

AN ABSTRACT OF THE THESIS OF

Jessica E. Leahy for the degree of Master of Science in Forest Resources presented on June 8, 2001. Title: Effects of the Recreational Fee Demonstration Program on Backcountry Users in Grand Canyon and Everglades National Parks.

Abstract approved: \_\_\_\_\_

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Since the Recreational Fee Demonstration Program was approved in 1996, allowing public land management agencies to collect and retain recreation user fees, several research studies have gathered opinions and attitudes from different groups of recreation users. One particular group, backcountry users of National Parks, had yet to be included. This thesis uses a sample of backcountry users from Grand Canyon and Everglades National Park to determine opinions and attitudes, potential displacement, and visitation responses to increased recreation user fees.

Backcountry users at these National Parks were found to be supportive of most recreation user fees, such as entrance and backcountry permit fees. However, this was not always the case; few found parking fees appropriate. The consistent opinion of respondents at both National Parks was that fee revenue should be used to revegetate impacted sites. Most backcountry users found the current price of the permit fees to be "about right."

Potential displacement is often a concern when recreation user fees are implemented. In this thesis, there were few significant demographic differences between

samples that had visited before fee implementation and those that had visited after implementation. There were, however, changes in trip characteristics such as mode of transportation and amount of pre-trip planning. Three to 13% of the respondents said that they would visit less often in the future because of the Recreational Fee Demonstration Program. These potentially displaced users at Everglades National Park were more likely to be low-income. Potentially displaced users at Grand Canyon National Park were more likely to be non-white, low-income, not working full time, and live closer to the National Park.

The visitation response to a hypothetical increase in recreation user fees was measured using the contingent behavior method, and estimated using the Tobit and Heckman sample selection models. Trip expenditures, distance to the National Park, and annual household income significantly affected backcountry users' decisions to plan on returning to the National Park in the next two years. For those that were planning on visiting the backcountry of the National Park, the proposed increase in recreation user fees, ratings of fees as a barrier, and frequency of participation influenced the reduction in number of visits.

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Effects of the Recreational Fee Demonstration Program on Backcountry Users in Grand  
Canyon and Everglades National Parks.

by

Jessica E. Leahy

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

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Jessica E. Leahy, Author

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# Effects of the Recreational Fee Demonstration Program on Backcountry Users at Grand Canyon and Everglades National Parks

## INTRODUCTION

### Background

#### *History of Fees in the National Park Service*

The National Park Service was the first public land management agency to charge federal recreation user fees when Mount Rainier National Park began charging entrance fees in 1908. By 1915 nearly every major National Park implemented an entrance fee. Although they were able to charge entrance fees, Congress prohibited the National Park Service from charging camping fees until the 1960's. The next expansion in recreation user fees came in 1965 when the Land and Water Conservation Fund Act (P.L. 85-578) was passed. This act allowed public land management agencies to charge a wider spectrum of fees beyond entrance fees, including camping fees. This legislation affected the National Park Service, Forest Service, Bureau of Land Management, and Fish and Wildlife Service. During the Reagan administration, the National Park Service was given further permission to expand user fees. At that time, entrance fees nearly doubled at most National Parks. The most recent expansion was the introduction of the Recreational Fee Demonstration Program in 1996.

### *Recreation User Fee Controversy*

Since implementing the first recreation user fee, the issue of charging recreation users for access to public land has been debated. One early example of this occurred in 1935 when President Roosevelt mandated that the National Park Service be financially self-sustaining. The public opposition to user fees was so great that the National Park Service eventually made few of the proposed increases in their fee program (Harris and Driver, 1987). Agencies are concerned about public acceptance of fee programs. "Lack of public acceptance is presumed to be accompanied by the risks of reduced visitation, decreased public and financial support, and non-compliance" (Winter, Palucki, and Burkhardt, 1999, p. 208). Arguments against recreation user fees typically fall into one of several categories:

- Fees cause negative changes in recreational experiences. Opponents of fees often discuss potential changes to the typically unstructured recreation experience. Wilderness users in particular are sensitive to the perceived commercialization of public land (Winter et al., 1999).
- Visitors are accustomed to free access, and may react negatively to the change in policy (Williams, Vogt, and Vitterso, 1999).
- It is unfair to charge fees. Some recreationists object to funding recreation on public land through on-site users. They believe that public land available for recreation is beneficial for all of society. Therefore, non-users should pay also.
- Some disagree with fee programs on the basis that users should be subsidized because public land recreation is a merit good. A merit good is one that is under-

provided in normal market settings. Often merit goods are provided for free or subsidized by governments.

- Some users feel that they are experiencing double taxation by paying for public land recreation access through both taxes and user fees (Harris and Driver, 1987).
- Fee programs are inequitable to certain groups of recreationists. “One of the important issues surrounding the implementation of higher on-site fees at publicly provided recreation facilities is that current users with different income levels may respond differently to higher fees” (Reiling, Cheng, and Trott, 1992, p. 121). In particular, low-income and ethnic minority groups have been the focus of attention. Some people feel that fees may discriminate against these groups because the members of the group may be unable to pay the recreation user fees and, subsequently, are denied access (Bowker and Leeworthy, 1998; More and Stevens, 2000).

In contrast to these arguments against user fees, there are also many reasons why recreation user fees have been supported. Proponents of recreation user fees were successful in persuading Congress to expand fee programs as recently as 1996. These arguments in support of user fees can be grouped into several categories:

- Fee revenues improve recreation on public land. Some fee advocates believe that providing fee revenue to public land management agencies will improve the quantity and quality of recreation. Currently, maintenance backlogs are a particular problem for public land management agencies.
- Fees also provide an index of relative value and can provide recreation interests with more equal weight against other uses of public land in resource planning.

- The fees help to recover costs and to reduce the impacts of declining or stagnant Congressional appropriations.
- By raising fees closer to market values, unfair competition with private recreation providers is reduced.
- Public agencies make additional revenue from increases in recreation user fees when recreationists have inelastic demand (Harris and Driver, 1987; More and Stevens, 2000).
- Fees ensure that those with the highest value of the experience have access to the resource. In general, people purchase goods according to the utility that they receive. This holds true in recreation experiences as well. If the recreational experience is not worth the user fee amount, then those recreationists with low values will not visit the recreation site.
- Fees can also be used to control congestion, if the fee amount is set above some recreationists' willingness to pay (Winter et al., 1999; More and Stevens, 2000).
- Fees are equitable for most current public land recreation users. Some proponents of fees are not concerned about equity issues because low-income and ethnic minority people are already under-represented in their recreation participation. Fees are often a small portion of total trip costs and some researchers have speculated, "All current users may respond to higher fees in roughly the same way because low-income people are already excluded by transportation and equipment costs" (Reiling et al., 1992, p. 122).
- Others feel that fees provide comparative equity in terms of reducing the tax burden on low-income people who are already not using public land for

recreation. These people feel that it is fairest to charge those who are actually using the resource, rather than making those who don't directly benefit from the public land pay as well (More and Stevens, 2000).

### ***The Recreational Fee Demonstration Program***

The Recreational Fee Demonstration Program (RFDP) was authorized by Congress in the Omnibus Consolidated Rescissions Act of 1996 (P.L. 104-134). This program allowed each of the four public land management agencies - the National Park Service, Forest Service, Bureau of Land Management, and Fish and Wildlife Service - to retain the revenue collected from user fees at 100 sites. As part of the National Park Service's participation with the RFDP, National Park Service units throughout the system have increased existing recreation user fees and introduced new fees. Overnight backcountry user fees have been included in this RFDP along with entrance, interpretive, and boating permit fees. The RFDP was scheduled to end in 1998, however this has since been extended to 2002 (P.L. 106-113).

Recreation user fees have traditionally been returned to the U.S. Treasury. However, those collected under the Land and Water Conservation Fund Act were put into a separate fund for the purchase of additional public land. In contrast, the RFDP allowed agencies to keep 80% of fee revenues at the site where they were collected. The other 20% could be used at other National Parks or for administrative purposes. The National Park Service has benefited financially from the RFDP. Gross fee revenues for the National Park Service have nearly doubled since the RFDP was implemented. In the 1996



fiscal year, fee revenues were \$77.8 million; in fiscal year 2000, this figure had grown to \$148.8 million (RFDP, 2001).

The Annual Report of the RFDP for the year 2000 states, "Visitation to recreation sites participating in the RFDP continues to appear unaffected in any significant way by the new fees" (p. iii). The National Park Service witnessed a 1% increase in visitation at non-fee sites, and a 0.4% increase at fee sites. Visitation numbers alone do not provide enough information to measure the effects of the RFDP. Visitation can be influenced by many additional factors such as extra media attention, wildfires, improved visitor counting methods, population growth, etc. Therefore, these numbers are unreliable as a sole source of measuring impacts of the program. Additional research was needed to measure the actual impacts of the RFDP, and especially the impacts on particular types of users that might be more sensitive to fees, such as backcountry users.

### **Research Motivation and Implications**

This research was requested by Congress and recommended by the Government Accounting Office (GAO) in the 1998 "Report of Recreational Fee Demonstration Programs." This study is a complement to prior and on-going research studies that evaluate the effects of user fees on recreationists. Prior research has evaluated general visitor responses to the RFDP at National Park sites (Lundgren, Lime, Warzecha, and Thompson, 1997). However, National Park managers lack information about how increased and new fees have affected recreationists' experiences and use in backcountry areas. There is a need to determine if fees are acceptable to backcountry users, if there

have been changes in visitation patterns, and if any significant shifts in visitor demographics have occurred since the implementation of the RFDP.

Information about backcountry user opinions is useful to the National Park Service in designing public awareness and acceptance efforts, in addition to revealing potential improvements to the fee system. For example, if backcountry users were aware and supportive of fees, the National Park Service could direct less effort toward convincing backcountry users of the program's importance and direct more effort toward resource and visitor improvements. Results also indicate how backcountry users desire their fees to be used for increasing visitor services and maintaining the current level of services. Information provided about the type or group of visitor that reports being displaced could be used to design fee programs that target different market segments. For example, if local resident, lower income, or ethnic minority visitors are more likely to be displaced by user fees, individual National Parks may consider a differential pricing system that is lower for those groups. Overall, this study reveals possible improvements that could be made to backcountry user fee systems.

### **Research Objectives**

The overall goal of this study was to evaluate the impact of the RFDP on backcountry users in National Parks. Backcountry users from before and after fee implementation at Grand Canyon and Everglades National Parks were surveyed to provide this evaluative data. The first overall objective was to assess the opinions and attitudes of backcountry users from before and after fee implementation about topics related to higher and additional recreation fees. Another important component of the

analysis of the RFDP's impact was identifying any potential shifts in visitor use patterns and demographic characteristics of backcountry users that may have already occurred or may occur as a result of increased fees. Specific objectives were:

1. To measure user attitudes toward backcountry fees; specifically, to measure the appropriateness of backcountry fees ("philosophical" views), and the acceptability of the current fee situation (fee levels, structure, enforcement, etc.).
2. To gather backcountry user opinions about existing and future management actions and policies including opinions about different fee structures (e.g. per person, per party, per season), preferences concerning fee implementation (e.g. location of purchase, fee packages), and preferences for use of fee revenue.
3. To compare users that have visited before and after fee implementation to determine if any changes in visitor demographics (age, income, ethnicity, etc.) or trip characteristics (length of trip, mode of transportation, group composition, etc.) have occurred as a result of the RFDP.
4. To describe the type and percentage of visitors who are displaced as a result of user fees.
5. To estimate future visitation patterns of backcountry users under different fee scenarios.

## Study Sites

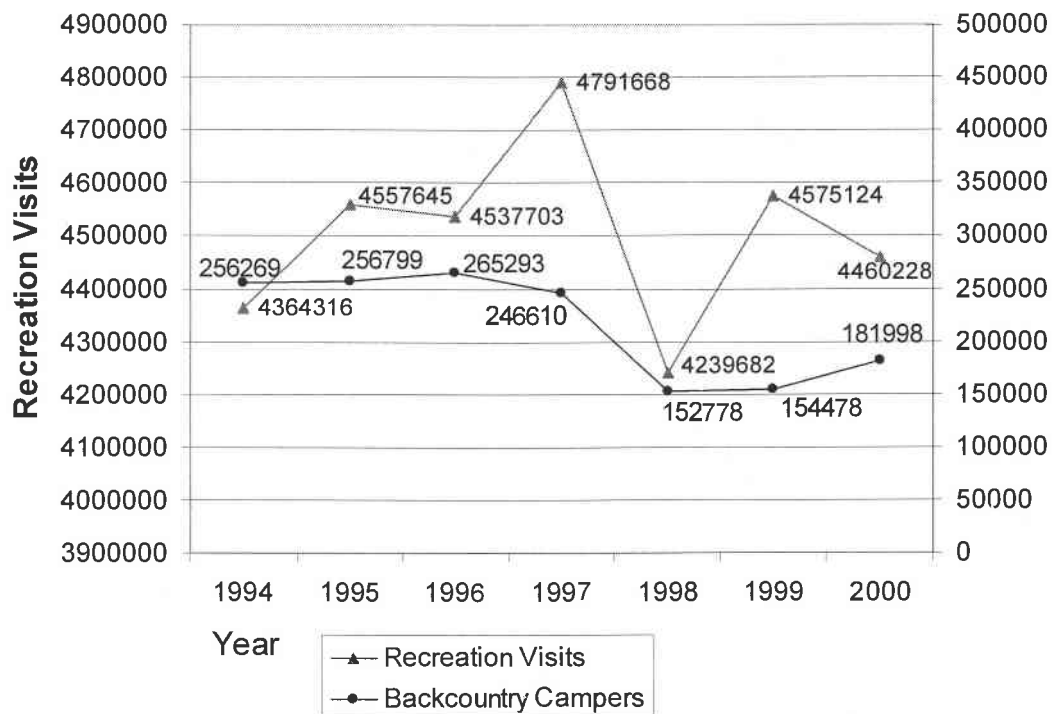
Two National Parks, Grand Canyon and Everglades, were chosen as research study sites:

### *Grand Canyon National Park*

Grand Canyon National Park is located in the southwest part of the United States, in northern Arizona. The National Park is 1.2 million acres, and 94% of the acreage is managed for wilderness/backcountry qualities (NPS Public Use Statistics Office, 2001; Grand Canyon Wilderness Management Plan, 1998). There are a wide variety of recreation opportunities at Grand Canyon National Park. Backcountry recreation in this National Park is predominately backpacking, although some river trips take place. Frontcountry visitors can attend ranger programs, view visitor center exhibits, picnic, hike, camp, take air tours, and take mule rides.

Total visitation for the calendar year 2000 at Grand Canyon National Park was nearly 4.5 million visitors (Figure 1.1). Nearly 182,000 campers visited the backcountry in 2000. After backcountry user fees were implemented in 1997, visitation to the backcountry declined by 7% in the first year. In the next year, backcountry visitation declined by another 38%. Since 1998, backcountry visitation has started to increase again. Overall, though, backcountry visitation in 2000 was 31% below 1996 levels (NPS Public Use Statistics Office, 2001). Total visitation declined dramatically in 1998 and again in 2000 when backcountry visitation was increasing. There are many speculations for the decline in visits including fees, weather conditions, and heat-stroke awareness campaigns (Sullivan, 1999).

**Figure 1.1 Grand Canyon National Park Use Before and After Fee Implementation**



Prior to fee implementation, Grand Canyon National Park required free backcountry permits for overnight hikers. This allowed the National Park to control the number of recreationists, and thus allocate limited campsite spaces. In 1997, the backcountry permit fee became \$20 per group per trip, and \$4 per person per night. In calendar year 2000, the fee structure was modified to \$10 per group per trip and either \$5 per person per night if below the rim of the Grand Canyon or \$5 per group per night if above the rim. In 2001, this was simplified to \$10 per group per trip and \$5 per person per night. Permits could be reserved up to four months in advance.

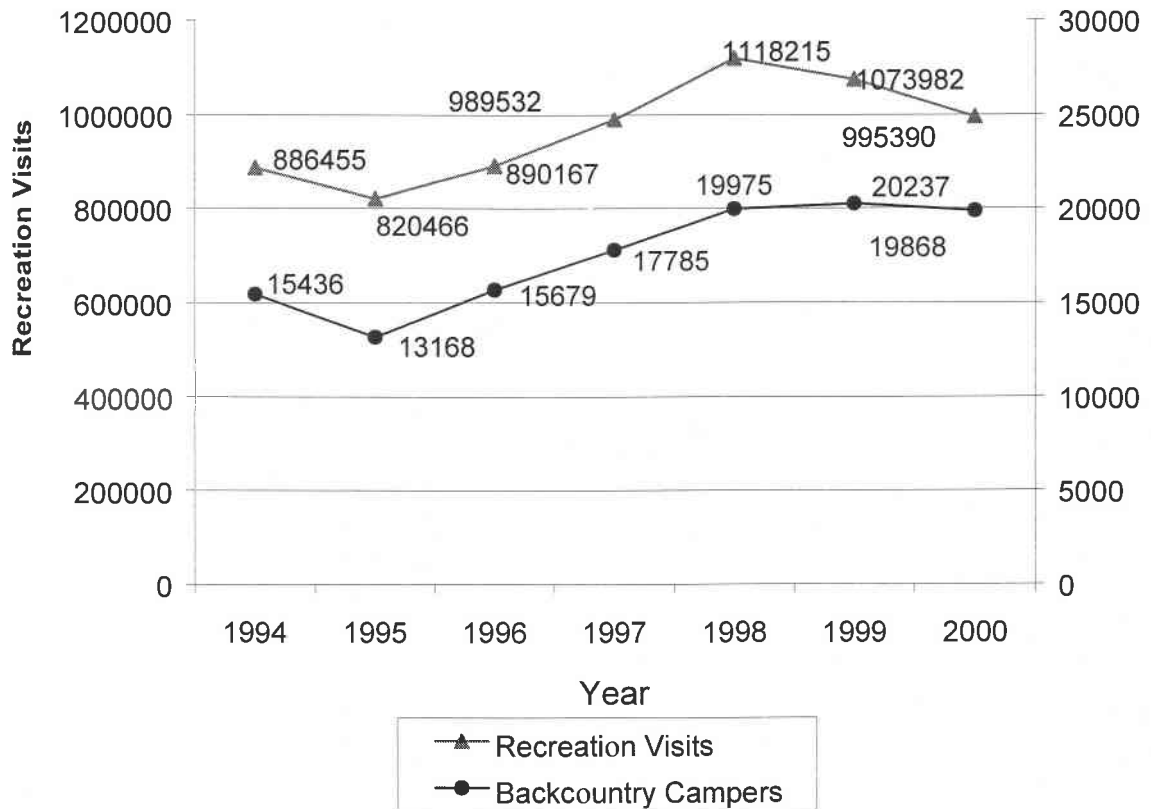
### *Everglades National Park*

Everglades National Park is located in the southeast part of the United States, in southern Florida. The National Park is approximately 60 miles from the Miami metropolitan area. The National Park is 1.4 million acres, and much of this acreage is managed for its wilderness/backcountry qualities (NPS Public Use Statistics Office, 2001). Backcountry recreation at Everglades National Park is predominately water based. Motorized and non-motorized boating, fishing, and camping are the most common activities. Frontcountry visitors can attend ranger programs, view visitor center exhibits, hike along boardwalks, view wildlife, and camp.

