

# The National Park Service Comprehensive Survey of the American Public

## National Park Service Fees: An Examination of Public Attitudes Technical Report

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## I. REPORT INTRODUCTION

### A. Preface

The National Park Service (NPS) through the NPS Social Science Program commissioned the Social Research Laboratory at Northern Arizona University to conduct the agency's first comprehensive survey of the American public, the 2000 NPS Comprehensive Survey of the American Public, hereby referred to as the "Survey." The significance of this comprehensive survey lies in the inclusion of all individuals across the nation, National Park System *visitors* and *non-visitors* alike.

Survey data were obtained by interviewing adult members of 3,515 households in the United States. The data provide a representative understanding of the behaviors, values, and opinions of people residing within each of the seven National Park System regions measured on the Survey. Data collection was completed between February 21, 2000, and May 21, 2000. (Please refer to Appendix A for a complete description of the methodology.)

For purposes of this research, a National Park System *visitor* is defined as an individual who has entered a National Park System unit within the previous 24 months of being contacted for this survey and is able to accurately identify the unit entered. All respondents who had not visited a unit within the previous 24 months or who could not accurately name a unit they visited were categorized as *non-visitors*. Overall, 32 percent of the adult population visited a National Park System unit within the 24 months preceding this survey and could accurately name the unit they visited.

Information from this research study describes the demographic characteristics of National Park System units' visitors and non-visitors, and contrasts differences in motivation, interest, and attitudes held by these two groups toward the United States National Park Service and National Park System units. The national Survey also provides a detailed understanding of the trips visitors make to National Park System units. In addition, the research promotes an understanding of why non-visitors elect not to visit National Park System units.

This topical report addresses fee-related issues in the National Park System and assesses public opinion about the level of fees required to enter some units. This report is designed for use in conjunction with the survey data presented in the *2000 NPS Comprehensive Survey of the American Public National Technical Report* (June 2001) which can be found at <http://www.nps.gov/socialscience/waso/products.htm#ta>. The National Technical Report includes all survey questions and frequency responses. This report is the second in a series of four topical reports prepared by Northern Arizona University's Social Research Laboratory for distribution among National Park Service managers.

## **B. Background**

Fees have been charged in National Parks since before the establishment of the National Park System in 1916. Entrance fees were instituted at Mount Rainier in 1908, Crater Lake in 1911, and Yosemite National Park in 1913. To place the early fees into perspective, if the \$10 entrance fee to Yellowstone National Park in 1916 kept pace with the rising costs of other consumer goods, entering the Park in 2000 would cost \$158.<sup>1</sup>

The National Park System employs a wide range of fee strategies to fulfill its mission to “conserve the scenery; the natural and historic objects, and wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (16 USC I). As of the year 2000, at least 151 National Park System units charge an entrance fee (daily or weekly) and 205 units charge fees for accessing other services. Fees are typically charged in areas such as parks, monuments, historic sites, and recreational areas where access is limited, resources need to be protected, and special recreational or informational services are provided. Non-fee areas are typically urban parks, sites or monuments, and areas that lend themselves to unfettered access (e.g., battlefields, parkways, rivers, riverways, and trails).

Congress initially established the Recreational Fee Demonstration Program (RFDP) as a response to an increased volume of visitors and rising operating costs. The first phase of the RFDP was inaugurated in November 1996 at 47 National Park System units. Fees at these sites were increased with the understanding that 80 percent of new revenues would remain at the sites at which they were collected. The second phase of the program added 45 National Park System units in March 1997, and the third phase of the program extended the program to an additional seven units in April 1998. By the time this survey was conducted, approximately 100 fee demonstration projects were underway.

Despite the prevalence of fees there is a continuing debate over many fee-related issues, including whether or not entrance fees should be charged. If fees are to be charged, how high should entrance fees be relative to other fees? How should fee revenues, particularly revenues from the Recreational Fee Demonstration Program, be managed? Do fees present a barrier to visitation by the general public or by any specific groups within the general public?

## **C. Report Goals**

The purpose of this report is to provide an in-depth examination of American public opinion regarding fees charged to enter National Park System units and fees necessary to access a variety of services once inside a National Park System unit. Specifically, this investigation examines the following areas of inquiry:

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<sup>1</sup> This figure was calculated utilizing the Consumer Price Index Inflation Calculator available from the Bureau of Labor Statistics available at <http://www.bls.gov/cpi/>.

- 1) How familiar is the American public with the NPS Recreational Fee Demonstration Program?
- 2) Do visitors prefer a higher all-inclusive entrance fee or a lower entrance fee, with additional fees for individual services and activities?
- 3) How should entrance fees be managed?
- 4) Are visitors satisfied with the level of fees paid relative to perceived benefits of paying the fees?
- 5) How popular are entrance fee discount programs?
- 6) Do entrance fees prevent people from visiting National Park System units more frequently?

## **D. Findings**

Significant findings within this report include the following:

- 1) Ninety-five percent of Americans are not familiar with the Recreational Fee Demonstration Program (RFDP). Among people familiar with RFDP, 94 percent support the program.
- 2) Eighty percent of visitors who paid to enter a National Park System unit think the amount they paid was “just about right” for the value they received. Another six percent thought they paid “too little” for the value they received during their visit, while 11 percent said they paid “too much.”
- 3) By a 2 to 1 margin, Americans support lower entrance fees with additional fees for services utilized within National Park System units rather than one large, all-inclusive entrance fee.
- 4) Ninety-two percent of Americans prefer that entrance fees stay within the National Park Service rather than be deposited in the U.S. Treasury.
- 5) Entrance fees do not present a significant barrier to visitation of National Park System units. The two most commonly cited barriers to more frequent visitation are that people are too busy (38%) or that the distance to a National Park System unit is too far to travel (37%).
- 6) Although entrance fees do not constitute a barrier to more frequent visitation to National Park System units for most of the American public, they are a barrier for a few subgroups. In addition, the total cost of a trip to visit National Park System units (hotels, food, travel) is perceived by some groups to be too expensive. When individual expenses are combined into a broader “expense package,” the total cost becomes a barrier to people with smaller household incomes and to individuals who report less education.

## **E. Report Outline and Data Presentation**

This report begins with a narrative description of responses to all fee-related questions included in the 2000 National Park Service Comprehensive Survey of the American Public. The narrative further examines differences between visitor and non-visitor responses to these questions. Additionally, the report narrative is illustrated with appropriate charts and figures.

Following the narrative, a multivariate statistical approach is utilized to specifically investigate the impact of fees on park visitation. The overarching question in this section is: “Do fees limit more frequent visitation to National Park System units?” This analysis centers around two questions within the survey. One question asks non-visitors in an open-ended format why they have not visited National Park System units. The second question asks all survey respondents in a closed-ended format whether a high entrance fee is a barrier to visitation.

Table and figure data may not total 100 percent. These differences sometimes occur due to data being collapsed and rounded for reporting purposes. “Don’t know” and “Refused” responses are left out of some bar graphs for increased clarity in the representation of findings. Data in the cross-tabulation tables are presented in column percent format. Except for demographic information presented in frequency table format, independent variables are presented at the top of the cross-tabulation tables. Each condition of the independent variable is treated as a discrete whole. For example, with visitors and non-visitors, all visitors are compared against all non-visitors. If looking at the question, “What comes to mind when you hear the words ‘National Park System?’” the reader would compare the proportion of visitors who said “beauty” against the proportion of non-visitors who said “beauty.” Thus, comparisons are made horizontally across columns. It must be noted that differences across columns are not considered significant unless the point span is larger than twice the associated margin of error, since the margin of error must be applied to both data points making up the comparison. For national data, a difference across columns larger than four points is significant. At the regional level, a point difference across columns greater than nine points is considered significant. The abbreviations for regions are National Capital-NCR, Northeast-NER, Southeast-SER, Midwest-MWR, Intermountain-IMR, Pacific West-PWR, and Alaska-AKR

## **II. RESULTS**

### **A. Introduction**

This section provides a narrative description of all data collected as part of the 2000 National Park Service Comprehensive Survey of the American Public involving fees and fee-related issues. This narrative specifically examines respondents’ familiarity with the Recreational Fee Demonstration Program (RFDP), including levels of support for continuation of the RFDP. Respondents were asked about their preferences for how fees should be structured within National Park System units and how entrance fee monies should be managed. In addition, this narrative discusses visitor experiences and satisfaction levels with unit entrance fees and fees paid for additional services within units. General public support for fee discounts is discussed as well as initial consideration of fees as a barrier to more frequent visitation.

## B. Knowledge and Support for Recreational Fee Demonstration Program

All survey respondents were asked about their familiarity with and support of the National Park Service Recreational Fee Demonstration Program (RFDP). This study found that most people are not familiar with the Recreational Fee Demonstration Program (see Table 1). Ninety-five percent of respondents said they are not familiar with this program, with similar proportions of visitors and non-visitors being unfamiliar with the program.

