending by local residents on GGNRA-related activities supports outdoor recreation-oriented businesses and employment, as well as other businesses patronized by GGNRA users, such as nearby cafes.
Travel and Tourism	GGNRA attracts regional, out-of-state, and international visitors to the community, who then support local businesses such as lodging, food and retail establishments, and recreation-oriented services. Thus, GGNRA improves the overall appeal of the Bay Area to visitors and increases travel and tourism-related spending.
Gateway Communities	GGNRA has an impact on the economy of adjacent communities, which can be measured by the effect on jobs and/or income to an area.
Educational Value	The educational value that GGNRA provides to both youths and adults also involves spending and investment.
Health, Fitness, and Wellness	GGNRA supports fitness and wellness by providing convenient opportunities for exercise, such as walking, jogging, and biking. Increased physical fitness can lead to decreased public health care costs. Similarly, businesses are realizing the benefits of healthy employees, both in increased efficiency and decreased health insurance claims.
Real Property Values	GGNRA may enhance nearby property values and speed sales of such property. As part of a multi-park system that makes up the Bay Area’s greenbelt, GGNRA may also increase property values throughout the metropolitan area. Increase in property values not only benefits the owners but also increases local tax revenues.
Green Infrastructure	Conservation of waterways, bays and greenways may help local governments and other public agencies to reduce long term costs for public services such as roads and sewers and avoid potential costly damages through hazard mitigation and pollution control. Also, commuting costs can be reduced for employees who use trails to get to work. - <i>“an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations.”</i>
Corporate Relocation and Retention	Quality of life of a community is an important factor for retaining and attracting corporations and businesses. GGNRA is an important contributor to the quality of life in the Bay Area. Corporations bring jobs to the community and

	help support businesses which provide services and products to corporations and their employees.
Retirement Relocation and Retention	The popular press and academics have highlighted a new demographic: the swelling number of young, healthy, affluent retirees who make decisions on the basis of factors other than proximity to family and healthcare facilities. These retirees are perceived to be the equivalent of a pollution-free industry that requires many fewer services than it pays in taxes.
Estimating the Effects of Spending	GGNRA stimulates indirect as well as direct expenditures. Spending often circulates in the local area beyond the initial purchase, having an even greater economic impact on the area.
Benefit Estimation	The recreational benefits of GGNRA can be estimated in monetary values.

3.8.3 Agency Expenditures

NPS and the partner organizations that manage property and structures within GGNRA contribute to the local economy through payroll and operations/maintenance expenditures. In addition to providing jobs, they purchase supplies, some of which may come from local suppliers or manufacturers.

Challenge: determining what portion of such expenditures is local and would not have been spent on other government/NGO projects in the absence of GGNRA.

Summary of Actions

1. Collect operations spending data including salaries and benefits, maintenance, contractual services and utility bills. This includes legal services, insurance, vehicles, building materials, and other equipment. Aggregate all management agencies (NPS and its partners) and apportion agency expenditures which are only partially related to GGNRA. Calculate the annual cost of long-term investments or capital projects.
2. Determine what percentage of these expenditures was spent locally or through locally owned businesses.
3. Identify any businesses that were created for or rely entirely on GGNRA purchases.
4. Determine if GGNRA employment benefits particular needs of the community's population, such as youth (under the California Conservation Corp, Marin Conservation Corps), or unemployed people in work training programs.
5. Sum the number of employees by agency/organization working within GGNRA, converting seasonal jobs to FTEs, and adding payroll data. Include partners such as Bay Area Discovery Museum, Fort Mason Center, Marine Mammal Center, and East Fort Baker Conference Center.
6. Array in which city or county GGNRA employees reside in to better understand where their paychecks are spent and which communities benefit from their expenditures.
7. Sum the value of capital construction contracts, purchases of equipment, supplies, fleet costs, and maintenance contracts.

Outcomes

- Expenditures by GGNRA managing agencies and partner organizations that benefit the local economy.
- Data showing the number of people and specific communities that benefit from agency spending.
- Unique community employment needs met by GGNRA.

3.8.4 Commercial Uses

GGNRA provides the opportunity for commercial activities such as on-site concessions, permittees, partnerships with non-tenant groups, special events and commercial filming. These business ventures provide a range of benefits including improved visitor services, facility enhancements, park/regional promotion, and education.

Summary of Actions

1. Outline list of ongoing commercial opportunities such as:
 - Food services- Cliff House
 - Recreation equipment rentals/sales
 - Lessons- windsurfing
 - Lodging- camping
 - Convenience items- gift shops, including sale of “branded” items
 - Leasing right of way to utility companies such as telecommunications, cable television, gas or electric transmission lines
 - Commercial use of entities- Cliff House, Blue and Gold Fleet.
2. Outline list of special events such as:
 - Television and movie filming, and photo sessions
 - Events such as the AIDS Walk, 4th of July celebrations and Bay to Bridge.
3. Calculate fees, gross revenue values, and ticket sales for concessioners and park partners- break out by residents/non-residents to demonstrate “new dollars” entering the local economy, or by payroll to indicate jobs provided. This requires knowledge of number of attendees and average spending at special events.
4. Collect costs of facilities improvements that were conducted as a result of the use.
5. Estimate the money spent locally by crews.
6. Collect anecdotal/qualitative data on ways in which GGNRA was promoted to residents and visitors, increased donations, strengthened volunteer organizations or raised public awareness about an issue.