Total visitation for the calendar year 2000 at Everglades National Park was almost 1.0 million visitors (Figure 1.2). Nearly 19,868 campers visited the backcountry in 2000. Like Grand Canyon National Park, backcountry user fees were implemented in 1997. Backcountry visitation has continued to increase since 1997. Backcountry visitation increased by 13% during the first year of fees. Visitation increased by another 12% the following year. Since 1998, visitation has started to taper off. Overall, backcountry visitation in 2000 was 27% above 1996 levels. Backcountry trends have mirrored total use trends (NPS Public Use Statistics Office, 2001).

Prior to fee implementation, Everglades National Park required free backcountry permits for overnight hikers. Due to the water-based nature of the recreation, limited campsites are available in the National Park. The permits allow recreationists a guaranteed campsite. Everglades National Park has maintained its backcountry fee structure since 1997. The fees have been set at \$10 per group per trip for groups with 1-6 people, \$20 for groups with 7-12 people, and \$30 for groups of 13 or more people.

**Figure 1.2 Everglades National Park Use Before and After Fee Implementation**



Permits cannot be reserved in advance, although they can be acquired up to 24 hours before the trip.

### **Thesis Organization**

This thesis is composed of six chapters. After this Introduction chapter, prior research studies from recreation users fee, displacement, and trip response studies are summarized in the Literature Review. The Research Methods chapter outlines the means by which attitudes and opinions, displacement, and trip response were measured. Results

and Discussion chapters follow. Finally, this thesis ends with a Conclusion that suggests implications, limitations, and future research needs.



## LITERATURE REVIEW

### Opinions and Attitudes

Past studies of recreation user fees have predominantly collected information about visitor opinions and attitudes regarding increased or new fees. The majority of visitors contacted have felt that recreation user fees are appropriate under certain conditions (Lundgren et al., 1997; Winter, Burkhardt, and Gable, 1998). For example, 83% of National Park visitors in the Lundgren et al. (1997) study felt that fees were either about right or too low. Specific research into backcountry user fees has focused primarily on users in Forest Service Wilderness Areas. The opinions and attitudes towards fees from backcountry user studies have not been conclusive: some researchers have reported positive responses while others have found large segments of visitors who disapprove of both the fee program and fee levels. In the 1980's, Fedler and Miles (1989) found that support of fees from backcountry hikers was as low as 38%. However, 82% of backcountry users at a Wilderness Area site in 1997 agreed that the RFDP was a "good thing" (Watson et al., 1998).

The type of fee and its use is important in acceptability. It has been suggested that day use fees are less acceptable than overnight permit fees (Watson et al. 1998). Voluntary contributions and annual passes have also been common suggestions among recreationists (Fedler and Miles, 1989). National Park visitors were most supportive of fees when the fee revenues stayed at the National Park, or at least within the agency (Lundgren et al., 1997). Visitors reported that they would like the fee revenue to be used for maintaining or improving visitor services and facilities, and protecting resources

(Lundgren et al., 1997; Lewis and Lime, 1998). Studies have found higher support for maintaining the current levels of services than for increasing or expanding services (Watson, Puttkamer, and Christensen, 1998). However, users often equate their willingness to pay higher fees with expectations for increased levels of recreation site development (McDonald, Noe, and Hammit, 1987; Fedler and Miles, 1989; More et al. 1996).

Opinions and attitudes about fees were also dependent on the recreationists' characteristics. Low-income National Park visitors ranked fees as "too high" significantly more often than those respondents who were in the high-income group (Lundgren et al., 1997). McCarville, Reiling, and White (1996) also identified visitors who live within a local distance to the recreation sites as "the most likely to be indignant at the thought of paying a first-time fee" (p. 74). The more active people are in other activities besides backcountry use (picnicking, environmental education programs, boating, etc.) the more negative their attitudes are toward fees (Puttkammer and Watson, 1998). Finally, prior experience with paying fees may have a relationship with the opinions and attitudes of recreationists about fees. Results so far have been contradictory. Prior experience with fees was found to be associated with positive attitudes towards fees according to McCarville et al. (1996). However, Puttkammer and Watson (1998) noted, "The more experience that people have had with paying backcountry user fees, the more their support for wilderness fee levels decrease" (p. 3).

There has been limited attention directed toward understanding user fee opinions and attitudes of backcountry users at National Parks Overall, literature concerning recreationists' opinions and attitudes of user fees. However, the need for this is

paramount. This information will assist National Park managers in allocating fee revenue, collected directly from backcountry permit and impact fees, in ways that will be deemed acceptable to backcountry users. This information is also needed in order to draw conclusions about the effects of the RFDP on both backcountry users in general and National Park Service visitors in general.

### **Displacement**

The study of visitor displacement in recreation settings is extensive (Nielsen and Endo 1977; Schreyer 1979; Anderson and Brown 1984; Shelby, Bregenzler, Johnson 1988; Gramann 1992). Anderson and Brown (1984) define displacement as “the outcome of a decision to change behavior and is caused by adverse changes in the recreation environment” (p. 61). Displacement is possible after a change in the recreation situation because recreationists are self-selected and voluntary participants. Recreationists that are dissatisfied by a situation have the option to change their visitation behavior in most cases, such as by using a substitute site. They are replaced at the original site by recreationists who find conditions acceptable (Shelby et al., 1988). Most displacement studies have been done in cases where social conditions (e.g. crowding or conflict), resource conditions (e.g. environmental degradation), or management policies (e.g. non-fee permit systems) cause users to change their visitation behavior. There are few studies of displacement in response to the implementation of, or increase in, fees at a site (Manning, Callinan, Echelberger, Koenemann, and McEwen, 1984; Bamford, Manning, Forcier, and Koenemann, 1988; Reiling et al., 1992).

Researchers have focused on identifying how recreationists exhibit displacement effects and which recreationists are most likely to be displaced. Hall and Shelby (1998) presented four basic displacement responses: 1) changing activity at the site, 2) changing timing of current activity at the site, 3) changing location of recreation within the site, and 4) changing location of recreation to another site. For example, Neilsen and Endo (1977) found displaced river recreationists adapted to crowded conditions by changing to rivers in different locations with different types of recreation opportunities. Specifically, displaced river recreationists used alternative rivers that were significantly closer to home, less difficult, and less crowded than the rivers used by non-displaced river recreationists. Anderson and Brown (1984) found that a majority of backcountry canoeists at Boundary Waters Canoe Wilderness Area had shifted their entry point to less crowded areas over time.

Past researchers have identified several demographic and site characteristics that can indicate a high probability for displacement. Frequent participants in the recreation activity (Neilsen and Endo, 1977), long-time visitors of a recreation site (Hall and Shelby, 1998), and recreationists with a high level of experience or specialization (Anderson and Brown, 1984) have been tested for displacement effects because they may have expectations and preferences for pre-existing conditions. Locals have the ability to adjust use because they have less travel time and greater knowledge of the surrounding area. This, combined with expectations and preferences for the original conditions of the recreation site, can lead to a high level of displacement among locals (Hall and Shelby, 1998). Unique sites are hypothesized to have less displacement of recreationists because substitute sites are not available (Shelby et al., 1988).

Studies related to the displacement effects of recreation user fees have paid most attention to income effects, and have all used campsite fees in state parks as their focus. Reiling et al. (1992) found a significant displacement effect based on income characteristics. Manning et al. (1984) found that campsite choice was not affected by income, even though low-income respondents were more likely than high-income respondents to say that price was a paramount factor in their campsite selection. The Bamford et al. (1988) results were contradictory to the Manning et al. (1984) findings. Low-income recreationists were more likely to adjust their campsite choice behavior by choosing lower priced campsites in situations where campsites are priced differentially. This effect was found regardless of the differences in price between high-priced and low-priced sites, which ranged from \$1.00 to \$5.00.

Common caveats to displacement research mention that there are many reasons why visitors may change their behavior over time. Dissatisfaction with the recreation opportunity does not need to be present for recreationists to change their visitation behavior. Shindler and Shelby (1995) found that many recreationists did not return to a river because of changes in lifestyle rather than dissatisfaction with the resource. This finding suggested that other barriers to participation should be explored as causes to reduced visitation. Income effects, as found in campground examples, may not hold for all recreation sites and activities that have differences in substitutes, cost of participation (include trip and equipment costs), and percentage of fees in total trip cost (Reiling, et al. 1992).

The study of fee displacement is critical because it can reveal changes in the composition of recreationists that are not apparent by surveying current, fee-paying

recreationists. For example, in crowding studies, researchers found virtually no relationship between “use levels, perceived crowding, and user satisfaction” because those who felt crowded under existing use levels had stopped recreating at the site (Neilsen and Endo, 1977, p. 62). A similar situation may exist between use levels, fee sensitivity, and user acceptance rates if those who are affected by fees have changed their recreation behavior. It is essential to determine whether displacement behavior varies by type of user group. National Park managers may use this information to design fee programs that target different market segments. It is also important for National Park managers to know how people will exhibit displacement in response to fees. This information can allow National Park managers to adjust the fee structure in order to minimize unwanted displacement.

### **Visitation Responses**

Several issues have emerged in past recreation user fee research that are relevant to the objective of this study concerned with visitation patterns and changes. First, prior research of the RFDP has only asked visitors about their expected future visitation (Lundgren et al., 1997; Winter et al. 1998). These predictions may or may not be accurate. An investigation into the frequency of visits by those backcountry users that have visited the area in years prior to the RFDP, but did not visit during the time of the survey, has not been conducted. It is important for National Park managers to know how backcountry users have changed their number of visits since the implementation of the RFDP.

Second, no consistent prediction of future visitation patterns has emerged from these visitor studies. Respondents have indicated that user fees would negatively influence their future visitation in a range that spanned from four percent to 49 percent (Lundgren et al., 1997; Winter et al., 1998). These past studies have not specifically explored what exact negative influences are likely to occur. This could mean altering the timing or length of the same number of visits, reducing the overall number of visits to the National Park, or the complete termination of visitation to the National Park. Furthermore, these studies are also limited to future predictions about their response to the current fee situation. National Park managers have not been provided with models that can predict visitation patterns under higher fee scenarios.

Economic models, such as the contingent behavior model and travel cost model, can theoretically predict how users will respond to an increase in fees. In the contingent behavior method, respondents are generally asked their intended future behavior in a status quo situation. Then they are asked what their behavior would be under an alternative situation. The contingent behavior method can be used to find both visitation pattern changes and use values. However, unlike other methods such as the contingent valuation method, contingent behavior cannot be used to gather non-use values, (Rosenberger and Loomis, 1999). Although the contingent behavior method is based on hypothetical situations and intended behavior, it has been shown to be reliable (Loomis, 1993). Loomis (1993) concluded, "...intended visitation behavior appears to be a viable approach to estimate changes in recreation use in response to changes in environmental quality" (p. 183). It is reasonable to assume that this method would also be reliable in situations where management policies at a recreation site undergo changes.

The contingent behavior method is susceptible to biases common to most valuation methods that rely upon hypothetical markets, including hypothetical bias and strategic bias. Hypothetical bias occurs when people respond differently than they would in a real situation. Strategic bias takes place when respondents try to affect policy decisions, instead of reporting their true behavior (Loomis and Walsh, 1997). For example, they may overstate their future response to alternative fee scenarios because they do not like the RFDP.

The contingent behavior method has been successfully applied to recreation examples (Loomis, 1993; Englin, Boxall, and Watson, 2000). Loomis (1993) attributed the origin of the contingent behavior method to Ward (1987), who “used a series of ‘what if’ questions to elicit changes in quantities of trips an individual would take with different hypothetical instream flows” (p. 183). This information was combined with travel cost information to create demand curves dependent upon different levels of quality. One advantage of the contingent behavior method is that it gives National Park managers information about future visitation patterns under situations that have not been observed in historical data (Rosenberger and Loomis, 1999). Nestor (2000) pointed out that estimating models from historical data, which do not generally include any observations under similar situations as the future scenario, have the potential to be inaccurate.

There is much guidance available regarding recreation demand estimation and visitation change models (Bockstael, Strand, McConnell, and Arsanjani, 1990; Reiling et al., 1992; Goodwin, Offenbach, Cable, and Cook, 1993; Loomis, 1993; Whitehead, Hoban, and Clifford, 1997; Bowker and Leeworthy, 1998; Rosenberger and Loomis, 1999). In situations where the sample included recreation users and non-users, or



participants and non-participants, much of the focus has been on correcting sample selection bias. Sample selection bias has occurred in limited dependent variable models when the data exhibited a “lower bound and...this lowest value occurs in a fair number of observations” (Cragg, 1971, p. 829). This bias occurs in recreation demand situations where people have zero demand because they are non-participants (Bockstael et al., 1990; Goodwin et al., 1993). Goodwin et al. (1993) reported that the amount of bias is positively related to the percentage of non-participants in the sample. Sample selection bias impacts the standard errors by making them smaller than their true values. This, in turn, can lead to overstatement of the significance of parameter estimates. However, leaving non-participants out of the analysis is not an adequate solution. If ordinary least squares regression is used on the sub-sample of participants only, then parameter estimates will also be biased (Heckman, 1979).

Common solutions to sample selection bias include using the Tobit or Heckman Sample Selection models (Cragg, 1971; Heckman, 1979). The choice of which model to use depends greatly on behavioral assumptions made about the recreation visitation decision process. An assumption must be made about the decisions to 1) participate or visit the National Park, and 2) if choosing to participate, how many visits will occur within the given time span. The Tobit model assumes that the participation and quantity decisions are influenced by the same variables with the same magnitude. Only one set of variables affects these decisions. The Heckman Sample Selection model allows for a two-step, or “double-hurdle” process where a set of variables affects participation, and another possibly overlapping set of variables affects quantity demanded (Bockstael et al., 1990; Goodwin et al., 1993).

Whitehead et al. (1997) measured the economic efficiency of an estuarine quality improvement management plan. There was a recreation demand component where nearly 70% of the sample reported zero recreation trips. Whitehead et al. (1997) used the Tobit model and Heckman Sample Selection model since both models resolved the biases of sample selection. The Heckman Sample Selection model provided estimates that were 3.5 times higher than that of the Tobit estimates, so Whitehead et al. (1997) used these as upper and lower bounds for use value estimates. Bockstael et al. (1990) used the Tobit model and Heckman Sample Selection in a recreation application to striped bass fishing. These researchers also found that Heckman estimates were 3.9 times higher than the Tobit model results. Reiling et al. (1992) used only the Tobit model in their estimation of campsite demand responses to increased fees. Goodwin et al. (1993) used Tobit and a "double-hurdle" model in their analysis of the willingness of Kansas hunters to pay for access to private land. Because there were different significant variables in the participation and the quantity models, they concluded that "double-hurdle" models were more favorable than the restricted Tobit model.

Researchers have investigated the recreation demand and visitation responses of low-income, local, and ethnic minority groups to user fees (Reiling et al, 1992; Bowker and Leeworthy, 1998). Reiling et al. (1992) found that high-income respondents had more inelastic demand curves than low-income respondents for Maine State Park campsites. This means that low-income groups had a larger reduction in campsite demand when the fees were increased. However, Reiling et al. (1992) found that responses from residents of the state and non-residents did not differ significantly from each other. Using a more narrow view of local residents, such as those living within 100

miles of the State Park, may have had led to different results. User fees that increase trip cost can differentially affect ethnic minority groups and their visitation as well. A study of tourism in the Florida Keys, near Everglades National Park, showed that Hispanic populations were susceptible to being "priced-out" of recreation opportunities (Bowker and Leeworthy 1998). These researchers suggested two improvements gained by including such demographic variables in demand estimations. First, specification bias would be reduced, making estimates more accurate. Secondly, it would allow National Park managers to see how different groups participate and respond differently to changes in the recreation situation (Bowker and Leeworthy, 1998).

### **Conclusion**

This literature review has attempted to synthesize information concerning past research related to recreation user fees and backcountry recreation. Relevant literature fell into three major categories: opinions and attitudes, displacement, and visitation pattern changes. These past studies showed potential methods that were relevant to this research project, in addition to providing results with which to compare the results of this study. Most studies find positive attitudes toward recreation user fees under certain conditions. However, this depends on the type of fee, the use of fee revenue, and the characteristics of individual recreationists. Past displacement research identified both demographic and site characteristics that can indicate a high potential for displacement. Recreation demand models, such as the contingent behavior model, have been useful in predicting responses to increases in prices for specific types of recreationists including low-income, ethnic minorities, and locals.

## METHODS

This chapter describes the research design and methods used to study the effects of the Recreational Fee Demonstration Program (RFDP) on backcountry users in National Parks. It first begins with a discussion of the sample and population, survey instrument, and components of the survey instrument. This will be followed by survey administration and data analysis procedures.

### Sample

Grand Canyon National Park and Everglades National Park backcountry users were surveyed to assess differences between those that visited the National Park before and after the implementation of the RFDP. The sample was selected from the population of all people who acquired a backcountry permit at Everglades or Grand Canyon National Park during the calendar year prior to fee implementation, and from current users who acquired permits two years after implementation of the RFDP. To be specific, there were four subgroups of respondents in this survey: 1) Grand Canyon backcountry users that paid backcountry fees during the 1999 season (99GRCA), 2) Everglades National Park backcountry users that paid backcountry fees during the 1999 season (99EVER), 3) Grand Canyon backcountry users that received a permit during the 1996 season (96GRCA), and 4) Everglades National Park backcountry users that received a permit during the 1996 season (96EVER). The 1999 Grand Canyon and Everglades sub-samples represent the current or post-fee user groups. The 1996 Grand Canyon and Everglades sub-samples represent the past or pre-fee user groups.

Currently, backcountry users must provide their names and addresses, among other information, as they pay their user fee and receive a permit. Both National Parks used a permit system prior to the RFDP that also recorded names and addresses. These past and current mailing lists were used to sample the backcountry users of these National Parks. Five hundred seventy-five people were randomly selected to be questionnaire recipients from each of the four subgroups. Using backcountry permit mailing lists from before and after fee implementation allowed for a comparison in visitation patterns and demographic characteristics. It also had the potential to capture those backcountry users that may have been displaced as a result of new or increased fees.

### **Survey Instrument**

The survey instrument was developed using a variety of sources. Reviewed literature, prior fee-related mailed questionnaires, and input from the National Park Service Social Science Program, RFDP managers, Grand Canyon National Park managers, and Everglades National Park managers all contributed to the design of the survey instrument. Four separate, twelve-page mailed questionnaires were developed for each of the sub-samples to reflect the correct National Park name, National Park conditions, and fee situation at the time of their trip (Appendices A-D). Several key questions that repeat wordings from prior National Park Service fee studies were incorporated into the survey to allow for future comparison between general National Park visitors and backcountry users. The National Park Service Social Science Program, RFDP managers, National Park managers from Grand Canyon and Everglades National Parks, and a research colleague at Colorado State University reviewed the questionnaires.

The 1999 Grand Canyon version of the questionnaire was pre-tested on approximately 30 students in an upper-division recreation management class. The following sections describe the survey questions that address each of the study objectives.