**Table 1: Knowledge of RFDP**

	U.S.	Visitors	Non-visitors
Not Familiar	95%	94%	96%
Familiar	4%	5%	3%

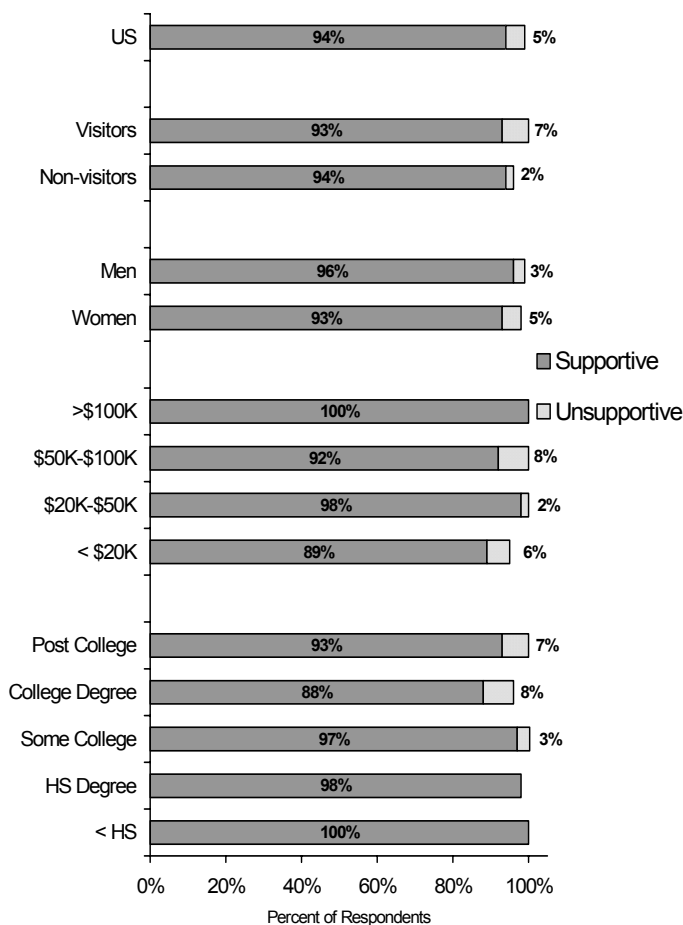
Among respondents familiar with the RFDP, 94 percent are either “somewhat” or “very supportive” of the program.<sup>2</sup> Support for the RFDP is consistently high among all major population subgroups (see Figure 1).

## C. Fee Policies and Preferences

All survey respondents were asked questions about their preferences for how entrance fees in National Park System units should be structured and how money received from fees should be allocated. Two basic options for how unit fees can be structured were presented to respondents: 1) visitors could pay a single, all-inclusive entrance fee and not be required to pay additional fees once inside a unit; or, 2) visitors could pay a lower entrance fee with additional fees for other services used once inside a unit. This latter option best reflects the fee structure in place today.

Nearly twice as many people (61% compared to 31%) throughout the United States prefer paying a lower

**Figure 1: Support for Fee Demonstration Program**



<sup>2</sup> A note of caution is required in this analysis due to the relatively small number of cases distributed in this analysis.

entrance fee with separate fees for additional services used within National Park System units, rather than paying one all-inclusive entrance fee (see Table 2).

**Table 2: Preferences for the Structure of Unit Fees**

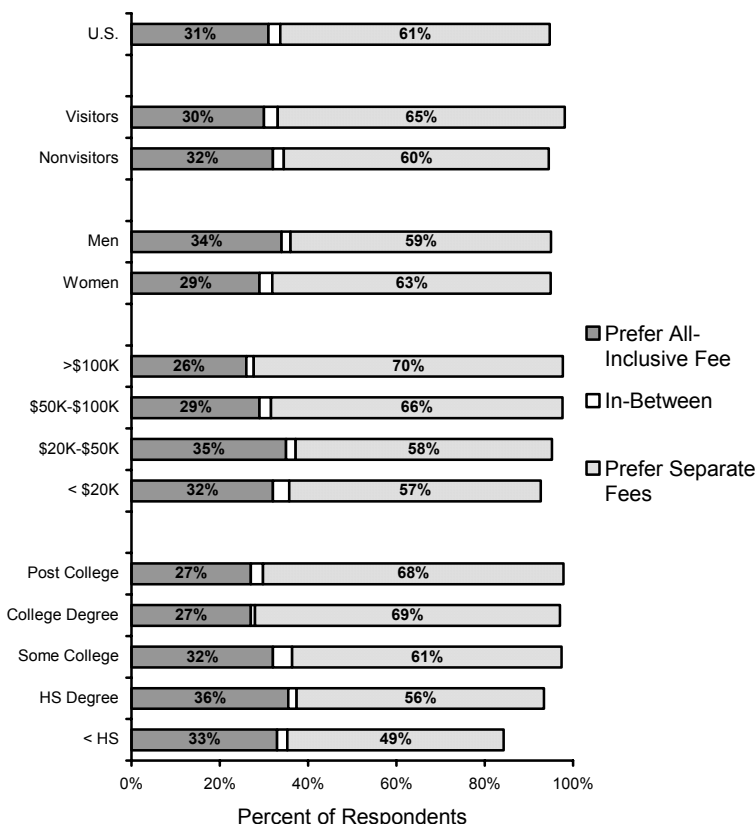
	U.S.	Visitors	Non-visitors
Strongly Prefer All-inclusive Fee	21%	18%	23%
Somewhat Prefer All-inclusive Fee	10%	12%	9%
No Preference Between Two Options	3%	3%	3%
Somewhat Prefer Separate Fees	20%	21%	20%
Strongly Prefer Separate Fees	41%	44%	40%

Not only do a greater proportion of people prefer the lower entrance fee option, strong preference for this option is greater than strong preference for a larger, all-inclusive entrance fee. Forty-one percent of the American public *strongly* prefers the lower entrance fee option compared to 21 percent of the public that *strongly* prefers the larger, all-inclusive entrance fee strategy.

Preference for the lower entrance fee option is relatively similar among visitors and non-visitors. Sixty-five percent of visitors and 60 percent of non-visitors prefer separate fees. Levels of strong preference are also similar among visitors and non-visitors.<sup>3</sup> In addition, the amount of preference for the separate fees option is consistent across all demographic groups, including gender, income, education, age, race, and ethnicity (see Figures 2a and 2b).

A main finding from this analysis is that while each population subgroup prefers the separate fees option, some notable variation does occur within subgroups. Levels of preference for lower entrance fees are somewhat related to income, with higher income individuals having greater

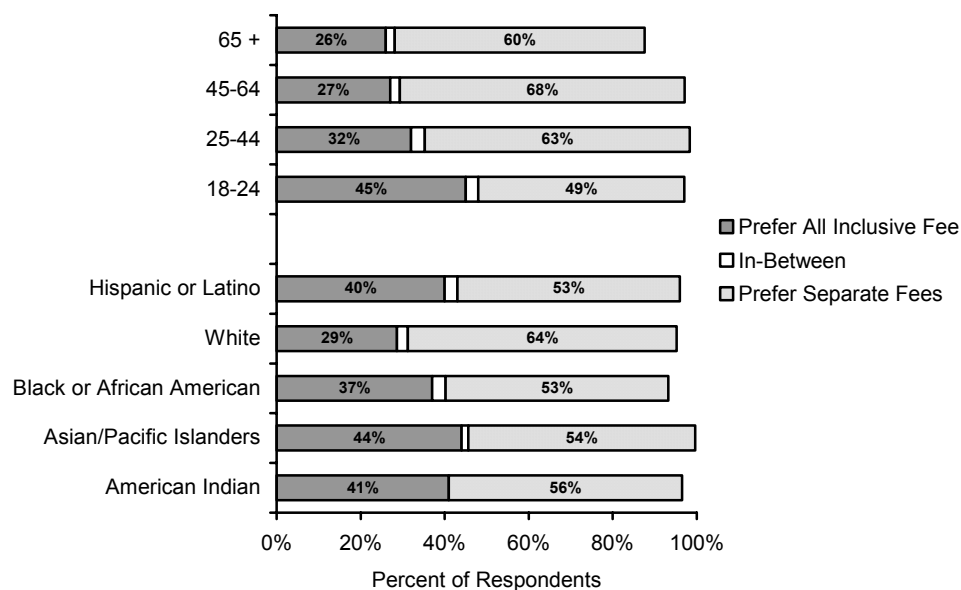
**Figure 2a: Preferences for the Structure of Unit Fees**



<sup>3</sup> Intensity is determined by comparing the proportion of respondents indicating “strong preference” to those who indicated “some preference.”

preference for the separate fees option than lower income individuals. Likewise, a larger proportion of individuals with higher education prefer the lower entrance fee than people with less education. Age is related to attitudes regarding fees as well. Preference for separate fees increases with age, with the exception of the highest age bracket. Levels of preference for the separate fees drop somewhat after 65 years of age. Finally, there appears to be a sharp contrast between whites and other racial and ethnic groups. Whites tend to have greater preference for the separate fees option than other groups of respondents.

Figure 2b: Preferences for the Structure of Unit Fees



#### D. Preferences for Managing Entrance Fee Money

Survey respondents were asked their opinions about how the National Park Service should manage entrance fee monies. Three possible approaches for managing entrance fee monies were presented to the public:<sup>4</sup>

- 1) All entrance fee money could stay within the National Park System unit where it is collected;
- 2) All entrance fee money could be sent to the NPS bureau headquarters with a percentage going back to the unit where it was collected and the remainder distributed to other units; or,
- 3) All entrance fee money could be sent to the U.S. Treasury with a relatively small percentage sent back to the NPS to cover costs of collecting the money.