Outcomes

- Sum of concessioner and permittee fees, plus value added by non-tenant park partners.
- Local spending created by commercial uses, and subsequent state and local tax receipts.
- Knowledge about the extent of stimulation of visitation to GGNRA generated by such uses.

3.8.5 Expenditures by Residents

Expenditures by residents refers to spending by day users as compared to visitors from outside the local area. The boundary of this field of economic activity is generally considered within 50 miles. Day trips by residents do not involve overnight stays. This aspect of the economic analysis considers expenditures on outdoor recreation and heritage and cultural tourism, and how they contribute to the national, state, and local economy through generation of employment and income. More specifically, residents may spend money to get to and from GGNRA, on supplies and equipment to pursue their recreation experience, and at on-site concessions and events, and nearby related attractions.

Challenge: determining what portion of such spending is directly attributable to the presence of GGNRA and would not have been spent in its absence.

Summary of Actions

1. Define boundary of “use by residents”- is 50 miles appropriate for GGNRA use areas? Only expenditures by residents within this radius will be quantified in this aspect of the economic impact profile.
2. List types of spending to be included, potentially including:
 - transportation costs (BART passes, oil and gas purchases, bicycle rentals)
 - sporting gear purchases
 - walking/jogging- tennis shoes, clothing
 - in-line skating- skates, elbow and knee pads, helmets
 - bicycling- bicycles, helmets, clothing, hydration systems, other gear
 - kayaking/canoeing/sailing/motorboating- watercraft, equipment, moorage/slip rentals
 - sailboarding- sailboard, clothing
 - hang-gliding
 - fishing- rods, tackle, bait
 - birdwatching- binoculars, spotting scopes
 - wildlife photography- cameras, film, other equipment
 - food and beverage purchases.
3. Gather information for GGNRA through surveys, research, or modeling.
 - Benefit transfer method: application of benefits estimates, data and/or models developed in one context to address a similar resource valuation question in GGNRA
 - MGM2: captures all visitor spending in the local area, with segmentation of local visitors from tourists to the area and day visitors from overnight visitors; also itemizes spending into 12 spending categories:
 - motel, hotel cabin or B&B
 - camping fees
 - restaurants and bars
 - groceries, take-out food/drinks
 - gas and oil
 - other vehicle expenses

- local transportation
- admissions and fees
- clothing
- sporting goods
- gambling
- souvenirs
- other expenses

Visitors may also be segmented by activity, trip purpose, transportation mode or any other variables that help to explain spending patterns. The model relies on recent NPS visitor surveys to provide the number and types (segments) of visits/visitors and average spending for each segment.

Outcomes

- Total visitor spending in the local area by residents, broken out by spending category. Direct effects of this spending in terms of sales, income, value added and jobs in the local area by economic sector.
- Total sales, income, value added and jobs in the region resulting from residents' spending.
- State and local tax receipts.
- GGNRA data arrayed by county.

3.8.6 Travel and Tourism

GGNRA attracts visitors from outside the local area (more than 50 miles away) which subsequently stimulates the economy through employment and expenditures in areas such as transportation, lodging, eating establishments, retail and service businesses. Such visitors, who often stay overnight, inject more “new dollars” into the local economy than residents. Thus, additional personal income and government tax revenues are generated as a result of GGNRA.

Challenge: GGNRA may attract tourists solely on its own, it may encourage area visitors to extend their stay, or it may enhance business or pleasure trips that were already planned to the Bay Area. Determining which level of tourist draw and hence what portion of the visitor's time and travel expenditures can be attributed to GGNRA requires visitor survey data.

Summary of Actions

1. List tour operators, outfitters/rental agencies, guides and service providers who cater to users of GGNRA- bike rentals, for example.
2. Calculate the fees they pay to operate and their level of advertising and promotion of GGNRA. Also consider the promotional impact from chambers of commerce and local visitor bureaus which capitalize on GGNRA.
3. Determine how GGNRA impacts travel preferences and trends in the Bay Area to determine the level of visitor draw of GGNRA.

4. As with expenditures by local residents, outline the types of spending to be included in the analysis and gather information for GGNRA through surveys, research, or modeling. Again, this requires accurate spending profiles for this visitor segment (from park visitor surveys or other methods) and regional economic multipliers based on input-output models for local regions around GGNRA.
5. Survey visitors for origin, nature of trip, and expenditures. Correlate this to established per night and day average expenditures data from Chamber of Commerce and Visitors Bureau.