### ***Fee Appropriateness and Acceptability Measures***

Measuring appropriateness and acceptability of backcountry fees involved assessing backcountry user attitudes. Specifically, insight into users' attitudes was provided through querying the appropriateness of fees such as respondents' "philosophical" views, and the acceptability of the current fee situation such as fee levels, structure and enforcement. Likert-scale attitude response categories were used with statements about the appropriateness and acceptability of fees to elicit respondent attitudes. Philosophical fee statements were developed from prior focus group concerns and fee arguments from popular publications. The scales for these statements typically ranged from "strongly disagree" to "strongly agree." Acceptability of the current fee situation was presented using similar response categories. In general, the statements were included as lists of current policy conditions. The typical scale for these policy items ranged from "strongly oppose" to "strongly support."

### ***Fee Management Actions and Policies Measures***

Backcountry user opinions about existing and future management actions and policies were gathered through questions concerning different fee structures (e.g. per person, per party, per season), preferences concerning fee implementation (e.g. location of purchase, fee packages), and preferences for use of fee revenue. Opinions about

existing and future management actions or policies were determined through statements with Likert-scale attitude response categories similar to those used in the appropriateness and acceptability measures. Lists of management actions and policies were developed with input from the RFDP managers and National Park managers. The scale for these lists typically ranged from “strongly oppose” to “strongly support.”

### *Demographic and Trip Characteristics Measures*

In order to compare current and past users, the collection of demographic and trip characteristics was necessary. Standard demographic questions were included at the conclusion of the mailed questionnaire. Age and the number of people supported by household income were open-ended questions. The rest of the demographic questions were gathered through the use of categorical responses:

- gender
- education
- employment status
- ethnicity
- race
- income

Trip characteristics were gathered by asking respondents to answer questions about a specified backcountry trip into the National Park. They were provided with the start date of the backcountry trip for which their permit was selected to serve as the specified trip. Since the permit names were randomly selected, the backcountry trips of those permits can also be considered randomly selected. Specific questions about trip characteristics typically had categorical responses:

- trip duration
- point of entry into the National Park’s backcountry area
- amount of advanced planning

- group composition
- mode of transportation
- miles traveled to reach the backcountry entrance point
- prior awareness of the fee program at the time of the trip
- trip expenditures
- number and type of other recreation fees paid
- purpose of the trip

### *Displacement Measures*

Displacement measures were designed to identify the percentage and type of visitors who were displaced as a result of user fees. Backcountry users were asked to self-report if their use had declined since the implementation of recreation user fees. Given a decline, those particular respondents answered a series of questions designed to determine where their visitation had transferred. Additional information needed for displacement analysis included measures of commitment level and use history. Commitment levels toward a particular type of recreation were measured in terms of average number of trips per year at any recreation area. In order to estimate changes in visitation patterns, use history was reported in terms of the number of trips taken each year from 1994 through 1999 at the specific National Park.

Respondents also were asked to rate the relative importance of user fees within a list of participation barriers. Barrier questions were developed with the assistance of the RFDP managers and National Park Service Social Science Program scientists to reflect suspected barriers to participation. Participation and displacement literature were also consulted (Johnson, Bowker, and English, 1998; Shelby et al., 1988). This list of participation barriers included changes in family obligations, location of residence, employment situation, higher user fees, and recreational interests.



### *Future Visitation Pattern Measures*

The contingent behavior method was used to measure backcountry user trip response to alternative fee scenarios. One series of questions related to increased backcountry permit fees. Visitors were asked how many trips they expected to take at the current price in the next two years. Each respondent was given a randomly assigned increase in fee level that ranged from \$1 to \$50 more than the current price. Then they were asked how many visits in the next two years they would make at this new level. The time unit of two years was important because many people only make one trip or less per year. The specific series of backcountry user fee questions asked of Everglades National Park respondents were:

Q1. Over the next two years, how many overnight backcountry trips will you likely make to Everglades National Park at the current price of \$10 per permit (a per group/per trip fee for groups less than 6 people)?

\_\_\_ **TRIPS IN THE NEXT TWO YEARS**

Q2. Over the next two years, how many overnight backcountry trips will you likely make to Everglades National Park if the permit price were \$\_\_\_ **MORE** per trip?

\_\_\_ **TRIPS IN THE NEXT TWO YEARS**

The specific series of backcountry user fee questions asked of Grand Canyon National Park respondents were:

Q1. Over the next two years, how many overnight backcountry trips will you likely make to Grand Canyon National Park at the current price of \$10 per permit plus \$5 per **person** per night for **below** rim backpacking, and \$10 per permit plus \$5 per **group** per night for **above** rim backpacking?

\_\_\_ **TRIPS IN THE NEXT TWO YEARS**

Q2. Over the next two years, how many overnight backcountry trips will you likely make to Grand Canyon National Park if the total permit price (permit and per person/per night fee) were \$\_\_\_ **MORE** per trip?

\_\_\_ **TRIPS IN THE NEXT TWO YEARS**

Another question related to increases in overall trip cost. In this measure of future visitation patterns, each respondent was presented with a randomly assigned increase in overall trip cost ranging from \$10 to \$1000. Respondents indicated whether or not they would have still taken their specified trip given the increase in overall trip cost. The main focus of this analysis was on the visitation response to backcountry fee scenarios, and not on the response to increases in overall trip cost.

People's decisions about their visitation patterns depend on many different attributes related to the recreation site and the characteristics of the individual. For example, the ability to make advanced reservations, attractiveness, and travel cost to reach the site are all recreation site attributes. Demographic variables such as age, income, and education level, are individual characteristics that affect visitation. This can be expressed as the  $i^{\text{th}}$  individual's visitation ( $V_i$ ) as a function of a site attribute vector ( $S_i$ ) and an individual characteristics vector ( $I_i$ ):

$$V_i = f(S_i, I_i) \quad (1)$$

In this visitation response model, the functional form was assumed to be linear:

$$y_i = \beta_i x_i + \varepsilon_i, \quad \varepsilon_i \sim (0, \Phi_\varepsilon^2) \quad (2)$$

where,

- $y_i$  = the  $i^{\text{th}}$  individual's change in visits as defined by trips at the current price minus trips under increased fees
- $x_i$  = the vector of site attributes, individual characteristics, and randomly assigned increase in fee amount (explanatory variables)
- $\beta_i$  = the vector of regression coefficients for the visitation response model
- $\varepsilon_i$  = the error term for the visitation response model.

Given the distribution of the error term, the expected value of the change in trips is  $\beta_i x_i$ . However, there is reason to believe that this may not be the case given the type of

data that are involved. The dataset contained a significant number of respondents who were not planning to return in the next two years. The regression coefficients estimated from the uncorrected specification are, therefore, biased. Observations are only available from those who were planning one or more trips in the next two years. Observations of  $y_i$ , the change in visits, are zero or greater. Specifically, bias is a potential because  $y_i$  is only observed from those planning to make one or more trips in the next two years to the National Park, and thus the expected value of  $\varepsilon_i$  is not equal to zero. The true expected value of the change in trips is (Greene, 2000):

$$E(y_i) = \text{Prob}(z_i > 0) * E(y_i | y_i > 0) + \text{Prob}(z_i = 0) * E(y_i | y_i = 0) \quad (3)$$

where,  $z_i$  = the dummy variable for if individual  $i$  plans to visit in the next two years or not.

The probability of participating, separate from the number of visits, can also be modeled:

$$z_i = \alpha_i w_i + u_i, \quad u_i \sim (0, \Phi_u^2) \quad (4)$$

where,  $z_i$  = the probability of the  $i^{\text{th}}$  individual planning to visit the National Park backcountry in the next two years  
 $w_i$  = the vector of site attributes, individual characteristics, and randomly assigned increase in fee amount (explanatory variables)  
 $\alpha_i$  = the vector of regression coefficients for the participation model  
 $u_i$  = the error term for the participation model.

Two econometric models were used to model visitation response and solve the potential sample selection bias: the Tobit model and the Heckman Sample Selection model. The Tobit model is a restricted version of the more general Heckman Sample Selection form. Both can provide information about the decision to participate and the decision of how much visits will change given hypothetical fee increases. They differ in one major behavioral aspect. The Tobit model assumes that the decision to participate is

affected by the same variables as the decision about how to respond to higher fees. On the other hand, the Heckman Sample Selection model assumes that a person can decide to visit or not, and how to respond to the fees with differing sets of variables. In other words, the Heckman Sample Selection model allows for different explanatory variables to affect  $z_i$  and  $y_i$  (Bockstael et al., 1990). The Heckman Sample Selection model is more general because it can feature all the same variables, some of the same variables, or completely separate variables (Greene, 2000).

The two models share many of the same properties, including unbiasedness. First, both are maximum likelihood estimates and are appropriate for censored qualitative dependent variables where  $y_i \geq 0$  only. Secondly, these models allow for a wider range of values of the dependent variable than other models, including the Probit model. For example, the Probit model is only used for dependent variables that range from 0 to 1.

The likelihood function for the Tobit model is maximized with respect to  $(\beta/\Phi_\varepsilon)$ :

$$L = \prod_{i \in S_{np}} [1 - \Phi(\beta_i x_i / \Phi_\varepsilon)] \prod_{i \in S_p} [1 / (2 \cdot \Phi_\varepsilon^2)]^{1/2} * \exp [-(y_i - \beta_i x_i)^2 / 2 \Phi_\varepsilon^2] \quad (5)$$

where,  
 $S_{np}$  = the subset of respondents not planning to visit in the next two years,  
 $S_p$  = the subset of respondents planning to visit at least once in the next two years (change in visits 0 or greater), and  
 $\Phi$  = the distribution function of the standard normal.

The Heckman Sample Selection model is a two-step process. First, the likelihood function for the Heckman Sample Selection model is maximized with respect to  $(\alpha/\Phi)$  (Greene, 2000):

$$L = \prod_{i \in S_{np}} [1 - \Phi(\alpha_i w_i / \Phi_u)] \prod_{i \in S_p} [\Phi(\alpha_i w_i / \Phi_u)] \quad (6)$$

This is the Probit model. In the second step, the estimated coefficients from the participation model,  $(\alpha/\Phi_u)$ , are used to estimate the sample selection correction term in the visitation response model. Ordinary least squares is performed on this equation to estimate  $(\rho\Phi_\varepsilon)$  (Greene, 2000):

$$E(y_i) = \beta_i x_i + \rho\Phi_\varepsilon * \lambda + v_i \quad (7)$$

where,  $\rho$  = correlation between  $\varepsilon_i$  and  $u_i$   
 $\lambda$  = inverse Mill's ratio of the density function and cumulative distribution,  $[\phi(\alpha_i w_i / \Phi_u) / \Phi(\alpha_i w_i / \Phi_u)]$   
 $v_i$  = error term for the Heckman Sample Selection visitation response model.

In addition to the hypothetical fee increase, other explanatory variables were grouped into three categories: trip cost, barriers to visiting more often, and demographic characteristics. These explanatory variables are listed in Table 3.1. These variables were selected from recreation participation (Johnson et al., 1998), displacement (Shelby et al., 1988), and demand literature (Loomis and Walsh, 1997). Trip cost was measured as respondent's expenditures on the specified trip. This variable is correlated with distance to the National Park because travel costs such as gas and lodging rise the further a visitor must travel to reach the site. This variable should have a negative sign in both visitation response and participation models. The higher trip costs, the less responsive the recreationists' visitation should be and the less likely they should be planning to visit in the next two years.

Barriers to visiting the National Park more frequently were grouped into those related to 1) fees, 2) the National Park, 3) ability to make reservations, and 4) lifestyle. The four variables used in the regression were the average ratings for the barrier statements that fit into those groups. All barrier statements were measured on a 5-point

**Table 3.1 List of Variables**

Variable	Description
BID2	Randomly assigned increase in backcountry user fee, ranging from \$1 to \$50.
AVGFEE	Average score of fee-related barriers to participation (1-5 scale).
AVGPARK	Average score of park attribute barriers to participation (1-5 scale).
AVGRES	Average score of inability to make reservations (for EVER only) as a barrier to participation (1-5 scale).
AVGLIFE	Average score of lifestyle-related barriers to participation (1-5 scale).
EXPEND	Trip expenditure from specified trip (\$).
FREQ	Frequency of participation to the National Park as measured by number of trips taken since 1994.
MOTOR	Dummy variable (for EVER only) = 1 if respondent is a motorized recreationist.
LOCAL	Dummy variable = 1 if respondent lives within 100 miles of EVER or within 200 miles of GRCA.
INCOME	Annual pre-tax household income (1-9 scale).
EDU	Level of education (1-9 scale).
AGE	Respondents age (years).
WHITE	Dummy variable = 1 if respondent selected "White" as their race.
FTEMP	Dummy variable = 1 if respondent is employed full-time.

Likert scale, ranging from "Not at all important" to "Extremely Important." Fee barriers included the cost of the fee, availability of free areas, and the dislike of paying multiple recreation user fees. Visitors may not participate at the National Park as much because they either cannot afford fees or object to fees. The park barrier was composed of the attractiveness of the National Park and perceptions of safety for the respondent and their property at the National Park. Visitors may not participate at the National Park as much because they feel the environmental attractiveness has declined or they feel unsafe. The

lifestyle barrier encompassed changes in family structure, jobs, location, and activity interests. To illustrate how an average barrier variable was created, the lifestyle barrier variable for an individual would be the average score from the following statements:

1. My family obligations have changed (more children, take care of elderly, etc.).
2. My lifestyle has changed (job situation, preferred activities, etc.).
3. I have moved farther away from the National Park.

The expected sign of these variables should be positive for the visitation response model.

For example, if fees are rated highly as a barrier, then visitors should respond with a decline in visits under higher fee scenarios. In the participation model, the sign is expected to be negative. If individuals have a high rating of fee barriers, then they should have less of a probability of planning to return in the next two years.

While demographic variables were discussed in the demographics and trip characteristics measures, the following variables were used in the estimation of future visitation patterns: frequency of National Park participation, mode of transportation at Everglades National Park, local distance to the National Park, income, education, age, race, and type of employment. Of these, only two have predicted signs. Frequency of National Park participation was measured as the number of backcountry trips taken at the National Park since 1994. Backcountry users who are frequent participants have been found to be more prone to visitation responses than other visitors (Nielsen and Endo, 1977). Income, measured as the annual pre-tax household income on a 1-9 categorical scale, should be negatively associated with visitation response and positively associated with participation because people with higher income have a higher ability to pay for recreation trips. There was no difference in significance between using this income variable compared to using a dummy variable for low-income individuals who have less

than \$20,000 in annual pre-tax household income. Dummy variables were included for respondents who were motorboat users, within local distance of the National Park, white, and employed full time. Age was measured in years as the current age of the respondents at the time of completing the questionnaire. Education was measured on a 1-9 categorical scale. These variables had no prior expected sign.

### **Survey Administration**

A modified version of Dillman's "Total Design Method" was used to administer the questionnaires. Due to the potential for a large number of people to have moved since completing their trip permits, postcards were sent to each sample household notifying them about the upcoming survey. Postcards that were returned as undeliverable represented invalid households and were replaced by a new randomly selected household to the extent possible, given limited addresses from Everglades National Park. Cover letters explaining the purpose of the study were mailed along with the survey, and follow-up reminder letters and re-mailings of surveys to those who had not responded were used to increase response rate (Dillman, 1978).

### **Data Analysis**

The data from each survey were compiled into Excel 97. They were analyzed using SPSS 10.0 and LIMDEP 7.0 statistical software. In SPSS, descriptive statistics included mean, mode, median, frequency, and variance. Differences between groups were analyzed with Pearson's chi-square test for categorical data, and independent sample t-tests for continuous data. In LIMDEP, various limited dependent variable



regression models were used to estimate trip responses. The statistical significance of regression coefficients was determined using t-tests. The critical p-value for all statistical tests was  $p < .05$  unless otherwise stated.

## RESULTS

### Sample of Everglades National Park and Grand Canyon National Park Backcountry Users

Response rates from the four sub-samples ranged from 55 to 73% (Table 4.1). While the response rates for 1999 backcountry users were both close to 70%, the response rates were lower for the 1996 samples. There were a large number of invalid addresses on the original mailing list provided by each National Park, probably because a number of people have moved to a different address since 1996. In the case of Everglades National Park, there were only a limited number of addresses to use, so undeliverables could not be replaced by new addresses. At Grand Canyon National Park, replacing invalid addresses with valid ones contributed to a larger sample size. A lower response rate for the 1996 users might also be a result of people not being able to remember the details of their earlier trip, or having lost interest over the years and being less motivated to participate.

**Table 4.1 Response Rates From Mailed Survey**

	99GRCA	96GRCA	99EVER	96EVER
Completed	395	365	360	251
Returned to sender, deceased, etc.	36	237	55	113
Total sent	575	825	575	567
Response rate	73.28%	62.07%	69.23%	55.29%

Demographic characteristics for the four sub-samples are presented in Tables 4.2 and 4.3. The respondents from Everglades and Grand Canyon National Parks were largely middle-aged, averaging between 43 to 47 years old for each sub-sample. There were considerably more male respondents than female. This is not an uncommon result

given that backcountry trip leaders tend to be male, and they are more likely to be the person filling out the backcountry permit. A higher percentage of backcountry users in this sample had a bachelor's degree or higher compared to the national estimate of 26% of the population having a bachelor's degree or higher (Census, 2000). At Everglades National Park, around 60 to 65% of the respondents had at least a bachelor's degree. At Grand Canyon National Park, 79% of respondents had a bachelor's degree or higher. The majority of respondents were employed full-time for pay (52-68%). Nearly all of the respondents selected the white racial category. The highest percentage of ethnic minority group representation was in the 1999 Grand Canyon National Park sample (11.8%), and the lowest was in the 1999 Everglades National Park sample (5.2%). Anywhere from 6 to 9% of the respondents fell into the income category of less than \$20,000 annual pre-tax household income, while the greatest percentage were in the \$50,000 to \$99,999 range. The mean number of people supported by household incomes was between 2.3 and 2.5 people.

Summary statistics for trip characteristics of the respondents are presented in Tables 4.4 and 4.5. Backcountry users from both National Parks spent on average just over three nights in the backcountry. The waterways at Everglades National Park allow both motorized and non-motorized transportation so backcountry users were asked about their mode of transportation. Approximately one-half to two-thirds of backcountry visitors used non-motorized transportation, like canoes and kayaks. Most of the backcountry users began their trip planning several months in advance. Grand Canyon National Park backcountry users tended to plan further in advance than Everglades National Park respondents. Group composition results were also similar between parks.