After hearing the list of options, respondents were asked to indicate which method of managing entrance fee money they preferred. Survey findings indicate that the American public prefers to have entrance fees stay within the National Park Service (see Table 3). Beyond this, the public is divided over whether fee revenues should go to the National Park Service with a percentage coming back to individual units or revenues should stay entirely within the units where they are

<sup>4</sup> The options were presented to respondents in random order to avoid order-preference effects within the data.



collected. Six percent of the national public supports the option of sending all entrance fee money to the U.S. Treasury. Forty-five percent of the public supports keeping all entrance fee money within the unit where the fee is collected, and 47 percent support sending all entrance fee money to the NPS headquarters and having a percentage returned to the unit where it was collected, with the remainder distributed to other units. Visitors are slightly more supportive than non-visitors of having the money sent to NPS headquarters to later be redistributed (52% vs. 45%, respectively). Non-visitors are slightly more supportive than visitors of having all money collected from entrance fees stay within the unit where it was collected (47% vs. 41%, respectively).

**Table 3: Preference for How Entrance Fees Could be Managed**

	U.S.	Visitors	Non-visitors
All Money to US Treasury	6%	6%	6%
Money to NPS, % to Units	47%	52%	45%
All Money Stays within Unit	45%	41%	47%

## E. Visitor Experience with Unit Entrance Fees or Purchase of a Pass

As of the year 2000, 151 of the 384 National Park System units in operation charge a daily/weekly entrance fee. These fees range in cost from \$2.00 to \$25.00. This study was interested in better understanding how visitors perceive the value they received for the entrance fee money paid when they last visited a unit. Visitors were first asked if they paid an entrance fee when they last visited a unit. Those who did pay a fee were asked how much they paid and then asked to evaluate the experience they received within the unit relative to the amount they paid to enter.

In this study, slightly more than half of all visitors (51%) reported paying a daily or weekly entrance fee during their most recent visit to a National Park System unit, and 9 percent reported paying for an annual or lifetime pass (a pass that allows unlimited entry to any unit for one year or within one's lifetime) (see Table 4). One-third of visitors said they did not pay an entrance fee during their most recent visit to a National Park System unit. A small proportion of this group (2% of all visitors) said they paid for an entrance pass at an earlier time.

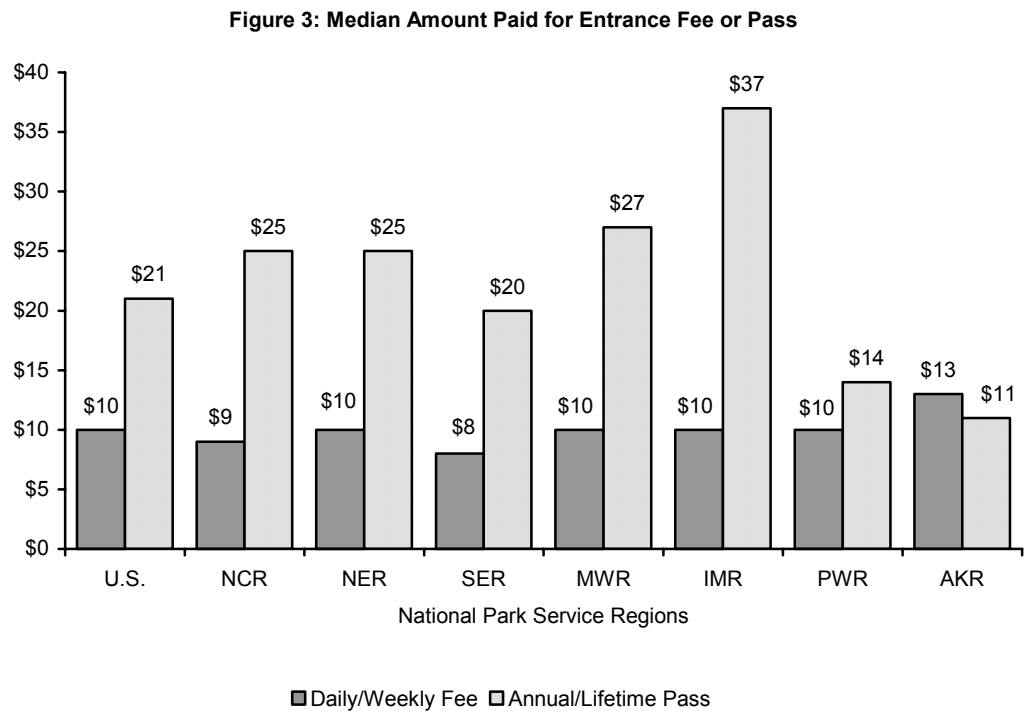
One group not captured in these statistics is people whose entrance fees were paid by another member of their party (e.g., the driver of a car). The respondent paid the fee in a collective sense but is not identified as a "fee payer" in this survey. It is impossible to estimate the number of people this limitation includes, but it is safe to assume that more than 51 percent of visitors (the proportion of visitors reporting having paid for a daily or weekly pass during their most recent visit to an National Park System unit) may be considered as having paid an entrance fee. However, rather than calculating a "price per visitor," only those respondents who reported actually paying a fee are considered for analysis.

**Table 4: Fee Payment**

	Total
Paid Fee at Earlier Time	2%
Paid for Annual/Lifetime Pass	9%
Paid Daily/Weekly Fee	51%

Across the seven National Park Service regions, visitors paying an entrance fee ranges from 19 percent in the National Capital Region to 58 percent in the Pacific West Region. Visitors paying for an annual or a lifetime pass during the most recent visit to a unit ranges from four percent of visitors in National Capital Region to 13 percent of visitors in the Intermountain Region and Pacific West Region.

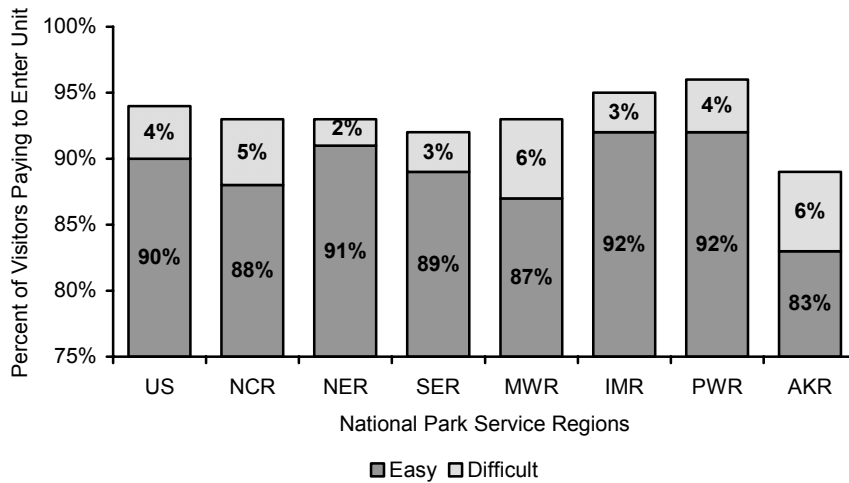
Visitors who paid a daily or weekly entrance fee during their most recent visit to a National Park System unit<sup>5</sup> paid a median amount of \$10 (see Figure 3). Visitors purchasing an annual or lifetime pass during their most recent visit paid a median amount of \$21.00 for the pass. On a regional level, visitors who paid a daily or weekly entrance fee paid a median amount between \$9.00 (National Capital Region) and \$13.00 (Alaska Region) to enter the unit they were visiting. Visitors purchasing an annual or lifetime pass paid a median amount between \$11.00 (Alaska Region) and \$37.00 (Intermountain Region) for the pass.



Ninety percent of people who recalled paying either a daily or weekly entrance fee or paying for an annual or lifetime pass during their most recent visit to a National Park System unit reported that the process for paying entrance and pass fees was either “very easy” or “somewhat easy” (see Figure 4). While the specific fee-paying process can differ from unit to unit, most units collect fees at a gate or entryway to the unit. Others allow early mail order or reservations. Some units accept all forms of payment (e.g., cash, check, or credit card) while others may accept only a few forms of payment (e.g., cash only). Four percent of visitors said the process was “difficult.” Regionally, between 83 percent (Alaska Region) and 92 percent (Pacific West Region) of visitors who paid to enter a unit said the process of paying was “easy.”

<sup>5</sup> Only visitors who had paid a fee were asked to recall how much they had paid. A summary of this data is presented, but it must be noted that recall error as well as small N size increases the margin of error for these questions.

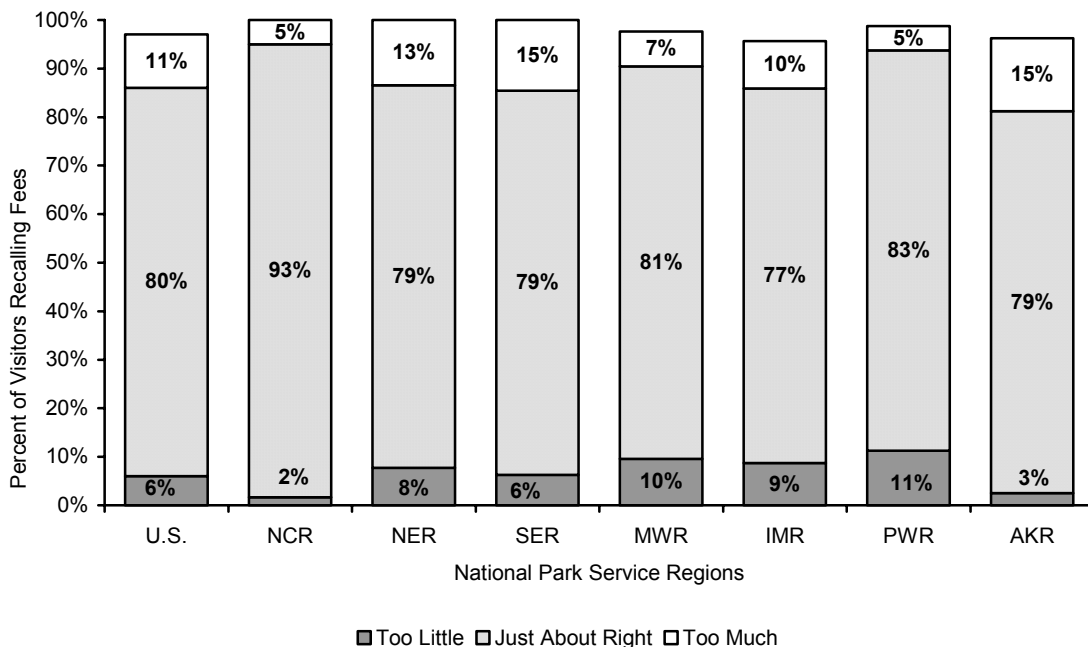
**Figure 4: Ease of Paying for Fees and Pass**