Outcomes

- Better understanding of how many visitors plan or extend their trips an extra night to visit GGNRA, as well as how many come solely for a day-use GGNRA visit.
- The number and variety of businesses benefiting from GGNRA-induced tourism.
- Total visitor spending in the local area by tourists visiting GGNRA, broken out by spending category. Direct effects of this spending in terms of sales, income, value added and jobs in the local area by economic sector.
- Total sales, income, value added and jobs in the region resulting from tourists' spending.
- State and local tax receipts.
- Clear understanding of the nature of tourist interest and use of GGNRA.

3.8.7 Gateway Communities

This aspect of the analysis would explore partnerships between gateway communities and GGNRA. Often such communities have a competitive advantage in the regional economy because of “assets” - any feature, resource, or characteristic that may attract visitors, new residents, or new businesses to the community. In the case of GGNRA, park-related business is likely a significant factor in the economic impacts on gateway communities.

Summary of Actions

1. Define the advantages gateway communities have because of GGNRA- explore how their economies are tied to GGNRA's amenities. Could include people visiting GGNRA but spending the night or purchasing items (gas, food) elsewhere, or residents who work at GGNRA but live in gateway communities.
2. Determine which communities are considered gateway (identify a geographic radius or transportation corridor that benefits from GGNRA).
3. Gather information through surveys, research, or modeling on spending and employment.

Outcomes

- Visitor spending resulting from GGNRA trips.
- Local employment supported by GGNRA.
- State and local tax receipts.

3.8.8 Educational Value

While it may be difficult to quantify a dollar value for the education experiences supported by GGNRA, it may be worth quantifying the education-related activities that result from its presence.

Summary of Actions

1. Determine the number of school trips, field seminars or educational and heritage related activities and research projects that occur within GGNRA. Consider subjects ranging from history and culture to wildlife, geology and ecology/environmental awareness. Take inventory of the number of trail guides, interpretive signage, public outreach events, and informative classes that encourage awareness of the natural, cultural, and historical attributes of GGNRA.
2. Consider any higher education (high school or college classes) or scientific research that takes place within GGNRA including natural benchmarks or impact studies of the effects of human development on natural systems.
3. Analyze whether such educational trips and studies have changed as a result of curtailed school funding to determine whether GGNRA is providing a low-cost educational alternative or supplement to teachers and educational institutions.

Outcomes

- A more complete understanding of how GGNRA improves educational opportunities in the region.

3.8.9 Health, Fitness, and Wellness

Active users of GGNRA may rely on GGNRA for improving their physical and mental health and fitness. Enhanced wellness results in reduced health care costs and improved work efficiency for such users. In addition to building strength, regular exercise relieves stress, provides motivation, promotes relaxation, and facilitates sleep. It also reduces the risk of coronary heart disease, stroke, diabetes, and high blood pressure- all costly conditions to treat. Physical activity offers potential benefits at both the individual and community levels. Finally, studies have shown that as access and opportunities to exercise increase, levels of physical activity also increase- indicating that GGNRA can play a pivotal role in offering people opportunities to improve their health.

Summary of Actions

1. Focus on high use areas and determine how many trail walkers, joggers, runners and cyclists regularly use GGNRA primarily or in part for health and fitness, or how many have increased their level of physical activity as a result of the parks' presence. Consider that trails and GGNRA's exercise opportunities may be beneficial in promoting physical activity among segments of the population at highest risk for inactivity, particularly women and persons in lower socioeconomic groups.

2. Consider developing a survey based on NRPA's Hearts N' Parks program that asks participants how much information they retained about heart-healthy behaviors. For example, people can be asked about learning new physical activities and improving their performance in others, and whether they feel healthier and experience less pain in their daily lives by using GGNRA regularly.
3. Identify local organizations whose employees do use GGNRA due to its proximity, and survey them regarding incorporating GGNRA into an employee fitness plan. Identify employers and/or insurance agencies that offer discounts or rewards for physical activity to determine whether GGNRA has played a role in that program and what benefits have resulted.
4. Survey GGNRA employees regarding their use of GGNRA for fitness and subsequent results.

Outcomes

- A better understanding of how important GGNRA is for personal and community health and fitness, and which user segments are particularly focused on this aspect of the parks' value.
- Depending on the extent of survey information and data collected, the costs of treating obesity, coronary heart disease, etc. could be extrapolated to a segment of the Bay Area population; conversely, the savings achieved from the portion of the area's populations that exercises could also be estimated.
- An array of costs and benefits of fitness for GGNRA to use in promotion and management.

3.8.10 Real Property Values and Market Impacts

Academic studies indicate that the value of real estate near parks is higher than comparable real estate farther away from parks, except where parks are not properly maintained and support "nuisance" behavior.

Summary of Actions

Dr. John Crompton of the Department of Parks, Recreation and Tourism Science at Texas A&M University developed a straight-forward method for calculating the increase in property taxes that will result from increases in appraised property values. The first portion of the method applied to GGNRA involves division of real estate around the park into Zones A, B and C as follows:

1. Zone A should include property that is directly adjacent to a park or has an unimpeded view of a park.
2. Zones B and C are two additional "belts" of property outside of Zone A where purchasers pay a premium for proximity to a park. The boundary between these additional Zones may be the point at which the average user can no longer easily walk to the park for recreation purposes. These Zones can be defined by comparing real estate sales prices in the area beyond Zone A to equivalent "control" areas in

the same municipality that are further away from the park. For accuracy, the areas being compared should have similar forms of use (e.g., high rise office towers should be compared to other high rise office towers), affluence, and access to non-park amenities like public transportation and restaurants. Selection of a control area is the key challenge in doing an accurate study.