**Table 4.2 – Summary Demographics for Everglades National Park**

	99EVER	96EVER
Age (avg.)	42.95	47.13
Gender (%)		
Male	86.0%	86.1%
Female	14.0%	13.9%
Education Level (%)		
High School or Less	7.0%	7.4%
Some College	23.3%	28.1%
Bachelor Degree	26.7%	24.8%
Advanced Degree	43.0%	39.7%
Employment Status		
Full-time for pay	60.1%	51.9%
Self-employed	21.8%	26.4%
Retired	6.9%	13.2%
Other	11.1%	8.6%
Race		
White	94.5%	92.4%
Non-White	5.5%	7.6%
Income		
Less than \$19,999	8.0%	5.7%
\$20,000 to \$49,999	27.9%	30.7%
\$50,000 to \$99,999	43.5%	43.0%
More than \$100,000	20.7%	20.6%
People Support by Income (avg.)	2.41	2.36

Backcountry users were most likely to be traveling with friends, while the second most common group composition was family members. Backcountry users who visited Everglades National Park in 1999, on average, traveled a further distance (672 miles) and spent more (\$504) than their 1996 counterparts who traveled 585 miles and had trip expenditures of \$422. This trend was opposite at Grand Canyon National Park, where 1996 backcountry users traveled more distance (1023 miles) and spent more (\$807) than 1999 users (967 miles and \$768.93). In all cases, at least 70% of respondents said that visiting the backcountry was the primary purpose of their trip. Backcountry users were

**Table 4.3 – Summary Demographics for Grand Canyon National Park**

	99GRCA	96GRCA
Age (avg.)	42.52	46.75
Gender (%)		
Male	75.2%	79.8%
Female	24.8%	20.2%
Education Level (%)		
High School or Less	4.3%	4.6%
Some College	17.1%	16.8%
Bachelor Degree	26.9%	31.1%
Advanced Degree	51.7%	47.0%
Employment Status		
Full-time for pay	67.6%	64.7%
Self-employed	13.9%	14.7%
Retired	7.0%	10.9%
Other	11.5%	9.7%
Race		
White	88.2%	94.1%
Non-White	11.8%	5.9%
Income		
Less than \$19,999	8.9%	6.0%
\$20,000 to \$49,999	26.7%	28.2%
\$50,000 to \$99,999	38.6%	36.6%
More than \$100,000	25.9%	29.4%
People Support by Income (avg.)	2.28	2.46

also asked about their frequency of participation in backpacking and water-based recreation. Not surprisingly, Grand Canyon National Park users were more frequent participants in backpacking, while Everglades National Park users reported more active participation in water-based recreation. At Everglades National Park, water-based recreation was broken into non-motorized (rafting/canoeing/ kayaking) and motorized trips.

**Table 4.4 – Summary Trip Characteristics for Everglades National Park**

	99EVER	96EVER
Total nights in backcountry (avg.)	3.31	3.24
Mode of Transportation (%)		
Motorized	33.1%	42.1%
Non-motorized	66.9%	57.9%
Advanced Planning (%)		
Less than a week	14.6%	19.2%
Less than a month	36.5%	32.8%
Several months	44.9%	42.8%
More than a year	3.9%	3.6%
Group Composition (%)		
Alone	13.8%	12.0%
Family	26.8%	24.1%
Friends	39.4%	42.6%
Both friends and family	13.0%	14.5%
Organized group	7.0%	6.0%
Miles Traveled to Reach Entry Point (avg.)	672	585
Trip Expenditures (avg.)	\$504.04	\$421.60
Backcountry Purpose		
Primary purpose of trip	79.6%	76.5%
Part of trip to National Park	5.5%	4.0%
Part of trip to the region	14.9%	19.5%
Frequency of Backpacking Trips (avg/yr)	3.47	2.98
Frequency of Rafting/Canoeing/Kayaking Trips (avg/yr)	16.47	11.08
Frequency of Motorboat Trips (avg/yr)	21.95	18.80

**Table 4.5 – Summary Trip Characteristics for Grand Canyon National Park**

	99GRCA	96GRCA
Total nights in backcountry (avg.)	3.35	3.72
Advanced Planning (%)		
Less than a week	6.5%	10.5%
Less than a month	13.6%	8.8%
Several months	69.7%	71.8%
More than a year	9.9%	8.2%
Group Composition (%)		
Alone	12.3%	12.5%
Family	28.0%	32.0%
Friends	37.7%	34.3%
Both friends and family	14.9%	15.3%
Organized group	6.8%	5.4%
Miles Traveled to Reach Entry Point (avg.)	967	1023
Trip Expenditures (avg.)	\$768.93	\$807.17
Backcountry Purpose		
Primary purpose of trip	81.6%	71.4%
Part of trip to National Park	4.7%	4.4%
Part of trip to the region	13.7%	24.2%
Frequency of Backpacking Trips (avg/yr)	5.97	4.73
Frequency of Rafting/Canoeing/Kayaking Trips (avg/yr)	2.43	1.78

### Opinions and Attitudes

#### *Opinions and Attitudes about Recreation User Fees*

Visitors' opinions regarding backcountry fees were assessed in a number of ways. Differences were tested between 1999 and 1996 samples; significant differences are indicated in the tables. Visitors were asked whether different types of fees were appropriate at National Parks in general and, more specifically, at Everglades and Grand Canyon National Parks (Table 4.6). A large majority agreed that entrance fees were appropriate at most National Parks (68-80%), including Everglades National Park or

Grand Canyon National Park (65-81%), but an equal majority disagreed that parking fees at National Parks were appropriate (72-78%). Respondents from both parks generally agreed that backcountry user fees were appropriate at most National Parks (46-66%), and at Everglades or Grand Canyon National Parks (47-70%). Grand Canyon National Park users from 1999 were most likely to agree, and 1996 Everglades National Park users were the least likely to agree. There was disagreement between National Parks concerning rafting/boating fees. The majority of Grand Canyon National Park backcountry users agreed that rafting/boating fees were appropriate (65%), whereas Everglades National Park users tended to disagree (52-56%). It is important to note that most Everglades National Park backcountry users would have to pay rafting/boating fees during their backcountry visit, while most Grand Canyon National Park backcountry users would not.

Respondents were also asked their opinions about the current level of backcountry fees. Permit fees were just about right for 64-71% of respondents (Table 4.7). Backcountry users from 1999 Grand Canyon and Everglades National Parks were more likely than past users to think permit fees were too low. Compared to other groups, more 1996 Grand Canyon National Park users felt that fees were too high. At Grand Canyon National Park, backcountry users also paid per group/night fees above the rim and per person/night fees below the rim. Per person/night fee levels were thought to be too low by fewer respondents than per group/night levels. Significant differences existed between 1999 and 1996 Grand Canyon National Park users in ratings for permit and per person/night fees. In both cases, 1999 users were more supportive of fees than 1996 users.



**Table 4.6 Appropriateness of Recreation User Fees**

	Strongly Disagree		Neutral		Strongly Agree	Don't Know Or N/A
<b>Is it appropriate to charge an entrance fee at most National Parks?</b>						
1999 Grand Canyon	7.1%	5.8%	10.3%	26.2%	50.3%	0.3%
1996 Grand Canyon	6.6%	5.1%	8.5%	31.1%	48.7%	0.0%
1999 Everglades	9.3%	5.1%	12.1%	29.7%	43.2%	0.6%
1996 Everglades	9.7%	8.9%	3.4%	20.2%	47.4%	0.4%

**Is it appropriate to charge an entrance fee to access GRCA or EVER?**

1999 Grand Canyon	5.6%	4.5%	9.3%	25.9%	54.5%	0.3%
1996 Grand Canyon	6.5%	4.5%	8.0%	28.1%	52.8%	0.0%
1999 Everglades	9.9%	5.4%	10.2%	29.7%	44.6%	0.3%
1996 Everglades	13.0%	7.3%	14.6%	20.3%	44.7%	0.0%

**Is it appropriate to charge for parking within National Parks in addition to entrance fees?**

1999 Grand Canyon	52.0%	19.9%	11.1%	6.4%	9.8%	0.8%
1996 Grand Canyon	52.4%	20.4%	11.3%	6.5%	9.1%	0.3%
1999 Everglades	56.9%	16.4%	12.2%	6.5%	7.1%	0.8%
1996 Everglades	61.3%	16.5%	10.5%	4.8%	6.9%	0.0%

**Is it appropriate to charge fees for raft/boat use at most Nat'l. Parks in addition to entrance fees?**

1999 Grand Canyon	9.6%	9.6%	18.2%	27.5%	33.2%	1.9%
1996 Grand Canyon	13.4%	8.5%	15.7%	25.9%	34.5%	2.0%
1999 Everglades	31.5%	18.5%	16.8%	13.6%	19.0%	0.6%
1996 Everglades	41.9%	14.1%	16.1%	14.9%	12.5%	0.4%

**Is it appropriate to charge fees for raft/boat use at GRCA or EVER in addition to entrance fees?**

1999 Grand Canyon	8.3%	9.7%	15.8%	27.9%	37.0%	1.3%
1996 Grand Canyon	12.5%	5.4%	15.6%	24.4%	40.1%	2.0%
1999 Everglades	31.7%	20.1%	14.4%	14.4%	18.4%	0.8%
1996 Everglades	43.8%	12.4%	16.1%	14.9%	12.9%	0.0%

**Is it appropriate to charge fees for overnight backcountry use at most Nat'l. Parks in addition to entrance fees?**

1999 Grand Canyon	11.8%	8.3%	13.9%	30.7%	35.3%	0.0%
1996 Grand Canyon	19.3%	9.4%	11.6%	28.4%	31.0%	0.3%
1999 Everglades	20.9%	8.2%	14.1%	26.6%	30.2%	0.0%
1996 Everglades	26.6%	12.1%	14.5%	21.0%	25.4%	0.4%

**Is it appropriate to charge a fee for overnight backcountry use at GRCA or EVER in addition to entrance fees?**

1999 Grand Canyon	11.3%	6.7%	12.1%	31.1%	38.9%	0.0%
1996 Grand Canyon	17.3%	9.9%	8.5%	29.0%	34.9%	0.3%
1999 Everglades	20.7%	8.0%	13.6%	25.6%	32.1%	0.0%
1996 Everglades	29.0%	12.5%	10.9%	22.6%	24.6%	0.4%

**Table 4.7. Attitudes Toward Current Fee Levels**

Do you think the permit part of the price is:

	Far Too Low		Just About Right		Far Too High	Don't Know or No Opinion
1999 Grand Canyon <sup>a</sup>	2.1%	13.0%	68.8%	9.0%	5.0%	2.1%
1996 Grand Canyon	1.4%	9.9%	63.8%	12.4%	10.2%	2.3%
1999 Everglades	2.0%	12.7%	70.9%	6.5%	3.7%	4.2%
1996 Everglades	0.8%	11.1%	68.8%	11.1%	4.5%	5.7%

a. chi-square test for difference in 1996 and 1999 distribution:  $X^2=10.05$ ,  $p<.01$

Do you think the per person per night part of the price is:

	Far Too Low		Just About Right		Far Too High	Don't Know Or No Opinion
1999 Grand Canyon <sup>a</sup>	2.9%	8.0%	65.8%	14.3%	6.9%	2.1%
1996 Grand Canyon	1.7%	7.9%	53.3%	20.7%	14.4%	2.0%

a. chi-square test for difference in 1996 and 1999 distribution:  $X^2=17.68$ ,  $p<.01$

Do you think the per group part of the price is:

	Far Too Low		Just About Right		Far Too High	Don't Know Or No Opinion
1999 Grand Canyon	7.7%	21.4%	49.6%	6.1%	4.5%	10.8%
1996 Grand Canyon	4.8%	22.1%	49.3%	9.1%	7.4%	7.4%

Visitors were asked how they thought backcountry overnight fees should compare to fees in developed car campgrounds at each National Park. Well over half of respondents (60-70%) from both parks felt that backcountry users should pay less than developed campground users (Table 4.8). The top reasons given in an open-ended follow-up question were that backcountry use requires fewer services and that backcountry users have a lower environmental impact on resources. Backcountry users who said "pay the same" often saw no difference between the two types of use.

**Table 4.8 Backcountry Fees vs. Developed Camping Fees**

For trips of the same length, should overnight backcountry users pay more, less, or the same for their backcountry permit as overnight visitors pay for camping in developed car campgrounds at Grand Canyon or Everglades National Park?

	Pay More	Pay the Same	Pay Less	Don't Know Or No Opinion
1999 Grand Canyon	9.6%	24.8%	59.7%	5.9%
1996 Grand Canyon	8.4%	19.9%	67.4%	4.3%
1999 Everglades	2.3%	22.1%	70.0%	5.7%
1996 Everglades	4.8%	19.3%	71.5%	4.4%

The final question that addressed visitor opinions toward fees asked respondents about the perceived and ideal distribution of funding sources for each National Park (Table 4.9). In all cases, visitors felt that the percentage of National Park funding coming from user fees was higher than ideal. The ideal contribution from user fees ranged from 19% at Everglades National Park to 28% at Grand Canyon National Park. Percentages of contribution from other sources (e.g., taxes, concessionaire fees) can be found in the Appendices.

**Table 4.9 Perceived and Ideal Amount of Funding from User Fees**

	Perceived Percentage of Current Funding from User Fees (mean)	Ideal Percentage of Funding from User Fees (mean) <sup>a</sup>
1999 Grand Canyon	36.57	28.18**
1996 Grand Canyon	29.94	24.66**
1999 Everglades	23.81	18.85**
1996 Everglades	22.92	19.72*

a. t-test for different means for real and ideal user fee funding: \*=significant at  $p < .05$ , \*\*=significant at  $p < .01$ .

#### *Opinions and Attitudes about Management Actions and Policies*

A number of alternative fee structures were considered (Table 4.10). Most backcountry user opinions ranged from neutral to strongly agree with respect to reduced fees during weekdays, during the off-season, or for less popular sites. Everglades National Park users were positive towards an annual backcountry permit. It appeared important that fees be partially based on group size. More respondents from both parks disagreed with basing fees on number of backcountry days, or having a single fee for front and backcountry users. Grand Canyon National Park users generally disagreed with a self-service/honor system, but Everglades National Park users were more supportive of that option.

**Table 4.10 Opinions about Alternative Fee Structures**

	Strongly Oppose		Neutral		Strongly Support	Don't Know Or N/A
Backcountry permits would be less expensive during weekdays.						
1999 Grand Canyon	10.8%	7.3%	30.6%	26.6%	23.6%	1.1%
1996 Grand Canyon	12.1%	7.2%	24.6%	25.7%	28.3%	2.0%
1999 Everglades	13.0%	7.2%	28.8%	25.1%	24.8%	1.2%
1996 Everglades	11.5%	8.2%	31.3%	23.0%	24.3%	1.6%

Backcountry permits would be less expensive during the off-season.						
1999 Grand Canyon	6.7%	5.9%	20.2%	33.2%	33.2%	0.8%
1996 Grand Canyon	8.1%	6.9%	17.9%	26.5%	39.2%	1.4%
1999 Everglades	8.9%	4.6%	22.2%	26.8%	36.9%	0.6%
1996 Everglades	9.1%	4.1%	24.5%	25.3%	36.1%	0.8%

Backcountry permits would be less expensive for less popular campsites.						
1999 Grand Canyon	10.5%	8.9%	25.7%	26.5%	27.6%	0.8%
1996 Grand Canyon	13.3%	9.0%	22.5%	25.7%	28.0%	1.4%
1999 Everglades	21.4%	11.0%	30.6%	19.1%	16.8%	1.2%
1996 Everglades	17.4%	8.3%	31.1%	20.3%	21.2%	1.7%

Backcountry permits would cost the same for all groups, regardless of group size.						
1999 Grand Canyon	44.3%	25.4%	18.1%	4.1%	7.0%	1.1%
1996 Grand Canyon	41.1%	23.6%	16.7%	5.5%	10.6%	2.6%
1999 Everglades	42.7%	24.8%	15.3%	4.6%	11.2%	1.4%
1996 Everglades	39.9%	23.9%	16.5%	7.0%	11.5%	1.2%

Backcountry permit prices would rise depending on the number of days spent in the backcountry.						
1999 Grand Canyon	29.6%	16.0%	21.2%	17.1%	14.4%	1.6%
1996 Grand Canyon	33.0%	18.1%	19.5%	17.0%	9.8%	2.6%
1999 Everglades	30.8%	15.1%	21.2%	20.9%	10.8%	1.2%
1996 Everglades	33.7%	18.5%	21.0%	15.6%	9.9%	1.2%

Backcountry permits would be available for purchase on a self-service/honor-system.						
1999 Grand Canyon	33.5%	20.4%	18.8%	11.7%	13.1%	2.5%
1996 Grand Canyon	32.6%	17.3%	21.9%	12.7%	13.0%	2.6%
1999 Everglades	24.9%	15.3%	22.3%	14.7%	21.4%	1.4%
1996 Everglades	18.6%	12.8%	24.8%	14.0%	28.5%	1.2%

Backcountry permits would be replaced by a single fee that is the same for front and backcountry users.						
1999 Grand Canyon	33.1%	21.3%	21.3%	10.7%	10.4%	3.3%
1996 Grand Canyon	28.4%	22.6%	22.9%	11.0%	11.0%	4.1%
1999 Everglades	29.8%	15.8%	26.9%	11.7%	12.9%	2.9%
1996 Everglades	27.5%	17.9%	23.8%	8.3%	18.8%	3.8%

In addition to the current backcountry permit system, an annual permit that costs more but allows unlimited trips would be available.

1999 Everglades	17.6%	6.1%	26.9%	18.5%	29.8%	1.2%
1996 Everglades	20.6%	8.2%	23.0%	18.1%	28.4%	1.6%

National Park Service representatives were also consulted about alternatives for fee implementation (Table 4.11). There was common support between 1999 and 1996 users at both parks for acquiring backcountry permits over the phone, and having “one-stop shopping” options for paying permit and entrance fees at the same place. The strongest opposition was to a centralized reservation system for all parks. The percentage of respondents opposing this option ranged from 29-41%. Support for this option was highest among 1999 Grand Canyon National Park visitors (51%) and lowest for 1996 Everglades National Park visitors (36%).

Grand Canyon National Park and Everglades National Park backcountry users tended to prefer different permit acquisition options. Although the majority of visitors from all parks supported acquiring backcountry permits in person, there were more Grand Canyon National Park users opposed to acquiring backcountry permits in person than Everglades National Park users. Grand Canyon National Park visitors were more likely than Everglades National Park visitors to say they preferred mail, fax, or internet options. Almost 70% of both 1999 and 1996 Everglades National Park backcountry users supported or strongly supported an advanced reservation system for the National Park.

Representatives of both Grand Canyon National Park and Everglades National Park were offered alternatives for use of fee revenues. Some of these were uses the Parks were already implementing with fee dollars, and others were items they might consider doing in the future. Visitors were asked how much they supported each alternative (Tables 4.12 and 4.13). All Grand Canyon National Park backcountry users were highly supportive of revegetation, archaeological efforts, and trail maintenance. All

**Table 4.11 Opinions about Fee Implementation Alternatives**

	Strongly Oppose		Neutral		Strongly Support	Don't Know Or N/A
- acquire backcountry permits over the phone						
1999 Grand Canyon	5.4%	2.7%	13.6%	25.5%	52.7%	0.0%
1996 Grand Canyon	2.6%	4.0%	10.9%	30.2%	51.4%	0.9%
1999 Everglades	10.5%	3.5%	10.5%	21.1%	53.5%	0.9%
1996 Everglades	7.2%	2.1%	13.1%	19.1%	56.8%	1.7%

Pay backcountry permit fees and park entrance fees at the same time and place.

1999 Grand Canyon	9.2%	6.5%	25.5%	20.3%	36.0%	2.4%
1996 Grand Canyon	6.9%	5.7%	31.6%	18.7%	33.6%	3.4%
1999 Everglades	7.2%	4.3%	23.6%	19.6%	43.5%	1.7%
1996 Everglades	6.2%	2.9%	20.2%	18.2%	50.4%	2.1%

- acquire backcountry permits through a centralized reservation system for all parks.

1999 Grand Canyon <sup>a</sup>	18.9%	9.6%	20.2%	17.8%	33.1%	0.5%
1996 Grand Canyon	23.1%	12.1%	18.8%	17.6%	27.2%	1.2%
1999 Everglades	25.2%	11.4%	22.6%	13.5%	26.1%	1.2%
1996 Everglades	28.3%	12.6%	20.9%	12.6%	23.0%	2.6%

a. t-test for difference in 1999 and 1996 means,  $p < .05$

- acquire backcountry permits in person at the National Park.