Visitors recalling how much they paid for a daily or weekly entrance fee or for an annual or lifetime pass during their last visit to a unit were asked if they thought this cost was “too much,” “too little” or “just about right.” This question was consistent with other research conducted with unit visitors. Nationally,

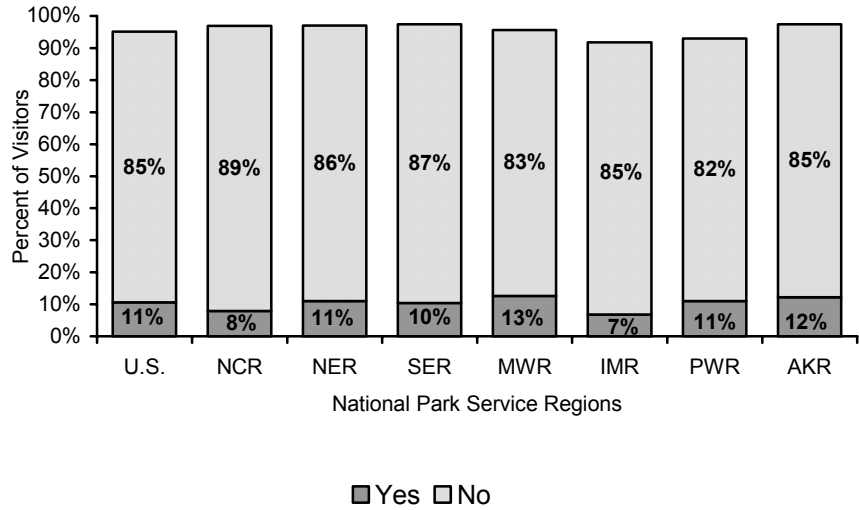
80 percent of visitors who recall paying an entrance fee or paying for an annual/lifetime pass believe the amount they paid was just about right relative to their experience (see Figure 5). Six percent believe they paid too little to get into the unit they visited, while 11 percent of those paying an entrance fee believe they paid too much to get into the unit. These figures are relatively consistent across all National Park System regions, except for National Capital Region, where the highest percentage of visitors (93%) who paid to get into a unit believed the amount they paid was just about right given their experience within the unit.

**Figure 5: Amount Paid vs. Benefits Received**



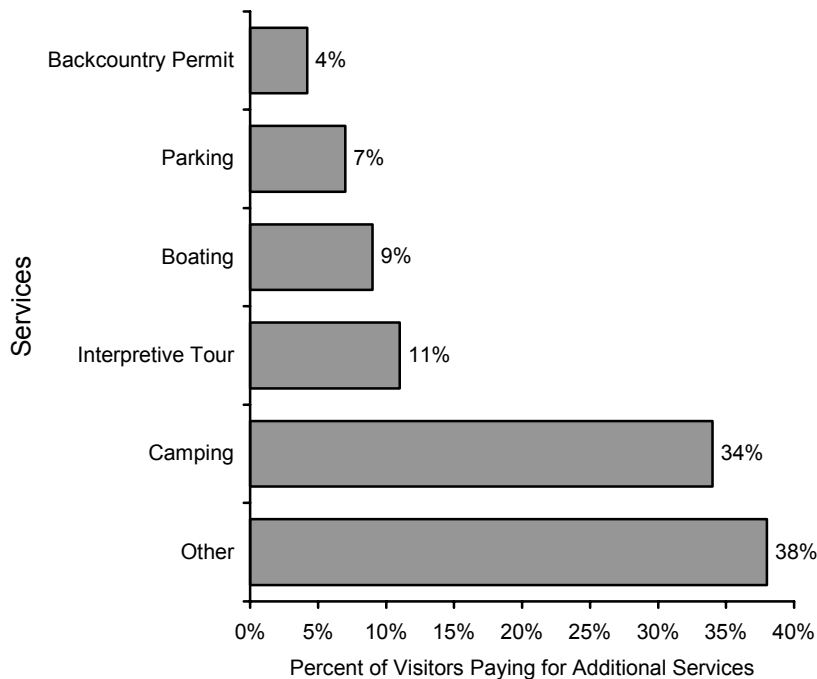
In many of the National Park System units, access to specific services within a unit may require an additional fee to be paid. Of those who paid fees, 11 percent paid additional fees for services used within the unit they were visiting (see Figure 6).

**Figure 6: Did Visitor Pay Additional Fees?**



The proportion of visitors paying additional fees ranges from seven percent (Intermountain Region) to 13 percent (Midwest Region). Visitors paid additional fees for services such as camping, interpretive tours, entertainment such as movies, plays or other performances, boating, parking, and backcountry permits (see Figure 7).

**Figure 7: Additional Fees Paid for Services**

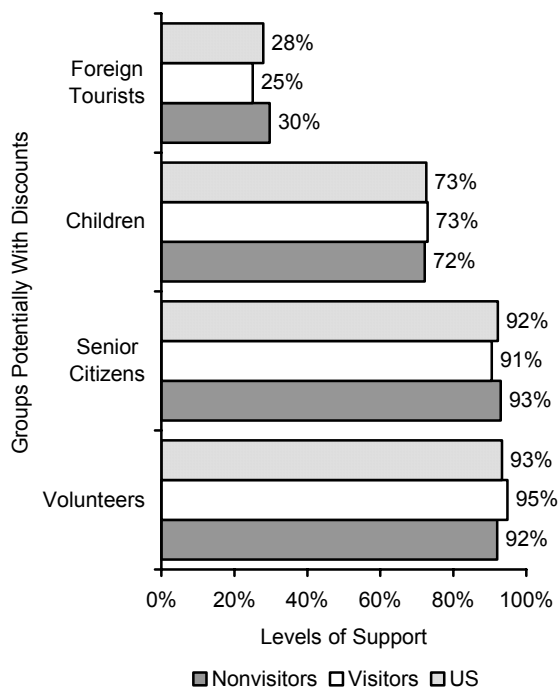


## F. Fee Discounts

Another aspect of the structuring of fees within National Park System units involves the option of offering discounts to specific groups of people. Currently, senior citizens are eligible for a discounted pass fee. This survey examined levels of support for discount programs being offered to four types of people: volunteers, senior citizens, children (under 18), and foreign tourists. This series of questions was presented to all respondents.

People throughout the nation are very supportive of creating discount fee programs for specific groups of people. Discount programs for unit volunteers and for senior citizens are supported by virtually all respondents (US-93% and 92% support, respectively) (see Figure 8). Almost three-quarters of the national population (US-73%) support establishing discount programs for children. Fewer people support a discount program for international visitors (28%). Levels of support are consistent across visitors and non-visitors alike.

Figure 8: Support for Discount Programs



## G. Are Fees a Barrier to Visitation?

According to the 2000 NPS Comprehensive Survey of the American Public, at least one-third of adults in the United States have visited a National Park System unit within the previous two years. To better understand why the other two-thirds of adults in the United States have not visited units within the past two years and why people who do visit do not visit more frequently, respondents were asked a series of questions probing potential barriers to visiting. Barriers are factors limiting one's interest and/or ability to visit units more often. Early in the survey, non-visitors were asked in an open-ended question format why they have not visited a National Park System unit within the previous two years. Later in the survey, all respondents were presented with a list of 13 statements presenting potential barriers to visitation and asked in a closed-ended question format whether they agreed or disagreed with each statement.