3. Zones A, B and C may vary widely in size depending on the size and nature of the particular park, but analysis of real estate values will generally demonstrate a three-tier system of price premiums over the control area. The outside boundary of Zone C should be the point at which real estate value comparisons show no difference with the control area. This generally occurs within 500 feet for small parks and within 2,000 feet for community-sized parks. Most GGNRA parks are large enough that the affected area will almost always be 2,000 feet or more.

After these steps have been taken to define Zones A, B and C, the Crompton method is simple:

1. Take the average sales value of Zone A properties and subtract from it the average sales value of the control group (adjusting the size of the control group so that the number of properties is equivalent to that of Zone A).
2. Multiply the result by the total amount of property in Zone A.
3. Multiply the result by the annual property tax rate for the particular municipality. The result is the theoretical annual economic impact of Zone A (See explanation of California Proposition 13 below).
4. Repeat steps 1-3 for Zones B and C.
5. Sum the result for all three Zones to get the theoretical total annual impact of the park on property tax revenue.

Note: An alternative and less costly approach would be to gather qualitative feedback and anecdotal evidence from realtors on the value their clients are realizing from real estate near parks.

California Proposition 13 artificially holds down the growth of appraised property value. Therefore it is not actually accurate to calculate the total increase in property tax revenue as a result of GGNRA by multiplying the average price premium from sales data by the amount of properties in zones A, B and C. Instead the result should be stated as the theoretical price premium if all property were accurately revalued on the basis of market prices. To obtain truly accurate numbers one would have to gather data for all appraised property and ensure that the average time since sale was the same for the three zones as it was for the control area.

Not included in Crompton's method is the concept of an entire city's property value increasing as a result of a network of parks or greenbelts. Economist Dr. Mary Riddel of the University of Nevada Las Vegas used statistical analyses to determine that property values throughout Boulder, Colorado had increased by 3.5% as a result of the city's 15,000 acre greenbelt. GGNRA along with the East Bay Regional Parks, the Mid-Peninsula Open Space District, the Marin Municipal Water District, the San Mateo County Parks and the

California State Parks are the mid and north Bay Area equivalent of a greenbelt. Therefore, it may be realistic to assume that a small increase in property values throughout the Bay Area can be attributed to these parks, although quantification would be difficult without conducting a complex statistical analysis similar to the Boulder study.

Often neglected in the literature is an inclusion of the opportunity cost of lost tax revenue from use of land for parks. To guarantee the integrity of the study, therefore, it may be necessary to subtract the total tax revenue that might be expected if the land used for the parks was instead used for development.

Outcomes

The effects of GGNRA on real property values and therefore property tax revenue should be able to be estimated in **one dollar figure** as discussed above. Assessed property values and sales prices are widely available.

3.8.11 Green Infrastructure

Conservation of waterways, trails, open space and greenways helps local governments and other public agencies to avoid costs for public services such as roads and sewers and mitigate hazards and pollution. This is particularly true in the Bay Area where public service costs are high, air pollution is a major concern, and hazards related to earthquakes are likely.

Academics have highlighted the cost savings associated with the low level of public services demanded by parks as well as the cost savings from hazard and pollution control. In November 2002 the American Farmland Trust compiled 95 studies from 22 states and found that open space costs \$0.36 per dollar raised on average as compared to costs of \$1.16 per dollar raised for residential space. Another November 2002 study by American Forests estimated that the city of San Antonio, Texas saves \$70 million annually from tree cover through reduced storm water management, air pollution and energy use.

Summary of Actions

Public costs saved through decreased public services are significant and fairly easy to quantify. Two basic approaches can be taken to quantifying these cost savings. The first is to itemize all public services and complete the following steps:

1. Estimate the unit cost of storm water management. For example, installation of storm water management capacity was estimated to cost \$2 per cubic foot of capacity in the San Antonio study. Officials from local water and sewer boards near GGNRA should be able to provide similar estimates that take local factors into account.
2. Estimate the storm water management capacity that does not need to be added (in cubic feet) as a result of natural areas in GGNRA. Sewer and water board officials will have estimates of cubic foot capacity needed per acre of land that can be multiplied by the total acreage of GGNRA (excluding developed areas of the park

- that do require storm water management).
3. This process can be repeated for other public services such as sanitary sewers, city water, roads, and natural gas.

The second, less complicated method is to treat all itemized public costs as a “basket” or services that are approximated by the general fund of the municipality:

1. Divide the total amount of funding required by the park by its total land area.
2. Compare that number to the general operating budget per acre of the nearest municipality.