1999 Grand Canyon	10.4%	6.8%	16.9%	23.2%	42.4%	0.5%
1996 Grand Canyon	12.8%	5.5%	14.0%	19.5%	47.7%	0.6%
1999 Everglades <sup>a</sup>	5.5%	4.7%	18.6%	18.9%	51.7%	0.6%
1996 Everglades	8.6%	6.4%	19.7%	19.3%	44.6%	1.3%

a. t-test for difference in 1999 and 1996 means,  $p < .05$

- acquire backcountry permits through the mail.

1999 Grand Canyon	3.5%	4.4%	21.3%	25.3%	45.5%	0.0%
1996 Grand Canyon	3.2%	3.2%	14.5%	33.2%	45.4%	0.6%
1999 Everglades	16.6%	9.2%	21.6%	19.2%	32.2%	1.2%
1996 Everglades	15.4%	9.4%	21.4%	17.1%	35.0%	1.7%

- acquire backcountry permits through use of fax machines.

1999 Grand Canyon	4.6%	5.2%	16.9%	24.6%	47.8%	0.8%
1996 Grand Canyon	4.9%	5.8%	21.4%	26.4%	39.7%	1.7%
1999 Everglades	19.6%	7.6%	19.3%	19.6%	32.5%	1.5%
1996 Everglades	13.4%	9.5%	21.6%	16.4%	37.1%	2.2%

- acquire backcountry permit over the internet.

1999 Grand Canyon <sup>aa</sup>	3.5%	2.4%	8.4%	17.1%	67.9%	0.5%
1996 Grand Canyon	5.2%	4.6%	9.5%	21.3%	57.3%	2.0%
1999 Everglades	11.7%	4.4%	13.7%	18.1%	51.6%	0.6%
1996 Everglades	11.6%	2.6%	18.9%	16.3%	48.5%	2.1%

aa. t-test for difference in 1999 and 1996 means,  $p < .01$

- acquire backcountry permit through an advanced reservation system at Everglades National Park

1999 Everglades	11.4%	6.4%	12.2%	20.7%	48.1%	1.2%
1996 Everglades	11.9%	4.3%	13.2%	22.6%	46.4%	1.7%

Everglades National Park backcountry users were supportive of revegetation, developing more campsites, and removing non-native pests. The least support from each user group was for funding non-backcountry services or projects. There were no significant differences between the ratings of 1999 and 1996 Everglades National Park users. More recent Grand Canyon National Park users gave significantly higher ratings than 1996 users for archaeological efforts, noise reduction, and non-backcountry projects or services.

After rating their support on a 1-5 scale, where 1 equaled “strongly oppose” and 5 equaled “strongly support,” for each of the items in Tables 4.12 and 4.13, visitors were asked what their three highest priorities were from the list. Both 1999 and 1996 backcountry users of Grand Canyon National Park felt that the top three funding priorities for fee revenue should be backcountry revegetation of impacted sites, archaeological preservation, monitoring and restoration, and more backcountry trail maintenance (Table 4.14). Users with multiple visits since 1997 were asked to note any improvements since fees were implemented. The response rate for this item was 24% of 1999 Grand Canyon National Park users and 21% of 1996 users. They both reported improvements in backcountry visitor information services and educational programs. The 1999 backcountry users reported that trail maintenance had improved, while 1996 users noticed new or improved restrooms.

Everglades National Park backcountry users from 1999 and 1996 were in agreement that funding priorities for fee revenue should include developing more designated backcountry campsites, and removing non-native plants and animals from the

**Table 4.12 Support for Uses of Fee Revenues at Everglades National Park**

Mean level of support for uses of fee money from backcountry permits on a scale of 1 - "Strongly Oppose" to 5 - "Strongly Support" in descending order based on 1999 means.

Services or Conditions:	Everglades	
	1999	1996
More backcountry revegetation of impacted sites	3.95	3.79
More designated backcountry campsites	3.92	3.89
Removal of non-native plants and animals in the backcountry	3.89	3.70
More archaeological preservation, monitoring, and restoration	3.83	3.70
More backcountry maintenance	3.79	3.61
More noise reduction in the backcountry	3.66	3.48
Improved backcountry campsites	3.56	3.53
More educational programs	3.49	3.49
Improved waterway signs	3.46	3.45
New or improved restrooms at trailheads, backcountry campsites, etc.	3.44	3.44
More backcountry law enforcement of permit regulations	3.36	3.18
More visitor center/ranger station office hours	3.29	3.38
More backcountry visitor information services	3.21	3.13
More backcountry search and rescue rangers	3.18	3.16
More waterway signs	3.18	3.17
More non-backcountry related services, maintenance, repairs, and projects	3.09	2.97

a. t-test for difference in 1999 and 1996 means,  $p < .05$

aa. t-test for difference in 1999 and 1996 means,  $p < .01$

**Table 4.13 Support for Uses of Fee Revenues at Grand Canyon National Park**

Mean level of support for uses of fee money from backcountry permits on a scale of 1 - "Strongly Oppose" to 5 - "Strongly Support" in descending order based on 1999 means.

Services or Conditions:	Grand Canyon	
	1999	1996
More backcountry revegetation of impacted sites	4.19	4.10
More archaeological preservation, monitoring, and restoration	4.14 <sup>a</sup>	3.97
More noise reduction in the backcountry	4.09 <sup>aa</sup>	3.85
More backcountry trail maintenance	3.79	3.87
More educational programs	3.74	3.74
More visitor center/ranger station office hours	3.65	3.66
Improved shuttle service to backcountry trail heads	3.62	3.65
New or improved restrooms at trailheads, backcountry campsites, etc.	3.53	3.50
Improved trail signs	3.52	3.56
More backcountry visitor information services	3.51	3.59
More backcountry law enforcement of permit regulations	3.38	3.25
Removal of non-native plants and animals in the backcountry	3.33	3.22
More backcountry search and rescue rangers	3.31	3.25
More trail signs	3.24	3.24
Improved backcountry campsites	3.23	3.19
More designated backcountry campsites	3.23	3.26
More non-backcountry related services, maintenance, repairs, and projects	3.08 <sup>aa</sup>	2.81

a. t-test for difference in 1999 and 1996 means,  $p < .05$

aa. t-test for difference in 1999 and 1996 means,  $p < .01$



backcountry. More recent users additionally felt that backcountry revegetation should be given priority, whereas 1996 users wanted campsite improvements considered. Twenty percent of 1999 users and 24% of 1996 users that have visited Everglades National Park more than once noted improvements since fees were implemented. Backcountry users from 1999 and 1996 noted different sets of improvements. More recent Everglades National Park users noticed new or improved restrooms, improved waterway signs, and improved campsites. Past users noticed improvements in educational programs, backcountry visitor information services, and backcountry maintenance.

**Table 4.14 Highest Priorities and Improvements Since 1997**

	1999	1996
Top Three Funding Priorities for Fee Revenue: Grand Canyon		
More backcountry revegetation of impacted sites	12.1%	9.3%
More archaeological preservation, monitoring, and restoration	11.9%	10.5%
More backcountry trail maintenance	10.4%	11.9%

	Everglades	
Top Three Funding Priorities for Fee Revenue:		
More designated backcountry campsites	15.2%	13.0%
Removal of non-native plants and animals in the backcountry	9.3%	10.6%
More backcountry revegetation of impacted sites	9.2%	--
Improved backcountry campsites	--	9.2%

	Grand Canyon	
Top Three Improvements Noticed Since Fee Implemented:		
More backcountry visitor information services	14.2%	13.1%
More backcountry trail maintenance	14.2%	--
More backcountry educational programs (Leave No Trace, Heat Kills, etc.)	14.2%	10.9%
New or improved restrooms at trailheads or backcountry campsites	--	12.6%

Listed in descending order from 1999 percentages.

	Everglades	
Top Three Improvements Noticed Since Fee Implemented:		
New or improved restrooms at trailheads, backcountry campsites, etc.	18.0%	--
Improved waterway signs	11.3%	--
Improved backcountry campsites	10.5%	--
More educational programs	--	21.7%
More backcountry visitor information services	--	13.2%
More backcountry maintenance	--	12.3%

Listed in descending order from 1999 percentages.

Most backcountry users agreed that law enforcement should increase now that there are fees (Table 4.15). However, they were largely neutral on whether backcountry user fee money should be spent to fund law enforcement efforts. Compared to other uses of the revenue, 1999 and 1996 backcountry users from both parks ranked law enforcement in the bottom 35% of the list of uses.

**Table 4.15 Attitudes Toward Enforcement**

	Strongly Disagree		Neutral		Strongly Agree	Don't Know Or N/A
I expect rangers to enforce the backcountry permit requirement more rigorously now that there are fees.						
1999 Grand Canyon	4.2%	8.2%	29.4%	29.4%	26.7%	2.1%
1996 Grand Canyon	7.1%	8.2%	26.1%	30.4%	26.4%	1.7%
1999 Everglades	7.9%	9.0%	25.6%	31.2%	25.8%	0.6%
1996 Everglades	7.3%	12.1%	25.1%	28.3%	26.3%	0.8%
	Strongly Oppose		Neutral		Strongly Support	Don't Know Or N/A
Support for using backcountry fees for more backcountry law enforcement of permit regulations.						
1999 Grand Canyon	8.0%	8.3%	40.3%	22.4%	19.5%	1.6%
1996 Grand Canyon	10.8%	11.7%	36.2%	21.9%	17.8%	1.7%
1999 Everglades	9.8%	7.8%	40.3%	16.4%	23.3%	2.3%
1996 Everglades	14.6%	11.8%	32.1%	17.5%	20.7%	3.3%

Visitors were also asked how they thought fee revenues should be distributed between their National Park and other National Parks with needs. Backcountry users at both parks believed that more than 80% of the fee revenue should stay at their National Park (Table 4.16).

**Table 4.16 Preferred Distribution of Fee Revenues Among Parks**

	Mean Percentages			
	1999 GRCA	1996 GRCA	1999 EVER	1996 EVER
Keep at Grand Canyon or Everglades National Park only	85.38%	85.99%	88.33%	89.36%
Available for use by the National Park Service to distribute to other National Parks with needs	14.62%	14.01%	11.67%	10.64%

Backcountry users have expectations for services when they pay backcountry user fees. A strong majority agreed that guaranteed campsites are an expectation of paying fees (Table 4.17). When asked whether it would be all right for backcountry visitor services to be reduced in the absence of fees, 1999 and 1996 users at both parks were evenly distributed about their opinion.

**Table 4.17 Expectations Regarding Use of Fee Revenue**

	Strongly Disagree		Neutral		Strongly Agree	Don't Know Or N/A
When I pay for a backcountry permit, I expect to have a guaranteed place to camp in the backcountry.						
1999 Grand Canyon	3.2%	3.4%	7.2%	23.1%	62.1%	1.1%
1996 Grand Canyon	5.4%	4.6%	10.3%	19.1%	59.7%	0.9%
1999 Everglades	2.8%	3.4%	8.2%	18.6%	64.7%	2.3%
1996 Everglades	3.6%	3.6%	10.5%	21.1%	59.5%	1.6%

If fees were not charged for overnight backcountry use, it would be all right for backcountry visitor services to be reduced (fewer ranger patrols, reduction in permit office hours, reduction in maintenance, etc.)

1999 Grand Canyon	26.8%	14.6%	15.6%	25.5%	16.7%	0.8%
1996 Grand Canyon	22.2%	22.8%	13.7%	18.8%	19.9%	2.6%
1999 Everglades <sup>aa</sup>	24.8%	21.7%	14.4%	19.7%	17.7%	1.7%
1996 Everglades	15.4%	17.4%	20.6%	24.3%	21.5%	0.8%

aa. t-test value for difference in means between 1999 and 1996,  $p < .01$

## Displacement

### *Comparisons between 1999 and 1996 Samples at Each National Park*

One of the strengths of this research project was its ability to compare visitors from pre-user fee conditions with visitors from after the implementation of fees. If visitors have been displaced because of user fees, then a comparison of demographic and visit characteristics would show whether certain types of visitors have been displaced. There were very few significant differences between 1999 and 1996 users on any of these characteristics. For Everglades National Park, 1999 backcountry users were significantly younger than 1996 users (43 vs. 47 years old at the time of completing the questionnaire),

were more likely to be using a canoe or kayak than a motorboat (66% canoe/kayak in 1999 vs. 51% in 1996), more involved in canoeing/kayaking over the past year (17 vs. 11 trips), and were more likely to say that their trip duration has been longer since 1997. It should be noted that total nights spent in the backcountry on the specific trip they were surveyed about were not significantly different between groups.

For Grand Canyon National Park, 1999 backcountry users were significantly younger than 1996 users (43 vs. 47 years old at the time of completing the questionnaire) and spent less time in the backcountry on their specific trip (3.35 vs. 3.72 nights). However, respondents were more likely to say that their trip duration has been longer since 1997, were more likely to be on single-purpose trips, and were more likely to plan up to a month in advance instead of up to a week in advance.

#### *Self-Identified Future Displacement*

Previous user fee studies have addressed displacement by asking current visitors if the user fee program will change their future visitation. This type of question asked for a behavioral intention and represented a “user-defined” measure of displacement. Behavioral intentions are likely to be correlated with future behavior (Loomis, 1993). In order to compare Everglades National Park and Grand Canyon National Park backcountry users with other studies, this behavioral intention question was repeated in this study (Lundgren et al., 1997).

Across all four groups, between 3 and 13% stated that they would visit less often because of the fee program (Table 4.18). At Grand Canyon National Park, 12.2% of 1996 users (n=43) reported being future displaced, while only 6.4% of 1999 users (n=24) reported this. At Everglades National Park, 7.7% of 1996 users (n=19) reported being

potentially displaced and 3.4% (n=12) of 1999 users reported this. These potentially displaced users represent 9.3% of the Grand Canyon National sample and 5.5% of the Everglades National Park sample. These percentages were weighted to adjust for different sample sizes between 1999 and 1996 users at each National Park. Potentially displaced users defined as the visitors who say they will visit the backcountry of each National Park less often in the future.

Between 80 and 93% said their visitation would not change, either because the fee program would have no effect, or because they had no intention to visit again in the near future. A small percentage said they would visit more or would buy an annual frequent hiker membership. This membership option was only available for Grand Canyon National Park users, and thus not asked of Everglades National Park users. At both parks, 1996 users were more likely to say that they would visit less often because of fees.

**Table 4.18 Likelihood of Future Displacement Due to Fees**

Likely future visitation changes because of the fee program	99GRCA <sup>bb</sup>	96GRCA	99EVER <sup>bb</sup>	96EVER
No plans to visit again	5.0%	8.8%	3.1%	8.5%
More often	0.8%	0.9%	0.6%	0.4%
Less often	6.4%	12.2%	3.4%	7.7%
No change	78.8%	71.9%	89.6%	81.0%
Buy annual pass and visit more	4.2%	1.7%	--	--
Don't know/Not sure	1.6%	2.6%	1.1%	0.0%
Other	3.2%	2.0%	2.2%	2.4%

bb. chi-square test for difference in distributions between 1999 and 1996,  $X^2 < .01$

Although these potentially displaced users make up a small sample size, tests were run to see if there were significant differences between self-identified future displaced and non-displaced users at each National Park. At Everglades National Park, there were few significant differences between potentially displaced and non-displaced users (1999 and 1996 samples combined). In terms of demographic differences, income

was the only significant variable. Potentially displaced users were more likely to be low-income than non-displaced users (21.4% vs. 6.1% with <\$20,000 annual household income). For trip characteristics, the only significant variable was a reported change in trip duration. Potentially displaced users were more likely to say their trip duration has been shorter since 1997.

Potentially displaced users from Grand Canyon National Park (1999 and 1996 samples combined) were significantly different from non-displaced users in three demographic categories. First, potentially displaced users were significantly less likely to be working full-time for pay. Fifty-four percent were full-time employed, compared to 67.3% of non-displaced users. Potentially displaced users were also significantly more likely to be non-white in race (15.0% vs. 4.4%) and low-income. Income was collapsed into two levels, less than \$20,000 annual household income and greater than \$20,000 annual household income. Fewer non-displaced users (6.4%) had annual household incomes less than \$20,000. In contrast, 15.4% of potentially displaced users were low income.

Grand Canyon National Park potentially displaced and non-displaced backcountry users also exhibited significant differences in trip characteristics. Potentially displaced users took backcountry trips that were longer in duration (4.11 nights vs. 3.48), traveled less distance to reach the backcountry trailhead (784 miles vs. 1020), and had lower expenditures for their trip (\$396 vs. \$835). Finally, potentially displaced users were more likely to say that they have shortened their trip duration.

### *Researcher-defined Displacement*

Another way to measure displacement is with researcher-defined criteria. For example, people who visit less often after the implementation of user fees may have been displaced. However, it's also possible that other reasons may have caused them to visit less often. Questions about the relative importance of different barriers to participation can be used to determine the impact of user fees compared to other barriers.

Visitors were asked to report the total number of overnight backcountry trips they made to each National Park from 1994 to 1999. If fees displaced users (either completely, or caused them to visit less often), then we would expect the average number of trips for any given user from 1994-96 to be higher than the average from 1997-99. There were a number of visitors on "once-in-a-lifetime" trips, who had no intention of repeat visits. To adjust for this, only respondents with more than one visit from 1994-1999 were included in this analysis. Repeat users represented between 56.0% and 77.6% of the samples (Table 4.19).

**Table 4.19 Repeat vs. "Once in a Lifetime" Visitors**

	Percentages			
	1999 GRCA	1996 GRCA	1999 EVER	1996 EVER
Once in a lifetime visit	44.0%	35.2%	34.7%	22.4%
Have made multiple visits	56.0%	64.8%	65.3%	77.6%

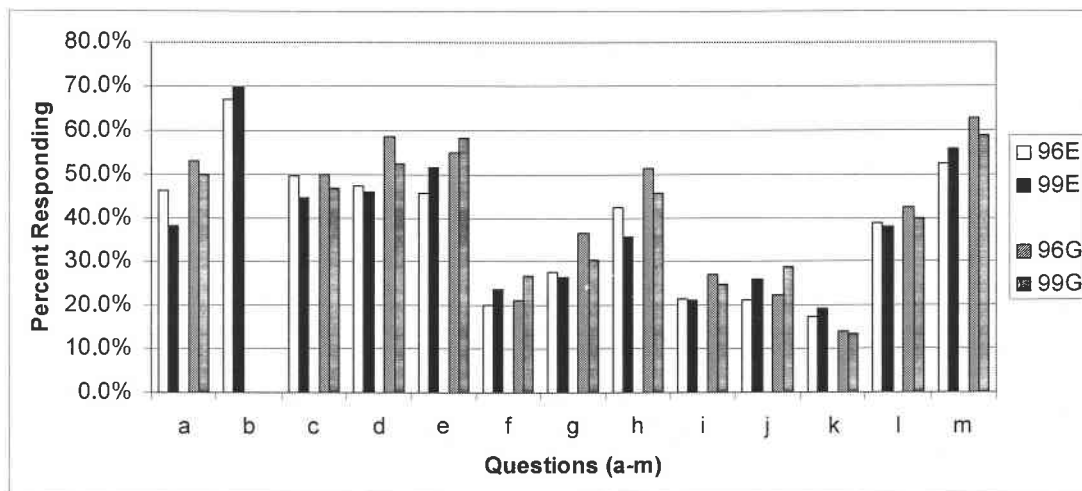
Over the six year time period between 1994 and 1999, 46.7% of 1996 repeat users and 18.3% of 1999 repeat users at Everglades National Park had reduced their average number of visits after fees were implemented. For Everglades National Park, this created a weighted percentage of 36.0%. Many repeat users at Grand Canyon National Park in the 1996 sample reported a decline in visits (50.8%). Most 1999 Grand Canyon National

Park users did not report a decline (14.4% reported a decline). For Grand Canyon National Park, the weighted percentage was 34.8%. The length separating repeat visits can influence the evaluation of these trip frequency results. If the typical visitation pattern were longer than one trip every six years, then these results would be misleading.