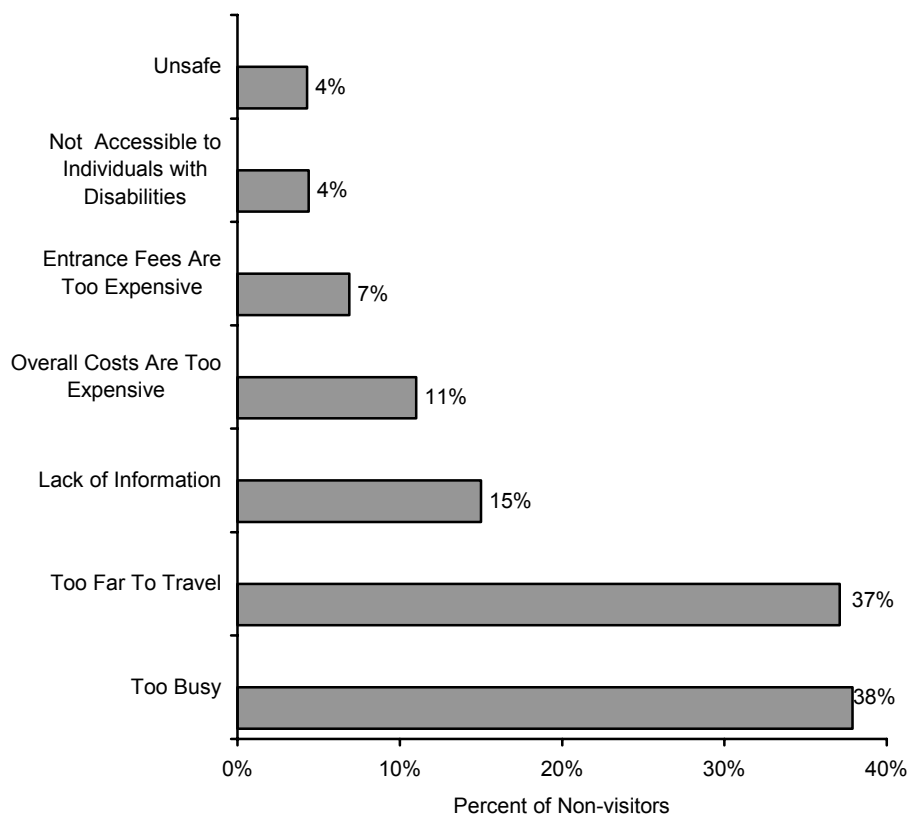
Finally, all respondents were asked in an open-ended question format what the National Park Service could do to encourage them to visit National Park System units more often. This section examines the topic of fees within the context of these three sections of the survey.

## 1. Reasons Non-visitors Give for Not Visiting National Park System Units (Open-ended Responses)

Two-thirds of survey respondents had not visited a National Park System unit within the previous two years. Fifteen percent of all respondents reported never having visited a unit in their lifetime. Non-visitors were asked why they have not visited a unit within the past two years. Respondents were allowed to provide more than one answer to this question, and interviewers recorded all responses verbatim. These responses were later categorized and coded appropriately. The reason most often cited by non-visitors for not visiting is that they are “too busy” to visit a National Park System unit (see Figure 9).

Thirty-eight percent of non-visitors offered this reason for not visiting. An almost equal proportion of respondents (37%) said “distance” is the reason they do not visit more often. National Park System units are considered too far from the homes of many respondents. Fifteen percent of non-visitors said they lack information about the types of activities offered in the units. Eleven percent of non-visitors cited overall costs of traveling to units as too expensive. Seven percent said entrance fees were too expensive. Four percent of non-visitors have not visited units recently because they think the units are not accessible to individuals with disabilities, and another four percent of non-visitors believe National Park System units are unsafe places to visit.

Figure 9: Reasons Nonvisitors do not visit NPS Units



Thus, without prompting, non-visitors most often identified personal factors for not visiting National Park System units. These personal factors include being too busy or having to travel too far to get to a unit. Structural factors within the control of the National Park Service fall much further down the list. Concern for entrance fees being too expensive falls fifth within this list and is offered as a reason for not visiting by seven percent of non-visitors.

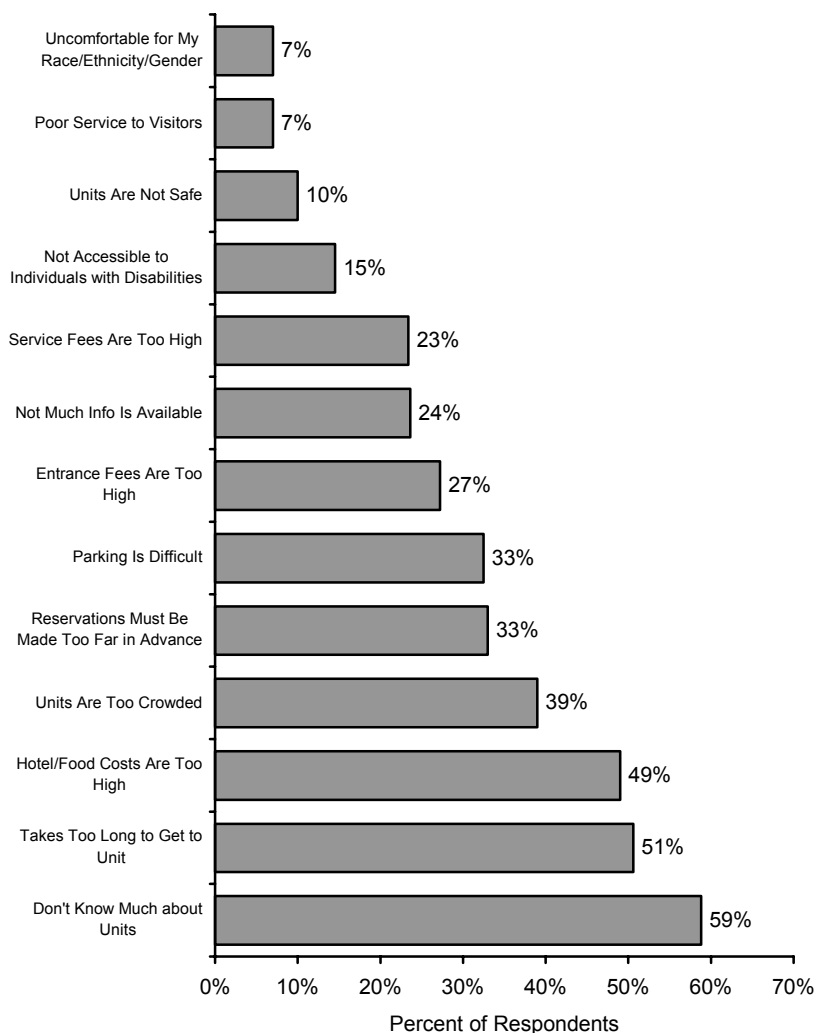
## 2. Barriers to Visitation (Close-ended Responses)

All survey respondents (visitors and non-visitors) were presented with a list of 13 statements and asked if they agreed or disagreed with each statement. The statements reflect potential reasons for people not visiting National Park System units more often. More than half of survey respondents agreed with two of the 13 statements. The other 11 statements received agreement from less than half of survey respondents. The two statements agreed to by more than half of respondents are: “I just don’t know that much about National Park System units” (59%) and “It takes too long to get to National Park System units from my home”(51%) (see Figure 10). Another statement was agreed to by almost half of respondents.

Forty-nine percent of respondents agreed that “Other costs of visiting National Park System units, such as hotel and food costs, are too high.” ‘Other costs’ is understood by respondents as not including entrance fees or fees for additional services.

Less than a majority of respondents agreed with the following statements: “National Park System units are too crowded” (39%), “Reservations have to be made too far in advance” (33%), “It is difficult to find a parking space within National Park System units” (33%), “Entrance fees are too high” (27%),<sup>6</sup> “There isn’t that much information available about what to do once inside a

**Figure 10: Barriers to Visiting NPS Units for All Respondents**



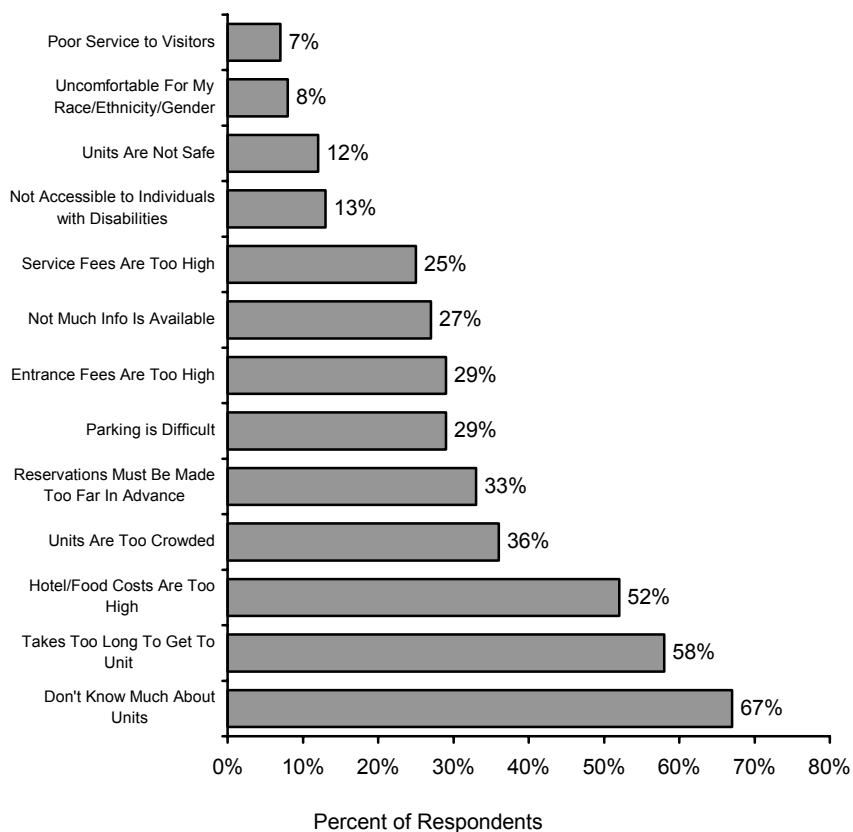
<sup>6</sup> In the closed-ended question format, 29 percent of non-visitors agreed with the statement, “Entrance fees are too high.” In comparison, seven percent of non-visitors identified fees as a reason for not visiting National Park System units in the open-ended question discussed earlier. The fact that more non-visitors agree with the statement regarding high entrance fees than offer this response to the earlier question is a function of the question format. In

National Park System unit” (24%), “Other National Park Service fees are too high” (23%), “National Park System units are not accessible to the physically disabled” (15%), and “National Park System units are not safe places to visit” (10%). Seven percent of respondents agreed that, “National Park Service employees give poor service to visitors,” and seven percent agreed, “National Park System units are uncomfortable places for people of my race, ethnicity, or gender to be.”