The cost savings from air pollution reduction are more difficult to estimate because various tree types sequester different air pollutants in different ways:

1. An inventory of GGNRA’s trees and forests, which may already be available, is necessary. Key data include an estimate of total area covered by trees, as well as an estimate of the number, type and average age of trees in the recreation area.
2. Data for the sequestration capacity of the different trees in the park should be sought. The USDA and the USFS estimated that 610,000 trees in Brooklyn, NY sequestered 2,500 metric tons of Carbon and 254 metric tons of air pollution per year, representing values of \$51,000 and \$1.3 million per year respectively. It may be worth partnering with academics or another agency to develop similar estimates.

Outcomes

Based on public services avoided and value added from pollution reduction, it may be possible to develop very specific monetary estimates for the extent to which GGNRA reduces public costs for local municipalities. However, it may be problematic to estimate the economic benefit of commuters who walk in GGNRA as a part of their commute. This is probably best documented through a survey of weekday morning and evening walkers in likely places such as the Presidio.

3.8.12 Corporate Relocation and Retention

The academic literature on the factors influencing corporate location decisions is clear: companies do not choose their location for one reason. Rather they make decisions on the basis of a variety of factors that include proximity to customers, quality of workforce and cost and quality of living for employees among other things. Therefore it is difficult to determine how many companies relocate for a particular amenity such as a park.

Survey data does suggest, however, that certain companies are much more likely to relocate for recreation opportunities generally and parks specifically. A recent study of companies in Colorado found that decision makers for small businesses rated recreation, parks and open

space first among six quality-of-life elements in location decisions.⁷ The study also suggested that recreation opportunities increase drastically when a decision maker is relocating with the company. Several other studies suggest that “footloose” firms that are less tied to a particular place for business reasons are more likely to make decisions on the basis of recreation amenities and quality of life factors. These firms include technology companies and other high-wage paying businesses.

Summary of Actions

While the effect of GGNRA on location decisions cannot be quantified, it would be useful to identify specific organizations that weighed GGNRA heavily when locating their businesses. This could be accomplished by adding a few questions to those asked by GGNRA during surveys of partner organizations, park volunteers and park users:

1. Are you the principle decision maker for a business that **does not** derive the majority of its revenue from recreation activities in this park (to avoid double counting with resident and tourist expenditures)?
2. If yes, how important was GGNRA or one of its member parks in your decision making process? What percentage of your decision would you attribute to GGNRA?
3. How many local employees does your company have and what are their aggregate salaries. How much money does your company spend on local businesses in an average year?

Outcomes

Gradually corporate decision makers who were influenced to move to or stay in the Bay Area because of GGNRA would be identified through these additional survey questions. Eventually a portion of wages paid by the companies that weighed GGNRA heavily could begin to be attributed to GGNRA. The final goal might be to quantify GGNRA’s monetary impact through corporate location decisions.

3.8.13 Retirement Relocation and Retention

The popular press is full stories about a new demographic: the swelling number of young, healthy, affluent retirees who make decisions on the basis of factors other than proximity to family and healthcare facilities. Many cities list attraction and retention of this population segment as a key goal. These retirees are perceived to be the equivalent of a pollution-free industry that requires many fewer services than it pays in taxes.

⁷ Crompton et. al., An Empirical Study of the Role of Recreation Parks and Open Space in Companies’ (Re)location Decisions. Journal of Park and Recreation Administration. March 1997 15#1: 37-58

Summary of Actions

Similar to corporate location decisions the effect of GGNRA on retirement location decisions cannot be easily quantified. The best option might once again be to add questions to surveys of partner organizations, park volunteers and park users:

1. Are you retired and living in the Bay Area?
2. If yes, how important was GGNRA or one of its member parks in your decision to retire in this area? What percentage of your decision would you attribute to GGNRA?
3. How much money do you have invested through a local bank or broker? What is your annual income and what percentage of that income do you spend locally in an average year?

Outcomes

As with a corporate location survey the eventual goal would be to develop a rough estimate of the number of seniors who have relocated to or stayed in the Bay Area specifically for the recreational amenities that GGNRA offers. If income and local expenditure data from these seniors could be gathered, a rough estimate of the impact of the seniors on the local economy might be developed.

3.8.14 Estimating the Effects of Spending

As mentioned in other sections, GGNRA-related expenditures create indirect and induced effects because spending often circulates in the local area beyond the initial purchase. Businesses and employees are able to use their income to purchase additional goods and services from other businesses in a variety of sectors. The sum of all these effects will show how GGNRA generates economic activity within the local, regional and even national economy. Models such as MGM2 can be used to determine the broader economic impact on an area from this effect. The validity of results from models, however, depends on the accuracy of inputs such as the number of visitors to GGNRA and their direct spending profiles, knowledge of the structure and diversity of the local economy, and quantity of input supplies purchased within the local community compared to those that “leak” outside the area of interest. Multipliers, the ratios used to estimate the indirect and induced effects, must therefore be chosen carefully. They are often derived from input-output models such as IMPLAN, which show the flow of money between industries in a particular economic activity by county.