In a separate question, visitors were asked to rate the importance of various factors in preventing them from taking more overnight backcountry trips. The Likert scale ranged from 1 through 5, with 1 being "Not at All Important" and 5 being "Extremely Important." There are various ways of interpreting the degree of the barrier ratings. Figure 4.1 shows the percent of visitors who rated each factor as important. This was broadly defined as any rating other than "not at all important." The barrier rated as important by the greatest percentage of people was the inability to make advanced reservations. Grand Canyon National Park visitors can make advanced reservations, so this was only asked of Everglades National Park visitors. The next highest barrier was that the National Park has become less attractive because of conditions such as crowding, environmental damage, noise, etc. For Grand Canyon National Park, changing family conditions and overall cost of the trip followed these barriers. Half of the 1999 Grand Canyon National Park respondents said high backcountry fees were an important barrier, and 42% said that too many other fees in addition to backcountry fees were a barrier. These figures compare to 47% and 40%, respectively, for 1996 Grand Canyon National Park visitors. For 1996 Everglades National Park visitors, high backcountry fees were the third rated barrier (50% said it was important), and too many additional fees was eighth (39%). Forty-five percent of 1999 Everglades National Park users said that high



**Figure 4.1 Visitors Who Reported Barrier As Important**



Barriers a through m were:

- a. I dislike having to obtain the backcountry permits.
- b. I dislike the inability to make advanced reservations.
- c. Backcountry fees are too high.
- d. My family obligations have changed (more children, take care of elderly, etc.).
- e. The overall cost of the trip is too high.
- f. The trip was only a once-in-a-lifetime visit for me.
- g. I go to a different area that does not charge fees.
- h. My lifestyle has changed (job situation, preferred activities, etc.)
- i. I cannot afford the backcountry permit fees.
- j. I have moved farther away from Everglades/Grand Canyon National Park.
- k. I do not feel safe at Everglades/Grand Canyon National Park for my property or myself.
- l. There are too many other fees in addition to backcountry permit fees.
- m. Everglades/Grand Canyon National Park has become less attractive to visit because of conditions in the park such as crowding, environmental damage, noise, etc.

backcountry fees were an important barrier and 38% said that too many additional fees was a barrier.

Results changed significantly when the analysis was done with barriers that were rated as very important (4 or 5 on a 1-5 scale, Table 4.20). The highest that any of the four fee-related barriers show up is 5<sup>th</sup> out of 13 (12 for Grand Canyon National Park). Inability to afford the backcountry fees was last on the list for both Everglades National Park groups, and second to last for both Grand Canyon National Park groups. The most important barrier for Everglades National Park groups was the inability to make advanced

reservations. Lifestyle changes and family obligations rated high for all four groups, as did a decline in the attractiveness of the parks. Too many other fees (in addition to backcountry fees) was a very important barrier for between 10 and 17 percent of all respondents, while the price of backcountry fees was very important for 9 to 12 percent.

**Table 4.20 Participation Barriers Rated as “Very Important”**

	1999 EVER	1996 EVER	1999 GRCA	1996 GRCA
I dislike the inability to make advanced reservations.	37.6%	34.5%	NA	NA
My family obligations have changed (more children, take care of elderly, etc.).	24.5%	22.4%	22.8%	34.4%
Everglades/Grand Canyon National Park has become less attractive to visit because of conditions in the park such as crowding, environmental damage, noise, etc.	19.9%	21.9%	25.6%	25.7%
The overall cost of the trip is too high.	15.5%	9.5%	18.7%	17.4%
My lifestyle has changed (job situation, preferred activities, etc.)	14.3%	20.7%	17.2%	24.3%
I have moved farther away from Everglades/Grand Canyon National Park.	11.9%	11.7%	13.9%	11.6%
I dislike having to obtain the backcountry permits.	11.6%	15.7%	13.4%	15.4%
There are too many other fees in addition to backcountry permit fees.	10.6%	16.8%	11.4%	12.4%
Backcountry fees are too high.	10.3%	9.9%	12.1%	13.0%
I go to a different area that does not charge fees.	6.4%	11.6%	11.6%	14.0%
The trip was only a once-in-a-lifetime visit for me.	5.6%	9.3%	9.5%	8.2%
I do not feel safe at Everglades/Grand Canyon National Park for my property or myself.	4.8%	3.5%	0.1%	2.4%
I cannot afford the backcountry permit fees.	2.4%	2.6%	2.5%	4.4%

In conclusion, results in this section varied depending on how displacement was measured. First, displacement was examined through comparing 1999 and 1996 samples at each National Park. This showed minor significant differences between samples. Then, respondents were grouped into potentially displaced and non-displaced based on their own self-identification related to future visits. Between 3 and 13% of the respondents said they would be displaced in the future. A researcher-defined displacement was explored and 13-57% from each sub-sample had declined in their visits. Lastly, barriers

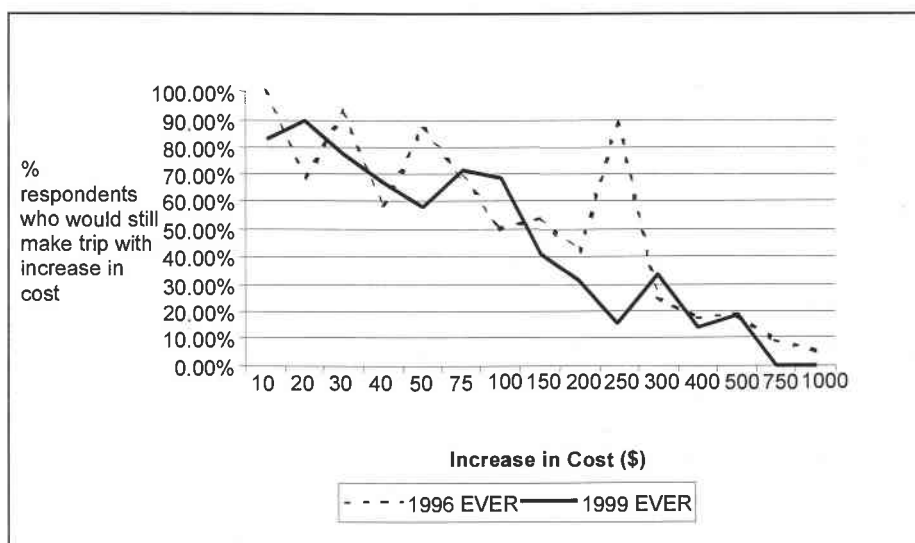
to participation for 1999 and 1996 backcountry users at each National Park were presented. Specific fee barriers were very important to 2 to 17% of the sub-sample respondents.

### **Visitation Patterns and Changes**

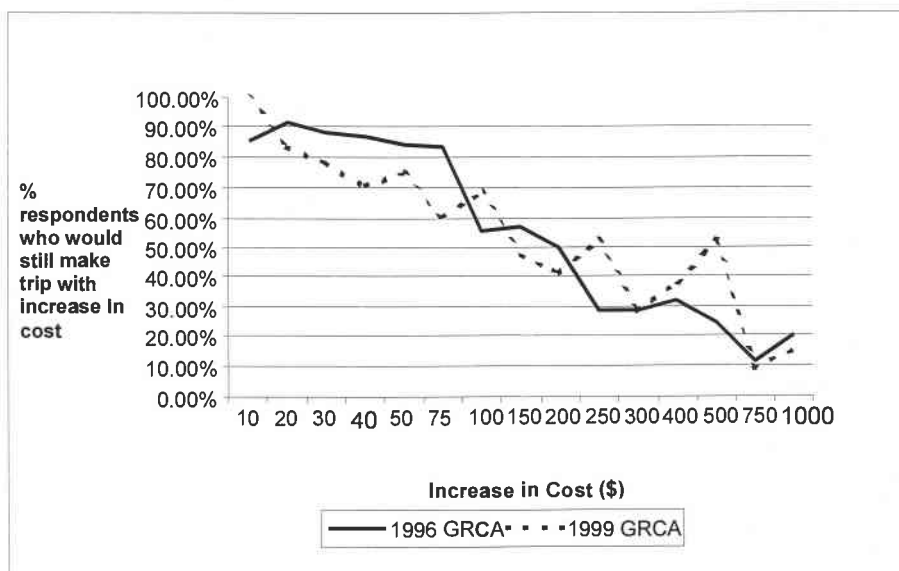
#### ***Response to Increased Trip Cost***

Respondents at Grand Canyon and Everglades National Parks were presented with a hypothetical increase in trip cost, and asked if they would still have made their trip to the National Park at the increased cost. These increases in trip cost were randomly assigned and ranged from \$10 to \$1000. Backcountry users from 1999 and 1996 responded similarly at both National Parks. About 50% of users would not have made the trip if their costs had been between \$100-200 more (Figures 4.2 and 4.3). The slope of the acceptance rate for Everglades National Park users appeared to be slightly steeper than for Grand Canyon National Park. This may be related to differences in trip costs for people visiting each National Park. Grand Canyon National Park users spent \$787 per trip on average, while Everglades National Park users spent only \$470 per trip on average.

**Figure 4.2 Everglades National Park Percent Accepting Increase in Trip Cost**



**Figure 4.3 Grand Canyon National Park Percent Accepting Increase in Trin Cost**

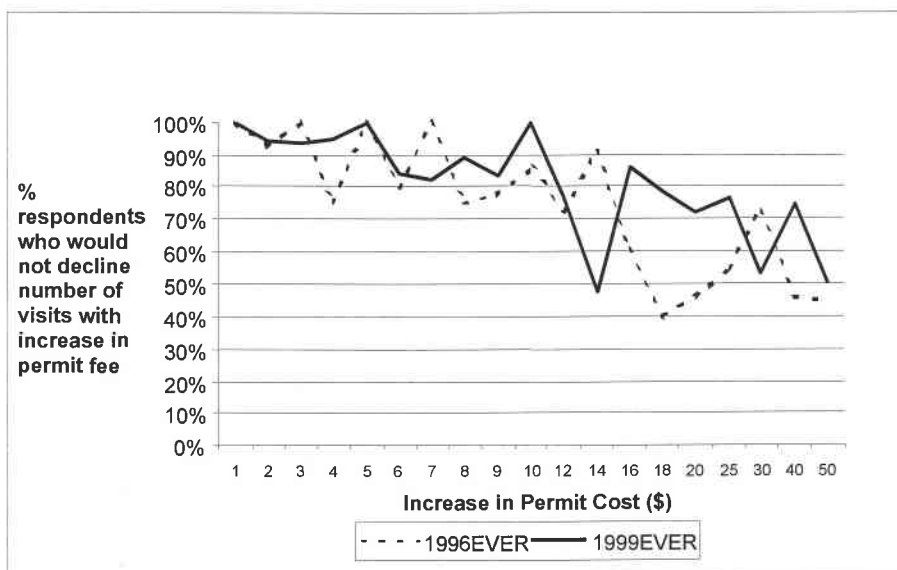


### *Response to Increased Backcountry Permit Fees*

Grand Canyon National Park and Everglades National Park users were also presented with an increase in permit fees, randomly assigned and ranging from \$1 to 50.

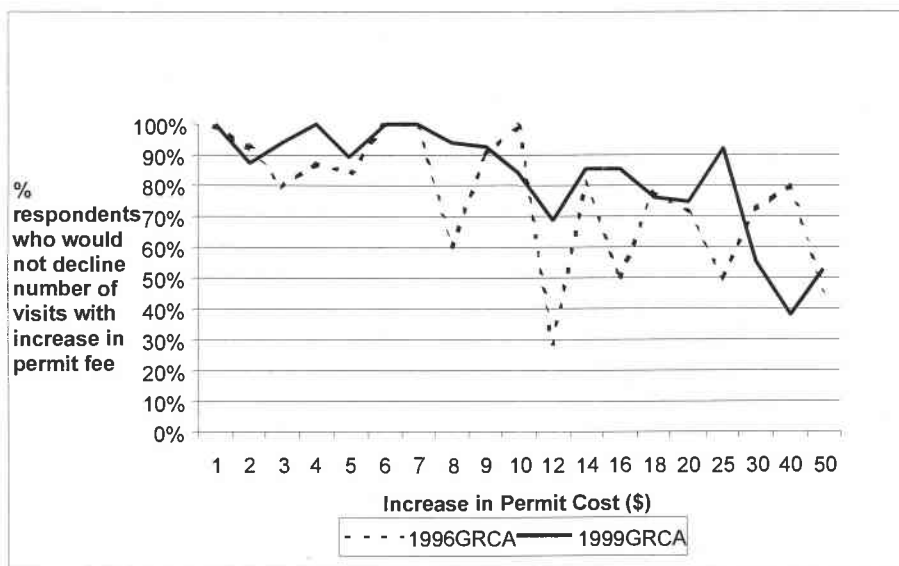
They were asked how many trips they would make at the current price in the next two years and then how many at an increased price. Many respondents were willing to accept increases in permit costs without a decline in their number of visits (Figures 4.4 and 4.5).

**Figure 4.4 Everglades National Park Percent Stating No Decline in Visitation with Increase in Permit Cost**



When the permit cost increased by \$10 or more, the 1999 and 1996 samples began to show greater than 10% of respondents declining in visitation. However, the \$10 additional would be a 100% increase in current permit price for both parks (not including per person or per group fees at Grand Canyon National Park). When presented with a \$50 increase in permit cost, 50% of respondents said that they would still take the same number of trips.

**Figure 4.5 Grand Canyon National Park Percent Stating No Decline in Visitation with Increase in Permit Cost**



In order to look more closely at the response of visitors to increased permit price, a contingent behavior model was estimated. The Tobit and Heckman Sample Selection model results from Everglades National Park are presented in Tables 4.21 and 4.22. There were six significant variables in the Tobit model: BID2 (randomly assigned increase in backcountry user fee), AVGFEE (average rating of fee barriers), AVGLIFE (average rating of lifestyle barriers), EXPEND (trip expenditures on specified trip), FREQ (number of trips taken to the National Park in a six year period), and MOTOR (motorized user dummy variable for Everglades only). The positive coefficient on BID2, the randomly assigned backcountry fee increase, was expected. As the price of the backcountry permit rises, the change in visits from the original situation also increases. Two barriers, fee-related and lifestyle-related, significantly affected participation and visitation. In the first barrier, the more someone rated fees as a barrier to participation, the

greater the visitation response. By having a larger visitation response, this meant there would be a larger difference between trips planned under the status quo and trips planned under the different situation. The lifestyle-related barrier, however, had the opposite sign. This sign implied that for greater ratings of lifestyle-related barriers, there was a smaller change in visits. This may be because lifestyle-related barriers completely removed visitors from the market, i.e. these are the people likely to be non-participants. People who incur large trip costs to reach the site are less responsive. This is expected because backcountry user fees are a smaller proportion of total costs for those visitors with relatively high trip costs. Both frequent visitors and motorized recreationists had a greater visitation response than infrequent and non-motorized recreationists. In the Tobit model for Everglades National Park, the estimated coefficients for INCOME (annual household income), WHITE (dummy variable for white race), and LOCAL (within 100 miles of the National Park) were not significant at the .05 level.

The Everglades National Park Heckman sample selection model differs slightly from the Tobit model. For both the participation and visitation response specifications, there were nine significant variables. Visitors who reported the inability to make reservations as a higher barrier were more likely to plan on visiting Everglades National Park within the next two years. While this barrier most likely does not cause visitors to plan on returning, it does indicate that the ability to make advanced reservations is related to intention to visit the National Park. The sign on EXPEND and MOTOR was the same as in the Tobit model. In the Heckman Sample Selection model, however, the interpretation for EXPEND is different. Those with higher trip costs to reach Everglades National Park were less likely to plan on returning in the next two years. Two

demographic variables were significant in the Heckman Sample Selection Model's participation specification. INCOME and LOCAL were significant variables for the participation specification. Higher income people were more likely to plan on visiting, and locals also had a higher probability of intending to return.

**Table 4.21 Tobit Model Results for Everglades National Park**

Participation and Visitation Response Specification		
Dependent Variable:	<b>Change in Visits</b>	
	Coefficient	T-value
Independent Variable:		
CONSTANT	-6.551	-2.145**
BID2	0.149	5.656***
AVGFEE	2.223	5.648***
AVGPARK	-0.447	-1.253
AVGRES	-0.196	-0.846
AVGLIFE	-0.776	-2.209**
EXPEND	-0.003	-2.255**
FREQ	0.073	2.582***
MOTOR	1.394	1.930*
LOCAL	0.791	1.074
INCOME	-0.222	-1.243
EDU	0.203	1.033
AGE	-0.028	-0.922
WHITE	-0.792	-0.510
FTEMP	0.211	0.310
LAMBDA		

\* = p-value <.10, \*\* = p-value<.05, \*\*\* = p-value<.01

In the Everglades National Park visitation response, BID2, AVGFEE, FREQ, and WHITE were statistically significant. This shows that for higher levels of the fee increase, rating of fees as a barrier, and number of trips to the National Park, there was a positive effect on the visitation response. Everglades National Park visitors who specified their race as white have significantly less visitation response than those who are non-white. LAMBDA, the variable for the inverse Mill's ratio, was not significant at the .05



level. The significance of LAMBDA measures the severity of the sample selection bias. By not being significant, there was more confidence that sample selection was not a problem for these models.

**Table 4.22 Heckman Sample Selection Model for Everglades National Park**

Dependent Variable:	Participation Specification		Visitation Response Specification	
	Coefficient	T-value	Coefficient	T-value
Independent Variable:				
CONSTANT	-0.285	-0.417	-0.370	-0.346
BID2			0.042	5.857***
AVGFEE	-0.032	-0.306	0.596	5.577***
AVGPARK	0.022	0.239		
AVGRES	0.117	2.013**		
AVGLIFE	-0.019	-0.249		
EXPEND	-0.0002	1.689*	0.0002	-0.061
FREQ			0.023	2.741***
MOTOR	0.652	3.188***	0.445	1.479
LOCAL	0.482	2.404**	0.272	1.098
INCOME	0.097	2.376**	-0.043	-0.659
EDU	-0.067	-1.405	-0.006	-0.110
AGE	0.004	0.555	-0.2	-0.231
WHITE	0.360	0.958	-1.061	-2.301**
FTEMP	0.140	0.840	0.219	1.128
LAMBDA			0.513	0.436

\* = p-value <.10, \*\* = p-value<.05, \*\*\* = p-value<.01

The results from the Tobit and Heckman Sample Selection models for Grand Canyon National Park are presented in Table 4.23 and 4.24. There were five significant variables: BID2, AVGFEE, EXPEND, FREQ, and WHITE. The positive coefficient on BID2, the randomly assigned backcountry fee increase, was as expected. As the price of the backcountry permit became higher, the change in visits from the original situation also increased. The BID2 coefficient for Grand Canyon National Park is much smaller than the one estimated for Everglades National Park. This implies that people at the

Grand Canyon National Park were more price inelastic than visitors at Everglades National Park. Only one barrier, fees, was significant in this specification. The more someone rated fees as a barrier to participation, the greater the visitation response. This means there would be a larger difference between trips planned under the status quo and trips planned with the hypothetical fee situation. EXPEND was significant and negative, which means people who incurred larger trip costs to reach the site were less responsive. This was expected because backcountry user fees are a smaller proportion of total costs for those visitors with relatively high trip costs. Frequent visitors have a greater visitation response than infrequent visitors. The four significant variables discussed above - fee increase, fee-related barrier rating, trip expenditures, and frequency of trips to the National Park - are held in common with the Tobit model from the Everglades National Park. However, unlike the Everglades National Park Tobit model, WHITE was significant at the .10 level. Grand Canyon National Park visitors who specified their race as white were estimated to have significantly less changes in visits than non-whites.