In summary, agreement that entrance fees are too high ranks seventh within the list of 13 statements presented to all respondents. Just over one-quarter of all respondents (27%) expressed agreement with this statement.

Three of the 13 statements probing potential barriers to more frequent visitation of National Park System units are agreed to by more than half of the non-visitor population (see Figure 11). Sixty-seven percent of non-visitors agree that, “I just don’t know that much about National Park System units.” Fifty-eight percent of non-visitors agree, “It takes too long to get to any National Park System units from my home.” Fifty-two percent believe, “Other costs of visiting National Park System units, such as hotel and food costs, are too high.” Overall, the relative ordering of agreement to the entire list of 13 statements is similar to that of the entire respondent population. Agreement that “Entrance fees are too high” ranks seventh within the list of 13 barriers non-visitors at 29 percent.

**Figure 11: Barriers to Visiting NPS Units for Non-Visitors**



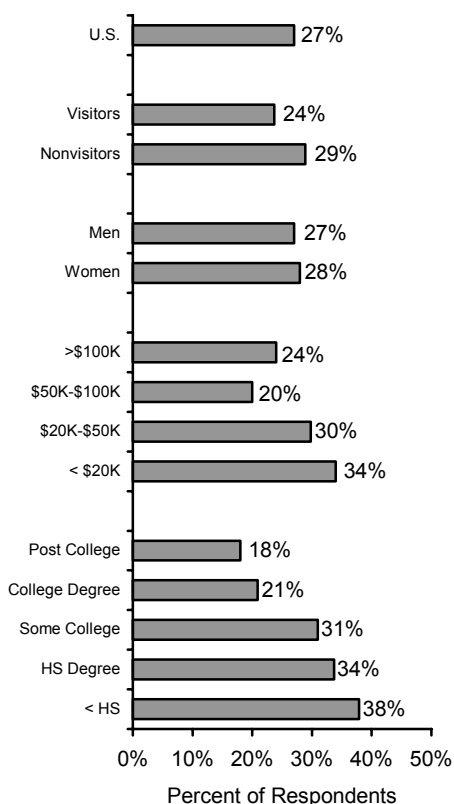
the first question, people are asked why they personally do not visit National Park System units. The second question asks respondents to agree or disagree with a statement provided by the interviewer. Thus, the second question cues respondents to a potential barrier to participation that they may not have originally thought of themselves.



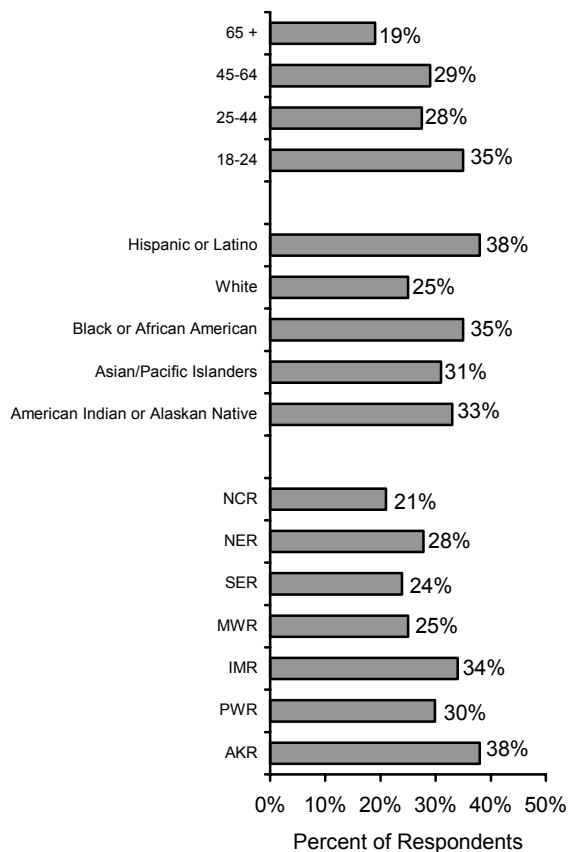
### 3. The Impact of Entrance Fees on Population Subgroups

There is differential agreement with the statement, “Entrance fees are too high,” among various population subgroups (see Figures 12a and 12b). People with lower household incomes are more likely to agree with this statement than people with higher household incomes. One-third (34%) of people with household incomes of less than \$20,000 per year agree that, “Entrance fees are too high,” while 24 percent of people with household incomes over \$100,000 agree with this statement.

**Figure 12a: High Entrance Fees Are a Barrier to Visitation (Population Subsets)**



**Figure 12b: High Entrance Fees Are a Barrier to Visitation (Population Subsets)**



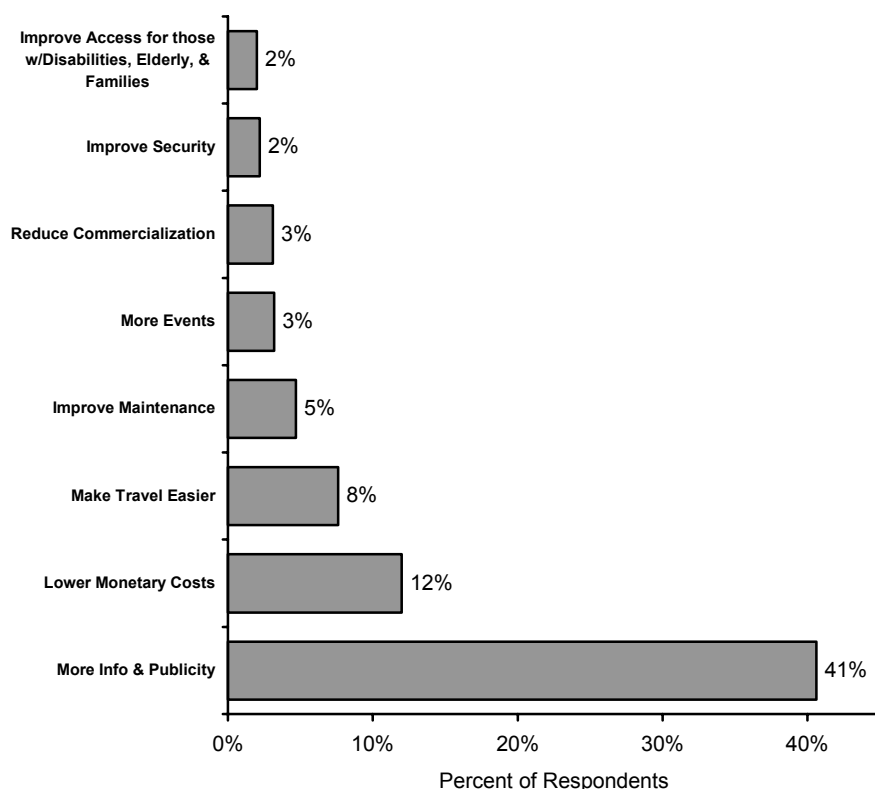
There is an inverse relationship between education and perceptions that entrance fees are too high. As education increases, the perception that entrance fees are too high decreases. Thirty-eight percent of people with less than a high school education agree that entrance fees are too high, compared to 34 percent of people with a high school education, 31 percent of people with some college, 21 percent of people with a four-year college degree, and 18 percent with post-college education. Age is also a factor in this analysis, as more than one-third (35%) of people 18 to 24 years of age agree that entrance fees are too high, compared to just 19 percent of people 65 years of age and older. Finally, Hispanics and African Americans are more likely than whites to agree that entrance fees are too high. Thirty-eight percent of Hispanics, 35 percent of African

Americans, and 25 percent of whites agree with this statement. This is consistent with the point made earlier noting that whites are more supportive of the separate fees option than other racial and ethnic groups.

## H. What Can the National Park Service Do to Encourage Visitation?

Following the section containing closed-ended questions asking about potential barriers to visitation, an open-ended question was asked of all respondents: “In your opinion, what is the most important thing the National Park Service can do to encourage you to visit units within the National Park System?” The responses were grouped and recoded into discrete categories and summarized. It is interesting to see the extent to which fee-related issues were raised in this

Figure 13: How Can NPS Encourage Visitation?



section of the survey.

When asked specifically about how the NPS can encourage people to visit more often, 41 percent of the public replied that the NPS needs to provide more information and publicity (see Figure 13). The second most popular suggestion is that the overall monetary costs of visiting National Park System units including entrance fees, fees for additional services once in the units be lowered, and free or lower cost transportation could be provided (12%).

Eight percent of the public suggested

making travel to National Park System units easier, including having units closer to where people live, improving the reservation system, and making more lodging available within National Park System units. Five percent of the public recommended keeping units cleaner, making more benches available to people, providing more restrooms, and improving general maintenance. Smaller numbers of people suggested having more events such as fairs and exhibits in the units (3%), reducing commercialization and overcrowding within the units (3%), improving security (2%), and improving access for special groups of people such as individuals with disabilities, the elderly, and families (2%).

### III. MULTIVARIATE ANALYSIS

#### A. Introduction

The focus of this section of the report is to understand whether entrance fees limit visitation overall as well as more frequent visitation to National Park System units. This section moves beyond a descriptive level of analysis by adopting a multivariate approach<sup>7</sup> to investigate the effect of fees on park visitation. The analysis presented here focuses on two sets of questions within the survey: 1) an open-ended question asking non-visitors why they do not visit National Park System units and, 2) a closed-ended question asking all respondents to agree or disagree with the statement, “Entrance fees are too high.” This section of the report highlights agreement with the statement, “Entrance fees are too high,” among different population subgroups.