Summary of Actions

1. Revisit the scope of the economy/community to be considered (city, region, etc) for consistency. The larger and more diverse the area is, the greater the economic impact because more dollars will circulate within it. Also, it may be hard to acquire spending data within an obscure boundary.
2. Collect visitation and expenditure data for the area so that daily expenditures can be multiplied by the number of users. Consider what portion of expenditures can be attributed to GGNRA and were purchased locally, then amortize over time. Large

purchases that will last a number of years should be divided over the life of the equipment. Combine this information with an accurate multiplier to chart the overall effect of expenditures on the economy.

3. Decide whether the analysis will include only current statistics or if future impacts will also be forecasted.
4. Look for ways to compare output from MGM2 or similar models to other local economic data. This will be helpful both for validating the estimates and for putting them in context. Consider showing the portion of system-wide impact that GGNRA has to demonstrate its importance to a larger region.

Outcomes

- Total spending, direct personal income (wages and salaries) for local residents, and jobs supported in the area taking into account indirect and induced effects as well as direct ones. Output will take into consideration that only the retail and wholesale margins on visitor purchases of goods accrue to the local economy. Such estimates of the economic impacts of park visitors demonstrate the role and importance of the park in the regional economy but do not cover the impacts of park employees, park operations and construction expenditures on the local economy.

3.8.15 Benefit Estimation

GGNRA has recreational benefits that do not have established market values. However, there are ways that attempt to quantify such values in an effort to capture a comprehensive view of park benefits. One method to estimate such benefits is willingness-to-pay for various activities or benefits such as picnicking, hiking, or fishing. This can be estimated through the travel cost method, in which the costs of travel to a site are used as a proxy for the value of that experience. Alternately, the contingent valuation method asks for willingness-to-pay from individuals through the use of carefully designed and administered surveys that create a hypothetical market.

Summary of Actions

1. Determine whether additional benefits that cannot be determined by the market are appropriate for inclusion in the analysis. Results valuing natural resource services to users will be inferred from indirect economic measures.
2. List all services and benefits, tangible and otherwise, which GGNRA provides and which will be estimated (hiking, fishing, sightseeing, education, etc.).
3. Conduct a WTP survey or use benefit transfer to apply data from a similar area to GGNRA to determine the value of each benefit.
4. Summarize the combined total of the value of the variety of benefits.

Outcomes

A summary in dollars of the array of services GGNRA provides.

3.9 Resource Book Appendices

Several new appendices were added to the 2004 resource book. They included additional sample questions for questionnaires and general survey strategies as shown in the sections below.

3.9.1 Sample Survey Questions for Economic Impact Analysis

1. Are you staying overnight away from home in the local area (within 60 miles of the park) on this trip?

No

Yes



<p>1a. How many nights are you staying</p> <p>Inside the Park _____</p> <p>Outside the Park in the Local Area _____</p> <p>1b. What type of lodging are you using (check all that apply)</p> <p>Inside the Park</p> <p><input type="checkbox"/> Lodge, motel or cabin</p> <p><input type="checkbox"/> Campground</p> <p><input type="checkbox"/> Backcountry site</p> <p>Outside the Park</p> <p><input type="checkbox"/> Motel, cabin, B&B, rented condo or home</p> <p><input type="checkbox"/> Campground or Trailer park</p> <p><input type="checkbox"/> Owned seasonal home</p> <p><input type="checkbox"/> Stay with friends or relatives in the area</p>

2. How many people are in your travel party (vehicle) on this trip?

_____ Adults 18 and older

_____ Children (under 18 years of age)

3. What is the zipcode of your primary residence? _____

4. (Optional re-entry - best asked when leaving the park). Will you be returning to the park again before leaving the region or returning home? YES NO

4a. How many times have you entered the park during you stay in the area. _____

5. What was the primary reason for making the trip to this area? (check one)

To visit this park

To visit other attractions in the area

Visiting friends or relatives in the area

Business or other reasons

6. *Spending in the area.* Please report all spending **within 60 miles** of this destination by you and other members of your party. Report spending inside the park in Column A below and other spending in the area in Column B. Include all spending for goods and services during your stay in the local area including pre-paid hotel deposits, and all other payments whether by cash, credit card, or check. Enter spending to the nearest dollar in each category below. Enter 0 (zero) if you did not spend any money in a particular category.

Spending category	<i>Spending within 60 miles of the park</i>	
	Column A	Column B
	Inside the PARK	Outside the Park
Hotels, motels, cabins, B&B	_____	_____
Camping fees and charges	_____	_____
Restaurants and bars	_____	_____
Groceries and take out food	_____	_____
Gas and oil (auto, RV, boat, etc)	_____	_____
Other transportation expenses (exclude airfares)	_____	_____
Admissions, recreation, entertainment fees	_____	_____
All other purchases (souvenirs, film, books, sporting goods, clothing etc....)	_____	_____

How many people do these expenses cover? Adults _____ Children (under 18) _____

3.9.2 Guidelines for Surveyors

The following text is from Appendix 2 of “Measuring Economic Impact” by John Crompton. The document was developed by Tom Shuster, Recreation and Parks Director for the Town of Ocean City, Maryland for use at a 1 hour pre-event training program undertaken with surveyors who were collecting economic impact data at the Springfest Festival. Thus, details in text such as town names and zip codes will need to be changed to reflect the new survey being conducted. It is recommended that space be left between the questions to enable those being trained to make notes. The full document is available at <http://rptsweb.tamu.edu/faculty/EconomicImpact.pdf>.