The Heckman Sample Selection model for Grand Canyon National Park was rather different than the Tobit model. Unlike the Tobit model, WHITE was not significant in either the Heckman Sample Selection model's participation or visitation response specifications. However, the additional variables of AVGPARK (average rating of park barriers), LOCAL (within 200 miles of the National Park), and INCOME were significant. The participation specification showed that AVGFEE, AVGPARK, EXPEND, LOCAL, and INCOME had significant coefficients. Higher ratings of fees as a barrier and higher trip costs are estimated to reduce the probability of a visitor returning in the next two years. Being within local distance to the National Park, having a higher

income, and rating poor attractiveness of the National Park as a barrier contributed to the probability of returning. The common significant variables between participation specifications at both National Parks were EXPEND, LOCAL, and INCOME.

**Table 4.23 Tobit Model Results for Grand Canyon National Park**

Participation and Visitation Response Specification		
Dependent Variable:	Change in Visits	
	Coefficient	T-value
Independent Variable:		
CONSTANT	-7.167	-3.716***
BID2	0.087	5.087***
AVGFEE	1.882	6.682***
AVGPARK	-0.254	-0.893
AVGRES		
AVGLIFE	-0.158	-0.707
EXPEND	-0.001	-1.936*
FREQ	0.099	3.603***
MOTOR		
LOCAL	-0.035	-0.054
INCOME	0.066	0.492
EDU	0.031	0.230
AGE	-0.009	-0.417
WHITE	-1.221	-1.656*
FTEMP	0.029	0.055
LAMBDA		

\* = p-value <.10, \*\* = p-value<.05, \*\*\* = p-value<.01

In the Grand Canyon National Park visitation response, BID2, AVGFEE, and FREQ were statistically significant. These show that for higher levels of the fee increase, rating of fees as a barrier, and number of past trips to the National Park, there is a positive effect on the visitation response. In other words, people typically reduce their visits when there is a fee increase. All other values held constant, those who are reactive to fees and are frequent visitors will also reduce their visits under different scenarios. Like in the Everglades National Park model, LAMBDA was not significant at the .05 level. There

was additional confidence that sample selection was not a problem for Grand Canyon National Park sample.

**Table 4.24 Heckman Sample Selection Model for Grand Canyon National Park**

Dependent Variable:	Participation	Visitation Response		
	Specification	Specification		
	<b>Plan to Visit</b>		<b>Change in Visits</b>	
Independent Variable:	Coefficient	T-value	Coefficient	T-value
CONSTANT	0.525	1.106	-1.172	-2.607***
BID2			0.016	4.218***
AVGFEE	-0.157	-2.161**	0.446	6.787***
AVGPARK	0.160	2.089**		
AVGRES				
AVGLIFE	-0.074	-1.237		
EXPEND	-0.0002	-3.406***	-0.862	-0.978
FREQ			0.021	3.527***
MOTOR				
LOCAL	0.595	2.717***	0.132	0.658
INCOME	0.059	1.727*	0.030	1.342
EDU	-0.009	-0.243	0.007	0.242
AGE	0.003	0.514	-0.005	-1.089
WHITE	-0.048	-0.207	0.251	1.342
FTEMP	0.011	0.080	0.029	0.273
LAMBDA			0.294	0.434

\* = p-value < .10, \*\* = p-value < .05, \*\*\* = p-value < .01

It is difficult to determine which of the models, the Tobit or Heckman sample selection, is most appropriate for this situation. There are no formal econometric tests available to compare the two results (Loomis, 2001). However, there are several reasons why the Heckman Sample Selection model results were preferred over the Tobit results. Strong indications for sample selection bias, through a significant inverse Mill's ratio, would have clearly indicated that the Heckman Sample Selection model was the most appropriate to use. While this did not prove to be the case, the Heckman Sample Selection still offers the advantage of being more flexible, or general, than the Tobit.

Also, with this sample it can be justified that participation and visitation response were affected by different sets of variables. In the mailed questionnaire, respondents were asked to indicate their participation decision before being presented with the randomly assigned bid. This means that the bid should be left out of the participation model specification. Also, the groups of barriers were most applicable to the participation model, rather than the visitation response model. One concern with the dataset is that even when non-participants are removed, a large percentage of respondents report no change in visits in response to the increase in backcountry user fees. While this is a reflection of their inelastic demand, the large proportion of zero values may lead to additional bias.

In comparing the Heckman Sample Selection model results between National Parks, there were universally significant variables. Backcountry participation at both National Parks was affected by the total trip expenditures, whether the respondent was within local distance to the National Park, and the annual household income of the respondent. Meanwhile, the visitation response at both National Parks was affected by the increases in backcountry user fees, "objections" to fees, and the frequency of participation at the National Park. It may be that these variables hold true for most backcountry users of National Parks. The additional significant variables may be site specific.

Lastly, the Heckman Sample Selection model results from both National Parks suggest that frequent visitors have potentially large visitation responses to increases in fees. This is a result expected from the displacement literature (e.g. Anderson and Brown, 1984). Of the demographic variables of concern - income, ethnicity, and local distance to

the National Park - only ethnicity was significant in the visitation response at Everglades. One explanation for significance at Everglades National Park but not Grand Canyon National Park is that the racial composition of non-white respondents differed. All non-white respondents were grouped together even though there may be variations in response within non-white races. Another speculation may be that a significant difference in the composition of non-white races exists between the two National Parks. Additionally, the small number of non-white respondents in the dataset may affect this variable.

## DISCUSSION

The first objective of this study was to measure the opinions and attitudes of backcountry users regarding the acceptability of recreation user fees. Similar to prior research, backcountry users at Grand Canyon and Everglades National Park were supportive of certain types of user fees, but not of others (Lundgren et al., 1997; Watson et al., 1998; Winter et al., 1998). A large majority of all users (67-81%) felt it was appropriate to charge entrance fees at most National Parks, and at Grand Canyon and Everglades National Park. Over 59% of Grand Canyon National Park users said that backcountry user fees were appropriate at most National Parks and at Grand Canyon National Park. In general, a majority of Everglades National Park backcountry users agreed that backcountry fees were appropriate, even though the percentages were close for 1996 Everglades National Park users. The majority of Grand Canyon National Park backcountry users said that it was appropriate to charge fees for raft/boat use at most national parks, and at Grand Canyon National Park. Everglades National Park backcountry users were less supportive of raft/boat user fees, with a majority feeling that these fees were inappropriate at most National Parks or at Everglades National Park. Finally, charging for parking in National Parks was not strongly supported by any of the sub-samples.

Results about the acceptability of the current price were compatible with past research (Lundgren et al., 1997). There was agreement that the current backcountry permit price was "just about right" (64-71%) at both parks. At Grand Canyon National Park, a majority of the users also thought the per person per night part of the price was

about right, but 1996 users were more likely to think it was too high (35%) than 1999 users (21%). A substantial minority thought the per group per night part of the price was too low (27-29%). A majority of all users agreed that backcountry users should pay less than overnight visitors in developed campgrounds should.

A question that was not asked in previous studies involved the perceptions of how much National Parks should rely upon user fees as a funding source. Backcountry visitors felt that National Parks should only rely on user fees for 20-28% of their total funding. These users perceived that parks received 23-37% of their funding from fees. Grand Canyon National Park visitors were more willing to rely on user fees for funding. Overall, this would seem to indicate that the current fee prices were acceptable, but backcountry users would like to see National Parks increase funding from other sources such as Congressional funding or donations.

The second study objective was to explore backcountry users' opinions and attitudes about the National Park Service policies and management of the RFDP. Visitors were least opposed to making backcountry permits less expensive during weekdays or the off-season, or for less popular campsites. Most felt that group size should be a factor in the permit price, but not necessarily the number of nights spent in the backcountry. A majority of Everglades National Park users were either neutral or supportive of having an annual permit option.

Visitors were generally supportive of the ability to acquire backcountry permits over the phone, in person at the National Park, through the mail, fax, or internet. A centralized reservation system for all parks had the most amount of opposition (28-41%).



Everglades National Park backcountry users strongly supported an advanced reservation system for their National Park (69%).

Visitor services, facility maintenance, and resource protection are often found to be the top funding priorities of recreationists for fee revenue (Lundgren et al., 1997; Lewis and Lime, 1998). Results from the present study were congruent with these past findings. Backcountry users at both parks supported the use of fee revenues for revegetation of impacted sites. Grand Canyon National Park users' next priorities were archaeological work, backcountry trail maintenance, and noise reduction in the backcountry. Everglades National Park backcountry users' priorities were for more designated backcountry campsites, removal of non-native plants and animals in the backcountry, and improved backcountry campsites. A majority of users felt that permit requirements should be enforced more rigorously now that there are fees, and most were either neutral or supportive of using fee revenues to do this. Visitors were evenly split about whether it was acceptable for parks to reduce visitor services in the absence of fees.

The third study objective was to compare current and past backcountry users to test for changes in demographic and trip characteristics. This objective was intended to detect displacement of backcountry users as a result of new or increased recreation fees. Based on this portion of the analysis, there was limited evidence that user fees have discriminated against certain groups of backcountry users. For example, the percentages of local people, non-white people, or lower income people at either National Park were not significantly different before and after the implementation of the RFDP. There does, however, appear to be a shift to slightly younger visitors at both parks. While visitors to both parks stated that the duration of their overnight backcountry trips has gotten longer

since 1997, the actual number of nights spent by 1999 visitors on their specified trip was either the same (Everglades National Park) or shorter (Grand Canyon National Park) than 1996 visitors. At Everglades National Park, 1999 users were more likely to be canoers/kayakers and took more canoe/kayak trips annually. At Grand Canyon National Park, 1999 users spent more time planning their trip, and were more likely to be on a single destination trip. Past displacement studies identified locals, frequent participants, and low-income people as the recreationists first to be displaced under new recreation conditions, but that did not hold true in this portion of the displacement analysis (Neilsen and Endo, 1977; Reiling et al. 1992; Shelby and Hall, 1998).

Shelby et al. (1988) offered one suggestion for analyzing results that show minimal displacement such as these. They hypothesized that there may be less displacement at unique sites because there is a lack of substitute sites. This may be the case for backcountry users who visit Everglades and Grand Canyon National Parks. Additionally, given the high acceptability ratings of backcountry user fees, displacement may not have occurred because the recreation situation did not become undesirable to backcountry users.

The fourth objective of this study was to describe the backcountry users at each National Park that were displaced since the introduction of the RFDP. The analysis for objective three provided some of this information, although, possible displacement of visitors due to user fees was measured using a number of methods. The first method provided a simple comparison between the pre-fee and post-fee samples at each National Park presented for the prior objective. The second method asked visitors if they believed that they might be displaced in the future. When asked about the possibility of future

displacement due to fees, between 3 and 13% said they would visit less often. This is at the low end of responses to this question in the literature (Lundgren et al., 1997; Winter et al., 1998). This suggests that, at least for backcountry users at selected National Parks, few recreationists believe that they will be displaced as a result of the RFDP.

At Grand Canyon National Park, users who felt they would be displaced were more likely to be non-white, more likely to be low-income, less likely to be working full-time for pay, and traveled shorter distances to the Park. At Everglades National Park, users more likely to be displaced were also more likely to be low-income. The results from these two measures of displacement are inconsistent. For example, non-white, low-income, local Grand Canyon National Park users said that they would be displaced in the future because of fees, but there were not significantly fewer of these types of people after the fee program than before. This result is strikingly similar to Manning et al. (1984) who found that low-income respondents said their recreation decisions were affected by fees, but analysis of their choices showed no significant difference compared to high-income respondents. It may be that low-income, non-white or local visitors were replaced by other low-income, non-white, or local visitors. This would suggest, though, that these demographic reasons are not the true reasons that they were displaced.

Approximately a third of visitors to both parks had lower average visitation levels from 1994-96 than from 1997-99. When asked about the barriers that kept visitors from making more trips, some fee-related barriers were rated as very important by up to 17% of all respondents. Shindler and Shelby (1995) found in their displacement study that there are often many reasons that visitors are unable to visit a recreation site more often. In this study, there were four other barriers that were consistently more important than

fees. While backcountry user fees are certainly a deterrent for some people, it appears to represent a relatively small percentage of all users. It appears that, although fee-related barriers are of some importance in keeping nearly half of the users from visiting more often, they are only very important barriers for up to 17% of backcountry users. This is still a substantial percentage of visitors, however, and further consideration is warranted.

Lastly, the fifth objective measured the visitation response of backcountry users to future hypothetical fee scenarios. As expected, high hypothetical costs led to a greater percentage of respondents saying that they wouldn't have made their trip. Because these trips are already very expensive for many visitors, increases in trip costs reached as high as \$1,000 before visitation dropped to zero. We expected visitor responses to be more sensitive to increases in permit cost than trip fees because backcountry user fees are a more contentious issue. For increases in permit costs, it was expected that a \$50 increase would drive everyone's visits to zero, but that was not the case. Around 40% of respondents said they would still make the same number of trips at \$50 more.

The visitation response models, estimated using the Tobit and Heckman Sample Selection models, exhibited significant variables that matched both general displacement theory and recreation demand studies that incorporate user fees (Anderson and Brown, 1984; Reiling et al., 1992; Bowker and Leeworthy, 1998). In the Tobit model results for Everglades National Park, the increase in fees, ratings of fees as a barrier, and frequency of participation were all important in explaining how responsive backcountry users would be to a change in fee prices. In the Tobit model results for Grand Canyon National Park, the increase in fees, ratings of fees as a barrier, frequency of participation, and race were significant explanatory variables in visitation response. The Heckman Sample Selection

models featured similar significant variables. However, a major difference was that distance to the National Park and income were predictive of whether backcountry users would even be participating in backcountry use of the National Parks in the future. Many users had no intention of returning, regardless of an increase in fees. Locals and high-income people at both parks were more likely to plan on returning to the backcountry in the next two years.

In conclusion, this study generally confirmed findings of prior recreation user fee research regarding opinions and attitudes for backcountry users of National Parks. The displacement results largely depended on how displacement was measured. Actual comparisons of samples from before and after fee implementation or researcher-defined displacement yielded little evidence of displacement. There are, however, significant differences between those recreationists who felt that they would be displaced and those who did not report potential future displacement. Grand Canyon National Park and Everglades National Park backcountry users who reported potential future displacement were more likely to be low-income, non-white, and lived within a local distance of National Parks than non-displaced visitors. The visitation response models also showed that some reduction in visits could be attributed, in part, to the price of fees, perceptions of user fees as a barrier to visiting the backcountry of the National Park, frequency of participation in recreation at the National Park, income, ethnicity, and distance from the National Park, depending on the model and the National Park.

## CONCLUSION

### Implications

The mission of the National Park Service is to conserve natural areas and provide for the enjoyment of the American public in perpetuity (National Park Service Organic Act, 1916). In meeting this objective, National Park managers need information about and from their user groups concerning management actions. The implementation of recreation user fees through the RFDP is one such instance where user feedback can assist future management actions. Critical information was missing, including the preferences of backcountry users concerning future management of the RFDP, and information about the effects of new, increased, and additional user fees on backcountry users of National Parks.

In meeting these informational needs, the present study reported opinions and attitudes about implementation, where to spend fee revenue, differential fee systems, and acquisition methods among other issues. Acquiring the backcountry permits in person was acceptable to all of the groups, however Grand Canyon National Park users were more in favor of electronic acquisition methods than Everglades National Park users. There is great interest at Everglades National Park for an advanced backcountry permit reservation system. Backcountry users were generally agreeable to the presented differential fee systems, and it was important that the fees were partially based on group size. Grand Canyon National Park backcountry users would like to see the fee revenue be used towards revegetation, archaeological efforts, and trail maintenance. Everglades

National Park backcountry users were more interested in seeing fee revenues used towards revegetation, developing more campsites, and removing non-native pests.

This study provided guidance to National Park managers about backcountry users and their reactions to current and future National Park Service decisions concerning the RFDP. In general, backcountry users are supportive of the RFDP; they were supportive of entrance fees and backcountry fees in particular. The price levels were also found to be acceptable to most backcountry users. Despite this, visitors felt that the National Parks were relying on fees for too much of their funding base. They would like the National Parks to pursue additional funding from other sources.

Furthermore, specific groups of visitors that perceive negative effects from the RFDP were identified. Users from Everglades National that reported being displaced were significantly more likely to be low-income. Those that report being displaced at Grand Canyon National were significantly more likely to be low-income, non-white, and not employed full time. The National Park Service can respond to this information in a variety of ways. They could ignore the concerns of these people because of the supportive attitudes from other backcountry users. They could also use this type of information to better equip themselves to be responsive or sensitive to these segments of their public. Some types of users find fees unacceptable and perceive a change in their recreation experience. These types of users may require additional attention from the National Park Service.

Finally, the visitation response model will help Everglades and Grand Canyon National Parks predict the expected impacts of future changes in backcountry permit prices. The participation model allows the National Park to predict more about who their

backcountry users will be in the next two years. The visitation response indicates which type of user will have a larger visitation response to higher fees than other users. For example, both Everglades National Park and Grand Canyon National Park found that those who rate fees as an important barrier and frequent visitors would have a large visitation response. If the National Park is interested in maintaining visitation levels at current levels they could create programs to address people's perceptions of fees as a barrier and special permit packages designed for visitors who visit the National Park regularly.

### **Limitations**

There are two major limitations to this study that may prevent generalization of results to the entire population of backcountry users of National Parks. First, the two study sites, Everglades and Grand Canyon National Park, are highly distinct from other National Parks. More confidence in the results for backcountry users of National Parks may be gained by evaluating backcountry users at National Parks that have variations in use levels, distance from urban centers, types of backcountry access, and regions in the United States. For example, both Everglades and Grand Canyon National have a high amount of "once-in-a-lifetime" visitors. National Parks that have high percentages of repeat visitors may exhibit different responses to the RFDP.

Second, while there were many advantages to sampling users randomly from before and after fee implementation, there may be more comprehensive answers to displacement questions by following a single set of visitors over time (Shindler and Shelby, 1995). It is problematic that repeat use can be separated by several years, even



decades. Since the samples were only drawn from 1996 and 1999 backcountry users, there are observations of repeat visits in those years, but no observations from visits before 1994 (other than their first visit to each National Park) or after 1999. For 1996 visitors in particular, they were only asked about the three years prior to, and after, their known visit. Therefore, some measures of displacement may not cover enough years to actually show changes in visitation behavior before and after fees.