#### B. Profile of Respondents

An initial look at the rank order of agreement for statements outlining potential barriers to more frequent visitation to National Park System units suggests that entrance fees are not a barrier for all respondents, but are a barrier to visitation for a few subgroups of people. While three-quarters of all respondents do not agree that entrance fees are too high, there is widespread agreement with this statement within specific population subgroups. This section focuses on the specific population subgroups more likely to agree that entrance fees are too high.

We can hypothesize that the lack of availability of resources, especially income, provides the best explanation for why some people agree that entrance fees are too high. Lower-income people are less able to afford entrance fees and therefore more likely to agree that entrance fees are too high. Higher-income respondents are more able to afford unit entrance fees and less likely to consider entrance fees to be too high. Race, ethnicity, and education may also be significantly related to the perception that entrance fees are too high, as these demographic characteristics are often closely related to income (see Census 2000 data).

Table 5 profiles non-visitors who identified high entrance fees as one reason for not visiting National Park System units more frequently (drawn from the open-ended question). In this table, non-visitors are divided between people who have never entered a unit in their lifetimes and people who have visited sometime in their lives, but not during the previous two years (see Methodology for a full explanation of visitor status). Because the number of respondents captured in this table is quite small, the analysis should be considered more in descriptive terms rather than for its precise analytical value.

Two pieces of information are presented in Table 5: 1) the proportion of subgroup populations never visiting the units and not visiting units within the previous two years that listed high entrance fees as a reason for not visiting; and 2) a measure of the strength of the relationship with specific subpopulations.

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<sup>77</sup>A multivariate approach involves simultaneously examining the influence of multiple causes on a single outcome.

In this situation, the statistic used is “Cramer’s V.” Cramer’s V reflects the strength of association between two nominal level variables. Larger Cramer’s V values indicate a stronger association. An asterisk (\*) next to Cramer’s V indicates that the measure is statistically significant and therefore reliable.

**Table 5: Profile of Non-visitors Stating that Entrance Fees Are Too High.**

	Never visited	Cramer’s V	Visited but not in last 2 years	Cramer’s V
<b>Total</b>	9%		2%	
<b>Race</b>		.029		.014
White (incl. Hispanic)	8%		2%	
Black or African American	10%		3%	
<b>Ethnicity</b>		.057	---	.050*
Hispanic or Latino	5%			
<b>Gender</b>		.005		.005
Female	9%		2%	
Male	9%		2%	
<b>Age</b>		.086		.064*
18 – 34	8%		1%	
35 – 59	8%		2%	
60 +	14%		4%	
<b>Income</b>		.211*		.100*
\$0 -- \$19.9K	17%		4%	
\$20K -- \$49.9K	5%		2%	
\$50K -- \$99.9K	3%		1%	
\$100K +	---		---	
<b>Education</b>		.301*		.082*
Less Than HS	28%		4%	
HS Degree	10%		3%	
Some College	3%		2%	
College Degree	3%		1%	
Post College	---		---	

\* Asterisk indicates that results are statistically significant and carry explanatory power. The absence of an asterisk indicates that results are not significant.

Table 5 demonstrates that a significant association exists between high entrance fees limiting visitation and income and education for the population that has never visited a National Park System unit. These associations are of moderate strength, indicating that people of lesser income and lesser education are more likely to believe that high entrance fees are a barrier to their visiting a unit.

Considering the population that has visited a National Park System unit sometime in their life, but not in the last two years, ethnicity, age, income, and education are significantly related to whether one thinks that high entrance fees keep them away from parks. However, the strength of association for each of these demographic subgroups is quite weak.

This first analysis focuses solely on the open-ended question probing non-visitors for reasons they have not visited National Park System units. The analysis turns now to the closed-ended question presented to all respondents. Visitors and non-visitors alike were asked in a closed-ended question format if they perceive high entrance fees to be a barrier to visitation. In this analysis, we look at variation in response by demographic subgroups including visitors and non-visitors.

Table 6 presents the results of this next analysis. In this table, over one-quarter (27%) of all respondents agree that entrance fees are too high. The breakout of specific responses can be found in the *2000 National Park Service Comprehensive Survey of the American Public Survey Technical Report*. For the demographic groups presented, this percentage of agreement ranges from a high of 38 percent (Hispanics and respondents with less than a high school education) to a low of 17 percent (people with post-college education). Race, ethnicity, age, income, education, and visitor status are all significantly related to the perception that entrance fees are too high. Looking at the strength of these relationships, age is weakly<sup>8</sup> related to this perception. Race<sup>9</sup>, ethnicity, income, education, and visitor status are moderately related to this perception. When reading this report, it is important to note that demographics may have an interactive effect as to whether one believes a high entrance fee is a barrier to visitation. Race may interact with the educational opportunities afforded to one group or another, for example. In this analysis, Hispanics, lower income respondents, and people with less education express the highest levels of agreement that entrance fees are too high.

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<sup>8</sup> Gamma values range from -1 to +1, where sign indicates direction and number indicates magnitude of association. Values from 0 to .25 are considered weak, values from .25 to .50 are considered moderate, values from .50 to .75 are considered strong, and values from .75 to 1 are considered very strong.

<sup>9</sup> Cramer's V is used for nominal level data while Gamma is used for ordinal level data. Value range interpretation for Cramer's V is similar to that for Gamma.

**Table 6: Profile of Survey Respondents Saying High Entrance Fees Are a Barrier to Visitation.**

	<b>High Entrance Fees are a Barrier</b>	<b>Gamma</b>	<b>Cramer's V</b>
<b>Total</b>	27%		
<b>Race</b>			.148*
White, incl. Hispanic	25%		
African American	34%		
<b>Ethnicity</b>			.108*
Hispanic	38%		
<b>Gender</b>			.024
Female	27%		
Male	27%		
<b>Age</b>		.089*	
18 – 34	29%		
35 – 59	29%		
60 +	22%		
<b>Income</b>		.238*	
\$0 -- \$19.9K	34%		
\$20K -- \$49.9K	30%		
\$50K -- \$99.9K	21%		
\$100K +	23%		
<b>Education</b>		.249*	
Less Than HS	38%		
HS Degree	34%		
Some College	30%		
College Degree	21%		
Post College	17%		
<b>Visitor Status</b>			.151*
Visitor	24%		
Non-visitor	29%		

\* Asterisk indicates that results are statistically significant and carry explanatory power. The absence of an asterisk indicates that results are not significant.

## C. Multivariate Logistical Regression Analysis

Regression analysis allows researchers to probe the nature of relationships between causes and effects, also known as independent and dependent variables. For this analysis, the high fees question was collapsed into a variable reflecting whether people agree or disagree that entrance fees are too high. Only the variables that have already been shown to be significantly associated with the dependent variable of “agreement that entrance fees are too high” are included in this analysis. The independent variables included in this analysis are income, education, ethnicity, race (dummy-coded for whites and African Americans), age, and visitor status.

In the equation, race/w,<sup>10</sup> education, income, age, and visitor status make significant contributions to variation in agreement that entrance fees are too high (see Table 7).

**Table 7: Binary Logistical Regression Analysis of Relationship Between Demographic Variables and High Entrance Fees Being a Barrier to Visitation.**

	<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>Sig</b>	<b>Exp(B)</b>
<b>Black</b>	-.020	.202	.009	.923	.981
<b>White-Hispanic</b>	.377	.171	4.838	.028	1.457
<b>Ethnicity</b>	-.195	.160	1.494	.222	.823
<b>Education</b>	.123	.023	28.894	.000	1.131
<b>Income</b>	.000	.000	9.273	.002	1.000
<b>Age</b>	.007	.003	5.383	.020	1.007
<b>Visitor status</b>	.368	.103	12.266	.000	1.445
<b>Constant</b>	-1.891	.356	28.195	.000	.151

Model Chi-square: 139.316\*\*\*

-2 Log Likelihood: 2713.675

Cox & Snell R Square: .059      Nagelkerke R Square: .083

Income is significantly related to the perception that entrance fees are too high; however, the beta for income is less than 0.001, meaning that income makes a weak contribution to concern about entrance fees. The more important finding from this analysis is that the contribution of the five significant demographic variables to explaining concern for high entrance fees is very small. R square reflects the percent contribution to the independent variable. In this analysis, the Cox & Snell R Square is 0.059 and the Nagelkerke R Square is 0.083. The demographic variables explain between six and just over eight percent of the variance in the perception that fees are a barrier to visitation. Other factors must be making significant contributions to concern over high entrance fees.

<sup>10</sup> “Race/w” refers to people labeling themselves as white and/or Hispanic.

## D. Alternative Explanations

An examination of the impact of entrance fees on visitation leads to the conclusion that while there is weak evidence that some population subgroups are more likely to perceive that entrance fees are too high, this perception is not a function of respondent demographics. Twenty-seven percent of all respondents indicated that they think entrance fees are too high. The next challenge is to understand why some respondents hold this perception. One approach to this task involves looking at the relationship between the perception that entrance fees are too high and agreement about other concerns identified within the survey. Factor analysis is a statistical technique that allows for the modeling of underlying dimensions within a data set. The test allows for an understanding of whether specific pieces of information contained within variables are meaningfully related to other pieces of data. For this analysis, a factor analysis was conducted with the total list of 13 statements about potential barriers presented to respondents. The results of the factor analysis are found in Table 8.