Thank you for agreeing to serve on the survey team. We appreciate your valuable contribution to this very important project. The following information will help you understand the project and what you will need to do.

1. **Purpose:** The purpose of the survey is to determine, by scientific sampling methods, the economic value of Springfest to Ocean City. Selected visitors to Springfest are being asked to complete a survey form which will provide enough information for us to be able to calculate the dollar impact on the community of all visitor spending during the festival.
2. **Survey Development:** The survey instrument was developed by Dr. John Crompton of Texas A&M University and modified by the staff of the Town of Ocean City so it related specifically to Springfest.
3. **Survey Composition:** The survey instrument consists of 6 questions all of which are contained on one side of a piece of paper. All the questions are important. The survey is only one page so respondents can complete it in a relatively short period of time and be on their way.
4. **Survey Completion Time:** The survey is likely to take approximately 90 seconds to complete. This time estimate should be provided when approaching potential survey respondents. Some respondents may take more than 90 seconds because some of the questions involve estimating amounts of money to be spent. This section of the survey is likely to be the most difficult part to complete for most people.
5. **Survey Audience:** The target audience for this survey is people who are visiting Springfest from *outside* the local area. Since there is no way of distinguishing visitors from outside the area in a crowd from “locals”, a definition is used to separate them.
6. **Locals:** For the purposes of this survey only, locals are defined as people who have their *primary* residence in Ocean City (zip codes 21842 or 21843), Berlin (21811), or Bishopville (21813). Individuals with one of these 4 zip codes are considered to be part of the Ocean City economy and are classified as “locals”. Since people already living in the

local economy aren't bringing in any new money from the outside, they are not a part of the target audience for this survey.

7. **Surveys Needed:** For the economic results to be reasonably accurate, a total of 800 surveys will need to be taken from visitors attending from outside the area over the 4 days of Springfest. This equates to approximately 200 surveys taken per day. The number may vary by day. However, 800 total surveys are needed.

8. **Survey Teams:** Survey takers will be grouped into teams of 2 people. Teams will work a defined area on the festival grounds near one of the 2 primary entrances. There is no admission charge to Springfest. There are multiple entrances to the site but two of them account for a large proportion of visitors. Teams will be assigned specific hours to work during the festival. Hours of work may vary from day to day.

9. **Support To Survey Teams:** Support to the survey teams will be provided by staff of the Special Events Division and other Town employees working at Springfest.

10. **Identification:** As a survey taker you will be an official representative of the Town of Ocean City. You will be provided with appropriate apparel to identify you as a part of Springfest.

11. **Preparedness:** Come to work each day prepared for your assignment and your time shift. Dress comfortably and wear comfortable shoes. Bring along other protective clothing if there is the possibility of inclement weather.

Be prepared to approach strangers. Put on your best smile and your most assertive attitude. Before your first day actually imagine yourself approaching people. Try to see yourself performing the entire sequence of steps from approaching through completing the survey process.

12. **Selecting Someone to Approach:** For this survey to be scientific it must be as random as possible. To facilitate randomness, a uniform method is used to determine who to approach to complete a survey.

Each survey taker is asked to count the flow of people approaching him/her. The survey taker remains in one place as people pass by. When the survey taker counts the 8th person, then that person is the target person.

However, approach only adult males or females to complete the survey. So, for example, if the 8th person you count is a child or youth, then don't approach him/her, but if an adult is part of the group, then the adult should be approached. If the group does not include any adults, then skip to the next adult after them.

The counting may have to be approximate, rather than exact, at times when the flow of the crowd is heavy or fast. Remember the purpose of the counting is to create a reasonably random, uniform interval.

13. Your Opening Approach: When approaching someone to interview, move toward them and make eye contact. Smile and greet them with the following opening. “Hi, I’m on the Springfest Staff.” At this point pause to make sure you have made eye contact. “Could you please take a moment to help us by completing this important survey.” Hold up a clip board with the survey. “It will only take about 90 seconds to complete and will help us to improve Springfest.”

If they agree, or if they hesitate, ask them “What’s your zip code” which is the first question.

If they answer the zip code question and it is not one of the local codes (21842, 21843, 21811 or 21813), immediately hand them the clip board and ask them to complete the survey and return it to you.

If they answer the zip code question by saying it is one of the local codes (21842, 21843, 21811 or 21813), say “Thanks, you’ve just completed the survey. Wasn’t that easy.” You must now record the local “hit” on a separate counting sheet. After recording the local zip, start your random 8 count again.

If the person you approach doesn’t answer the zip code question and continues walking, let him/her go. Resume your random 8 count and start a new approach.

Survey experience shows that up to 15% of people approached to participate in a survey in this manner refuse to respond. Some people just don’t want to be bothered by surveys or may have other reasons for refusing. Don’t take the lack of a positive response as a personal rejection.

Their decision has little to do with you. Simply go on to your next prospective survey respondent.

14. Self-Administered Survey: After you have selected and approached the chosen respondent, and he/she has agreed to participate, he/she completes the survey. Hand the individual the clip board which has the survey on it and a pen attached as well.

Ask selected individuals to step behind you out of the way of the crowd to complete the survey. Ask them to return the survey to you when it is completed. Remember it should take them about 90 seconds to complete. Put their survey in the completed survey box when they return it to you.

15. Monitoring: Your survey work will be monitored by the Springfest staff to help ensure consistency. If you have any questions be sure to ask them.

4 Conclusion

In 1995, the National Park Service published its resource book called “Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors.” The publication was well received by local and regional level planners, park and recreation administrators as well as citizen activists and non-profit groups who were communicating the benefits of their proposed or existing greenways projects. Including potential and realized economic benefits strengthened their cases, and there has subsequently been growing interest in applying economic rationales to support park projects.

During the research phase of this practicum it was evident that a number of park and trail organizations across the country were undertaking their own economic impact analyses. Some organizations did very rudimentary calculations; others hired consulting firms to produce extremely accurate and sophisticated studies. This suggested that the practice of doing such work was still in its infancy but that a few experts were refining specific aspects of the process and sharing best practices. The NPS handbook is the most comprehensive document that brings together in one place the many facets and subtleties of conducting an economic analysis. Prior editions have been in demand nationally and internationally, and NPS periodically receives calls asking when an updated version will be available, further testament to the importance of the publication.

The 1995 version, which was the fourth edition NPS had published, eventually became outdated and new aspects of economic impact came under study. This practicum was an effort to update the content, data, and case studies in the NPS publication so that it contains the most recent information on the subject area. The 2005 version of the publication also takes a broader approach to parks and trails, rather than just focusing on corridor projects.

To say that this project was simply an update, though, would be an understatement, and it would not have fulfilled the goal of a practicum. In a practicum, theory is used to solve an applied problem; it involves the application of analytical techniques in the natural resource domain. This includes the principles of decision analysis and design formulation and/or evaluation of alternatives for management, planning, or development. The 2005 version of the handbook goes to a whole new level in providing practitioners and park, river, and trail protection advocates a self-guiding resource and reference to assess and report economic impacts. In order to accomplish this, the expertise and motivation of a wide variety of users had to be considered. The handbook was designed to appeal to people who did not have formal training in economics, while also providing useful information or links to more advanced details so that sophisticated users would also find it beneficial. Balancing this tradeoff between broad-based appeal and additional complexity was one of the most challenging aspects of the practicum experience.

While NPS encourages the use of economic impact analyses, it is up to individuals, such as park managers and grassroots activists, to see that they are conducted. The more example reports and guidebooks aimed at doing such work, the more likely such individuals are to accurately complete an analysis. While conducting research for this practicum, many

people shared stories of how important the economic aspect was when making the case for their park, river, trail, or greenway. They were very appreciative of the support the handbook provided and they looked forward to seeing more analyses that they could use as frameworks. Clearly, having a firm grasp of economic impacts and being able to credibly communicate that was quite useful in promoting the preservation of open spaces. Thus, the practicum evolved as a way of addressing the need people had for tools to justify and maintain park and trail projects. It is something that most natural resource managers should consider incorporating in both the planning and ongoing maintenance phases of their projects.

The approach presented here with its focus on economic impacts is not meant to diminish the importance of the intrinsic environmental and recreational benefits of parks and trails. In some instances, the non-economic value of parks and open space and the intrinsic environmental benefits should be the primary focus. In other cases, combining potential economic impacts with those intrinsic values will provide a stronger rationale for creation and maintenance of such areas. In situations where decision makers will be swayed by economic justifications, this resource book provides the toolkit needed to create a clear, persuasive report of such benefits. It is not meant to be a definitive textbook on economics but rather a simple framework for understanding and presenting the economic benefits of parks and trails.

The final NPS publication will contain eleven chapters, each focusing on a different set of economic rationales. Only seven of those were presented here; the remaining ones were drafted by Richard Bole. After reviewing the range and scope of the concepts and strategies presented in the publication, the reader can choose which of them are applicable to a particular park or trail project, and salient to the community members and decision makers in the area. Not all of the chapter topics will be useful for every park or trail project. The assessor must determine which facets are significant and then can outline an economic analysis that incorporates them. The chapter entitled “Preparing an Economic Impact Profile for Golden Gate National Recreation Area” (Section 3.8) is an example of that thought process that can serve as a springboard for new projects. Other completed analyses, such as that done for the East Bay Regional Park District,⁸ also serve as exemplary models for others to emulate.

In closing, this document was created to inform individuals and groups working on park and trail projects how economics can be useful in conservation work, what the basic economic concepts are, and what simple methods of analysis can be put into practice. It is hoped that this work will lead to stronger financial and community support for parks and trails, and that many generations, present and future, will benefit from access to these valuable areas.

⁸ Available at <http://www.ebparcs.org/resources/pdf/misc/ecoreport.pdf>