**Table 8: Factor Analysis of Potential Barriers to Visitation:**

	Factor and Factor Weights			
	1	2	3	4
Entrance fees are too high	<b>.881</b>	.101	.136	.080
Service fees are too high	<b>.877</b>	.079	.178	.040
Hotel/food costs are too high	<b>.602</b>	.219	-.004	.312
NPS units are not safe places to visit	.023	.249	.415	.291
Takes too long to get to NPS unit	.088	.140	.080	.687
NPS units are too crowded	.046	.805	.077	-.033
It is difficult to find parking	.079	.720	.170	.101
Units are not accessible to individuals w/ disabilities	.082	.212	.550	.071
Respondent doesn't know much about units	.103	-.004	.048	.736
Reservations must be made too far in advance	.209	.700	.068	.084
NPS employees give poor service	.188	.004	.746	.028
Units are uncomfortable for people of my race/ethnicity/gender	.012	.046	.689	.108
There isn't much info on what to do				

The findings have direct relevance for the question being investigated. The strongest underlying dimension within the data is manifest in Factor 1. Agreement with the statement “entrance fees are too high” clusters with agreement that “hotel and food costs are too high,” as well as agreement with the statement “service fees are too high.” This dimension within the data can be best thought of in terms of a broad perception that it is costly to visit National Park System units. This suggests that it is the perception that the cost of the entire package, rather than any one specific cost, is too high that creates a barrier to more frequent visitation of park units.



## E. Conclusion

The central question behind the multivariate analysis section of this report is: “Do fees limit visitation and/or more frequent visitation of National Park System units?” The answer to this question needs to be set against a background of the number of units people actually have to pay an entrance fee to enter and the number of survey respondents who recall paying money to enter an unit. First, at least 151 National Park System units require an entrance fee. Second, there are limitations on collecting information from people who pay a fee to enter a park in a survey instrument such as was used in this research. According to the survey, 51 percent of recent visitors paid a daily or weekly entrance fee during their last visit to a unit. Another nine percent of visitors recall paying for an annual or lifetime pass during their last visit to a unit. The survey data do not record information about people who purchased an annual or lifetime pass during a visit previous to their last visit. Nor do the survey data say anything about people who entered a unit with someone else who actually paid the entrance fee. Finally, survey data do not speak to fees paid in “major” units versus fees paid in “minor” units. Hypothetically, perceptual differences could occur relative to the type of unit a visitor was visiting.

Recognizing these limitations, it is important to highlight that only 11 percent of people paying a daily or weekly entrance fee and four percent of people who purchased an annual or lifetime pass think they paid too much for the experience they received during this visit. Most people who paid fees on their last visit think fee levels are just about right for the value received.

As the review of data makes clear, the perception that entrance fees are too high are shared by some non-visitors and some visitors. In an open-ended question format, non-visitors tend to list personal factors such as not having enough time or having to drive too far as the most important reasons why they do not visit National Park System units. High entrance fees fall much further down the list. When prompted directly to say whether or not high entrance fees are too high, about one-quarter (27%) of all respondents agree with this statement. Again, this concern is supported by fewer people than express concern for other potential barriers to more frequent visitation.

The multivariate analysis shows that perceptions of entrance fees being too high are somewhat associated with some population subgroups, including people with lower household incomes and people with lower education levels. Some associations with population subgroups are statistically significant and, in some cases, the strength of these relationships reaches moderate proportions. However, the regression analysis shows that demographics are weakly related to the perception that entrance fees are too high. The perception that entrance fees are too high is linked to a broader perception among the public that other costs associated with visiting National Park System units are also too high. Agreement that entrance fees are too high, food and hotel costs are too high, and fees for additional services once inside the park system are too high combine in people’s minds as a broader concern. Fifteen percent of all respondents agree that all three types of expenses are too high.

It can be concluded that high entrance fees themselves are not strongly associated with any single population subgroup. While there is some evidence that elements of the initial hypothesis about the relationship between income and concern for high entrance fees holds true, this

relationship does not prove to be a significantly limiting factor. The broader perception of the cost of the package of fees associated with a visit, including the cost of entering a unit, the cost of additional services once inside a park, and the costs of food and lodging combine in people's minds. It seems likely that these overall trip costs are a more important barrier to visits than entrance fees by themselves.

## APPENDIX A

### A. Overview

The National Park Service commissioned the Social Research Laboratory at Northern Arizona University to conduct the bureau's first comprehensive survey of the American public. Findings from this survey are reported in the *2000 National Park Service Comprehensive Survey of the American Public Technical Report*. Survey data were collected from a random sample of respondents to provide a national perspective of people's relationships with the National Park Service and National Park System units. Two data sets were developed from the collected information. The two data sets include a data set reflecting attitudes, opinions, and behaviors of the adult population of the United States and a regional set that allows for comparisons of information across the seven National Park System regions. For purposes of this research, a National Park System visitor is defined as an individual who has entered a National Park System unit within the previous 24 months of being contacted for this survey and is able to accurately identify the unit entered. Unit names were verified against a list of units provided by the National Park Service. National Park Service employees and members of their immediate family were screened out of the survey.

Survey data were obtained by interviewing adult members of 3,515 households in the United States. Respondents were randomly selected within the households using the most recent birthday method of respondent selection. The original sample frame was purchased from Genesys Marketing Systems of Fort Washington, Pennsylvania. The sample frame was constructed using standard Random Digit Dialing (RDD) procedures and purged for nonworking telephones and business lines. Data collection was completed between February 21, 2000, and May 21, 2000.

### B. Survey Limitations

All survey research statistics are subject to sampling error as well as non-sampling error, such as survey design flaws, reporting errors, data processing mistakes, and under-coverage. The Social Research Laboratory has taken steps to minimize errors by implementing quality control and edit procedures to reduce errors made by respondents, interviewers, and coders. Ratio-estimation to independent age-gender-race-ethnicity population controls partially corrects for bias attributable to survey under-coverage. However, biases in the estimates are unavoidable when missed people have characteristics different from those of interviewed people in the same age-gender-race-ethnicity group.

Table I-1 reports completion rates for the survey in each of the seven National Park Service regions. Cooperation rates for this survey range from 73 percent to 95 percent. These figures are substantial for a survey of this scope and magnitude, and suggest high reliability of survey results. Tables I-2 and I-3 report the number of unweighted and weighted surveys completed for each data set. Weighted survey totals are derived after the ratio-estimation model is applied to the data. Because different ratio-estimation models have been applied to the national and regional data sets, the total number of weighted cases varies between the two sets.

	NCR	NER	SER	MWR	IMR	PWR	AKR	Average
Cooperation Rates	73%	85%	90%	86%	90%	95%	95%	88%

	National
Unweighted	3515
Weighted	3515

	NCR	NER	SER	MWR	IMR	PWR	AKR
Unweighted	500	501	501	501	502	502	508
Weighted	511	485	510	505	517	503	509

The margin of error associated with national-level data in this study is +/- 1.7 percent at a 95 percent confidence level. The margin of error associated with data from each of the National Park System regions in this study is +/- 4.5 percent at a 95 percent confidence level. “Margin of error” is a statistical term that describes the probable difference between interviewing everyone in a given population and interviewing a sample drawn from that population. The percentages obtained in telephone surveys are estimates of what the percentage would be if the entire population had been surveyed. Thus, if 50 percent of those in the sample are found to agree with a particular statement and the associated margin of error is +/- 4.5 percent, the actual percentage of agreement in the population from which the sample is drawn would be between 45.5 percent and 54.5 percent (50% +/- 4.5%). The 95 percent confidence level means that this +/- 4.5 percent “margin of error” would occur in 95 out of 100 samples of this size drawn. Sampling error increases as sample size is reduced. This must be kept in mind when comparing the responses of subgroups within the sample (e.g., men vs. women). Smaller numbers of respondents on any question translate into higher margins of error.

For this survey, a comprehensive list of National Park System units was provided by the National Park Service and used to verify that respondents actually visited a National Park System unit within the past two years. Fourteen units were inadvertently omitted from this list. After thorough review, these missing units were determined to be low-visitation units. The impact of their omission is insignificant to the larger goal of determining the proportion of the American

public that had visited a National Park System unit within the previous two years. In addition, a small number of units listed by respondents were later determined to be park headquarters or offices. Thirteen respondents out of 3,515 named these units as the location of their last visit. The impact of their classification as visitors is also insignificant to the larger goals of the research project.

One final limitation to note is that as a comprehensive survey of the American public, this survey does not include the viewpoints of international tourists who may make up a relatively large proportion of visitors to some National Park System units.

### **C. Multivariate Analysis**

Regression analysis allows researchers to further probe the nature of relationships between dependent and independent variables. Regression analysis is most effective when both the dependent and independent variables are in interval level format. A logistical regression analysis provides the robust analytical power of regression analysis for a dichotomous dependent variable. For this analysis, the high fees question was collapsed into a dichotomous variable reflecting whether people agree or disagree that fees are a barrier to participation. Only the variables that have already been shown to be significantly associated with the dependent variable of concern for high fees are included in this analysis. The independent variables included in this analysis are income, education, ethnicity, race (dummy-coded for whites and African Americans), age, and visitor status (visitor or non-visitor).

## About the NPS Social Science Program—

The role and function of the NPS Social Program are to:

- provide leadership and direction to the social science activities of the NPS,
- coordinate social science activities with other programs of the NPS,
- act as liaison with the USGS Biological Resources Division and other federal agencies on social science activities,
- provide technical support to parks, park clusters, support offices and regional offices, and
- support a program of applied social science research related to national research needs of the NPS.

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