A potential problem of using surveys is non-response bias. Low response rates are indicative of non-response error (Salant and Dillman, 1994). Of most concern in this study are the sub-samples of 1996 backcountry users from each National Park. Potential bias exists due to people moving, forgetting about trip details, and losing interest in backcountry activities. In the case of people moving, the respondents to this survey may be more likely to be people who have maintained a steady residence since their backcountry trip in 1996. College students, seasonal workers, and people who have relocated may have different opinions than those people who have remained in one location since 1996. People who may not have interest in responding to the survey could have different opinions about backcountry recreation fees than those who were motivated to return the questionnaire. While an evaluation for non-response bias has not yet been conducted, it is scheduled to be completed in July 2001.

### **Future Research Needs**

Several improvements can be made in the selection of backcountry user samples. First, evaluating the effects of the RFDP on backcountry users at a greater diversity of National Parks would be beneficial. Secondly, the continued monitoring of visitors over

time may yield different answers, given that repeat visitors often have several years between visits. These were discussed in more depth in the limitations section.

There are two additional directions that future research should explore. Due to the discrepancy between reports of future displacement and actual comparisons of samples over time, there is a need to investigate how reported displacement is connected to observable displacement. Perhaps the time frame placed on the observable displacement was not long enough to encompass the displacement effects respondents reported. Also, it was suggested that other visitors who share similar demographic and trip characteristics could be replacing displaced visitors. There are a number of reasons why the results in this study did not find a connection. In future studies, addressing questions about time frame and individual visitors may help elucidate the current contradiction in results.

The current econometric modeling explored the sample selection bias that can result from having a large portion of respondents who were not planning to return to the National Park in the next two years. Future modeling should explore how to best incorporate the large percentage of respondents who report having no change in visits regardless of the increase in backcountry permits. The literature does not discuss this possibility of “double” sample selection bias when both the participation decision and trip quantity decision contain high concentrations of zero responses.

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## APPENDICES

## **Appendix A: 1996 Everglades National Park Summary Statistics**



## Everglades National Park Backcountry User Survey

### 1996 Summary Statistics



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**Section 1: Trip Information**

Please think about the specific overnight backcountry trip specified in your cover letter. For the following questions, try to **reply as accurately as possible** about this specific trip.

Q-1. Including yourself, how many people were in your group on this overnight backcountry trip to Everglades National Park?

3.82 (avg.) # of People                      1.6% Don't Remember

Q-2. How many nights did you spend in each of these types of backcountry sites:

Chickees (raised platforms)	<u>1.03 (avg.)</u>	NIGHTS
Ground sites (with no beach area)	<u>.89 (avg.)</u>	NIGHTS
Beach sites	<u>1.26 (avg.)</u>	NIGHTS
<b>Total nights in the backcountry</b>	<b><u>3.24 (avg.)</u></b>	<b>NIGHTS</b>

2.0% DON'T REMEMBER

Q-3. What was your primary mode of transportation during this backcountry trip? (check one)

42.1% MOTORBOAT  
50.6% CANOE/KAYAK/ETC.  
7.3% OTHER, PLEASE SPECIFY: \_\_\_\_\_  
0.0% DON'T REMEMBER

Q-4. Where did you begin your backcountry trip to Everglades National Park? (check one)

40.3% FLAMINGO DISTRICT                      19.4% GULF COAST DISTRICT  
02.4% PINE ISLAND                              03.6% KEY LARGO  
31.9% OTHER, PLEASE SPECIFY:  
                     Of those that selected other, 73.4% reported Chokoloskee or  
                     Everglades City as their start location.  
02.4% DON'T REMEMBER

Q-5. How far in advance did you begin planning your backcountry trip to Everglades National Park? (check one)

19.2% LESS THAN A WEEK  
32.8% LESS THAN A MONTH  
42.8% SEVERAL MONTHS  
03.6% MORE THAN A YEAR IN ADVANCE  
01.6% DON'T REMEMBER

- Q-6. How would you describe your group on this trip? (check one)
- |                      |                                      |
|----------------------|--------------------------------------|
| <u>12.0%</u> ALONE   | <u>14.5%</u> BOTH FRIENDS AND FAMILY |
| <u>24.1%</u> FAMILY  | <u>06.0%</u> ORGANIZED GROUP         |
| <u>42.6%</u> FRIENDS | <u>00.8%</u> DON'T REMEMBER          |
- Q-7. About how many miles did you travel from your home to reach the entry point (boat launch or trailhead) for your backcountry trip?
- |                         |                            |
|-------------------------|----------------------------|
| <u>585 (avg.)</u> MILES | <u>1.6%</u> DON'T REMEMBER |
|-------------------------|----------------------------|
- Q-8. In 1997, Everglades National Park began charging a backcountry permit fee. Are you aware of this fee program at Everglades National Park? (check one)
- |                  |                 |
|------------------|-----------------|
| <u>65.5%</u> YES | <u>34.4%</u> NO |
|------------------|-----------------|
- Q-9. The price currently charged for the backcountry camping permit at Everglades National Park is \$10 per permit. Do you think that price is: (check one)
- |                                    |
|------------------------------------|
| <u>00.8%</u> FAR TOO LOW           |
| <u>11.1%</u> TOO LOW               |
| <u>68.8%</u> ABOUT RIGHT           |
| <u>11.1%</u> TOO HIGH              |
| <u>04.5%</u> FAR TOO HIGH          |
| <u>05.7%</u> DON'T KNOW/NO OPINION |
- Q-10. Are you likely to change your plans for future overnight backcountry visits to Everglades National Park because of the fee program for backcountry permits? (check one)
- |  |
|--|
| <u>08.5%</u> Regardless of the fee program, I have <b>no plans to visit</b> the backcountry of this park again in the near future. |
| <u>00.0%</u> I probably will visit the backcountry of this park <b>more often</b> because of the fee program.                      |
| <u>07.7%</u> I probably will visit the backcountry of this park <b>less often</b> because of the fee program.                      |
| <u>81.0%</u> The fee program <b>will not change</b> my future overnight backcountry visits to this park.                           |
| <u>00.4%</u> Don't know or am not sure.  |
| <u>02.4%</u> Other, please specify what changes are likely: _____  |
- Q-11. We would like to know about your expenditures for this trip to Everglades National Park. This should be the amount you spent from the time you left home until you returned home, including all expenses for travel, food, lodging, souvenirs, entertainment, rentals, etc.
- PLEASE ESTIMATE THE TOTAL AMOUNT SPENT ON YOUR TRIP:  
\$ 421.60 (avg.)

Q-12. Were the total trip and fee costs you reported for you alone?

38.9% YES

61.1% NO. . . . . If NO, how many people did the expenses cover?

3.23 (avg.) PEOPLE

Q-13. For this particular trip, was visiting the backcountry in Everglades National Park the primary purpose of your trip? (check one)

76.5% Yes, visiting the backcountry was the **primary purpose** of my trip.

04.0% No, visiting the backcountry was part of an extended trip in **Everglades National Park.**

19.5% No, visiting the backcountry was part of an extended trip **to the area or region.**

If you said NO, then please estimate the total amount spent on only the backcountry part of your overall trip: \$ 171.78 (avg.)

4% DON'T REMEMBER

Q-14. The cost of visiting the backcountry area of a National Park can change over time. For example, gas prices, airfare, and equipment rentals can rise. Would you still have made this overnight backcountry trip if your share of costs were \$ 10, 20, 30, 40, 50, 75, 100, 150, 200, 250, 300, 400, 500, 750, or 1000 **more** than the amount you reported above? (check one)

48.8% YES

39.9% NO

11.3% NOT SURE

If you said NO, was it because: (check one)

16.5% THE TRIP WOULD NOT HAVE BEEN WORTH THAT MUCH TO ME.

23.7% I COULD NOT AFFORD IT.

53.6% I COULD NOT IMAGINE MY COSTS EVER GETTING THAT HIGH.

06.2% OTHER, PLEASE SPECIFY: \_\_\_\_\_

## Section 2: Use of Backcountry Permit Fees

Q-15a. The Recreational Fee Demonstration Program allows park managers to maintain and improve visitor services, resource protection and recreation conditions by retaining some of the collected fees for use by the park. Please indicate your level of support for the following uses of fee money from backcountry permits. (circle one number for each service or condition)

<b>Services or Conditions:</b>	<b>Strongly Oppose</b>	<b>Neutral</b>			<b>Strongly Support</b>	<b>DK/ NO</b>
	1	2	3	4	5	6
a. More backcountry visitor information services	1 9.6%	2 15.0%	3 39.2%	4 19.6%	5 13.8%	6 2.9%
b. More visitor center/ranger station office hours	1 7.9%	2 9.6%	3 39.2%	4 20.8%	5 20.8%	6 1.7%
c. More non-backcountry related services, maintenance, repairs, and projects	1 13.8%	2 20.0%	3 35.0%	4 14.6%	5 15.0%	6 1.7%
d. More archaeological preservation, monitoring, and restoration	1 6.6%	2 4.9%	3 29.9%	4 24.6%	5 30.7%	6 3.3%
e. Improved waterway signs	1 13.0%	2 7.7%	3 28.3%	4 19.8%	5 28.7%	6 2.4%
f. More waterway signs	1 18.6%	2 8.3%	3 31.4%	4 16.5%	5 22.7%	6 2.5%
g. Improved backcountry campsites	1 10.5%	2 10.9%	3 23.8%	4 21.3%	5 31.0%	6 2.5%
h. More designated backcountry campsites	1 8.3%	2 6.6%	3 16.1%	4 24.0%	5 43.0%	6 2.1%
i. More backcountry revegetation of impacted sites	1 6.6%	2 5.4%	3 24.9%	4 23.2%	5 35.3%	6 4.6%
j. More backcountry maintenance	1 5.9%	2 6.8%	3 29.2%	4 32.2%	5 22.9%	6 3.0%
k. More backcountry law enforcement of permit regulations	1 14.6%	2 11.8%	3 32.1%	4 17.5%	5 20.7%	6 3.3%
l. More noise reduction in the backcountry	1 8.7%	2 12.0%	3 29.9%	4 15.8%	5 29.9%	6 3.7%
m. More backcountry search and rescue rangers	1 6.6%	2 10.0%	3 53.1%	4 16.6%	5 11.2%	6 2.5%
n. Removal of non-native plants and animals in the backcountry	1 8.7%	2 8.7%	3 23.1%	4 19.0%	5 37.6%	6 2.9%
o. New or improved restrooms at trailheads, backcountry campsites, etc.	1 7.8%	2 11.5%	3 32.1%	4 23.9%	5 23.0%	6 1.6%
p. More educational programs	1 4.6%	2 9.2%	3 38.8%	4 23.8%	5 20.8%	6 2.9%
q. Other, please specify: _____	1	2	3	4	5	6

Q-15b. From the above list of services and conditions, what are your three highest priorities for spending backcountry permit fee revenues in Everglades National Park? (write the letters from the list above)

- 1<sup>st</sup>: \_13.0% = More designated backcountry sites\_
- 2<sup>nd</sup>: \_10.6% = Removal of non-native plants and animals in the backcountry\_
- 3<sup>rd</sup>: \_09.2% = Improved backcountry campsites\_

Q-15c. If you have visited the backcountry at Everglades National Park more than once since 1997 indicate whether you noticed any improvements over time in the above list of services and conditions. Write the letters corresponding to each area of improvement. For example, if you believe waterway signs have been improved, you would write "e."

- 1<sup>st</sup>: \_21.7% = More educational programs\_
- 2<sup>nd</sup>: \_13.2% = More backcountry visitor information services\_
- 3<sup>rd</sup>: \_12.3% = More backcountry maintenance\_

Q-16. Currently, 20% of the user fees collected in Everglades National Park is used by the National Park Service for other purposes, including improvements at other parks. The remaining 80% stays at Everglades National Park. How do you believe fee revenue should be allocated between Everglades National Park and other National Parks? (fill in the percentages)

Keep at <b>Everglades National Park only</b> .....	_89.36% (avg.)_ (100% MAX)
Available for use by the National Park Service <b>to distribute to other National Parks</b> with needs.....	_10.64% (avg.)_ (100% MAX)
<b>TOTAL</b>	<b>100%</b>
_12.3% of respondents_ Don't know/No opinion	

### Section 3: Opinions and Attitudes

Q-17. We would like to know how you feel, in general, about user fees at units of the National Park System (includes National Parks, historic and cultural sites, and many National Monuments), and more specifically at Everglades National Park. Please tell us whether you agree or disagree with the following statements. (circle one number for each item)

It is appropriate to:	Strongly Disagree		Neutral		Strongly Agree		DK/ N/A
	1	2	3	4	5	6	
a. Charge an entrance fee at most National Parks.	1 9.7%	2 8.9%	3 13.4%	4 20.2%	5 47.4%	6 0.4%	
b. Charge an entrance fee to access Everglades National Park.	1 13.0%	2 7.3%	3 14.6%	4 20.3%	5 44.7%	6 0.0%	
c. Charge for parking within National Parks in addition to entrance fees.	1 61.3%	2 16.5%	3 10.5%	4 4.8%	5 6.9%	6 0.0%	
d. Charge permit fees for raft or boat use at rivers and lakes at National Parks in addition to entrance fees.	1 41.9%	2 14.1%	3 16.1%	4 14.9%	5 12.5%	6 0.4%	
e. Charge permit fees for raft or boat use at Everglades National Park in addition to entrance fees.	1 43.8%	2 12.4%	3 16.1%	4 14.9%	5 12.9%	6 0.0%	
f. Charge a fee for overnight backcountry use at most National Parks in addition to entrance fees.	1 26.6%	2 12.1%	3 14.5%	4 21.0%	5 25.4%	6 0.4%	
g. Charge a fee for overnight backcountry use at Everglades National Park in addition to entrance fees.	1 29.0%	2 12.5%	3 10.9%	4 22.6%	5 24.6%	6 0.4%	

## Do you agree or disagree with the following statements?

	Strongly Disagree		Neutral		Strongly Agree	DK or N/A
	1	2	3	4	5	6
a. I believe funding parks through user fees will lead the National Park Service to develop more fee-based services.	1 5.3%	2 3.3%	3 22.0%	4 27.6%	5 38.2%	6 3.7%
b. Backcountry fees are justifiable because it costs money to manage the backcountry.	1 11.0%	2 7.3%	3 9.8%	4 37.4%	5 34.1%	6 0.4%
c. I believe the National Park Service will <b>not</b> try to increase visitation for the sole purpose of raising revenue.	1 15.4%	2 12.2%	3 30.1%	4 16.3%	5 18.7%	6 7.3%
d. I believe people who visit National Parks should pay more for park improvement projects than those who do not visit.	1 15.7%	2 10.1%	3 15.7%	4 34.3%	5 23.0%	6 1.2%
e. I believe the National Park Service will not address crowding issues because it is dependent on revenue from high use.	1 11.7%	2 16.1%	3 23.0%	4 27.4%	5 15.7%	6 6.0%
f. I expect rangers to enforce the backcountry permit requirement more rigorously now that there are fees.	1 7.3%	2 12.1%	3 25.1%	4 28.3%	5 26.3%	6 0.8%
g. When I pay for a backcountry permit, I expect to have a guaranteed place to camp in the backcountry.	1 3.6%	2 3.6%	3 10.5%	4 21.1%	5 59.5%	6 1.6%
h. If fees were not charged for overnight backcountry use, it would be all right for backcountry visitor services to be reduced (fewer ranger patrols, reduction in permit office hours, reduction in maintenance, etc.)	1 15.4%	2 17.4%	3 20.6%	4 24.3%	5 21.5%	6 0.8%
i. I do not mind paying a fee if it is simple and convenient to pay.	1 6.9%	2 4.5%	3 10.5%	4 27.1%	5 49.8%	6 1.2%
j. Permits reduce my ability to take a trip with little advanced planning.	1 16.2%	2 18.2%	3 16.2%	4 22.3%	5 24.7%	6 2.4%
k. My trip planning now takes the same amount of time as it did before fees were implemented.	1 8.1%	2 9.7%	3 21.5%	4 21.1%	5 31.2%	6 8.5%
l. Fees have never prevented me from taking a trip to Everglades National Park.	1 2.8%	2 2.4%	3 13.3%	4 19.7%	5 59.0%	6 2.8%



Q-18a. For trips of the same length, should overnight backcountry users pay more, less, or the same for their backcountry permit as overnight visitors pay for camping in developed car campgrounds at Everglades National Park? (check one)

4.8% BACKCOUNTRY USERS SHOULD PAY MORE  
 19.3% BACKCOUNTRY USERS SHOULD PAY THE SAME  
 71.5% BACKCOUNTRY USERS SHOULD PAY LESS  
 4.4% DON'T KNOW/NO OPINION

Q-18b. Why do you feel this way?

54.5% = The backcountry requires less services and should cost the NPS less than front country (bathrooms, campgrounds, running water, etc.)

9.1% = Other

5.9% = There is no difference between frontcountry and backcountry, both are costly to maintain, are part of the park, etc.

Q-19. Approximately, what percentage of Everglades National Park funding do you think comes from these sources?

Taxes/Congressional Funding	_61.01 (avg.)_%
User Fees (entrance fees, backcountry permit fees, etc.)	_23.41 (avg.)_%
Concessionaire Fees (paid by food, lodging, souvenir companies operating within National Parks)	_15.01 (avg.)_%
Other, please specify: _____	_08.10 (avg.)_%
<b>Total</b>	<b>100%</b>
<input type="checkbox"/> No opinion/Don't know	

Q-20. What do you think is the ideal percentage of funding from these sources?

Taxes/Congressional Funding	_62.44 (avg.)_%
User Fees (entrance fees, backcountry permit fees, etc.)	_18.60 (avg.)_%
Concessionaire Fees (paid by food, lodging, souvenir companies operating within National Parks)	_18.29 (avg.)_%
Other, please specify: _____	_09.50 (avg.)_%
<b>Total</b>	<b>100%</b>
<input type="checkbox"/> No opinion/Don't know	

#### Section 4: History of Recreational Use

Q-21. About how many overnight backcountry trips did you make to Everglades National Park in each of the following years, including the trip specified in the cover letter? (circle number of trips for each year)

Year	Number of trips								
	0	1	2	3	4	5	6-10	10-20	20+
1994	46.4%	21.6%	8.0%	5.6%	3.6%	2.8%	4.8%	1.6%	0.0%
1995	40.8%	24.0%	9.6%	6.0%	4.8%	2.8%	5.2%	2.0%	0.4%
1996	14.0%	47.6%	14.0%	5.6%	5.2%	3.2%	4.4%	2.8%	0.0%
1997	30.4%	30.8%	15.6%	6.0%	5.2%	2.0%	4.0%	2.0%	0.0%
1998	50.0%	19.6%	9.6%	6.0%	2.4%	2.8%	3.2%	2.0%	0.0%
1999	55.2%	20.4%	7.6%	4.0%	2.0%	2.8%	2.8%	1.2%	0.4%

If you visited before 1994, in what year did you take your first backcountry trip to Everglades National Park? 19\_\_88 (avg.)\_ \_11.1%\_ DON'T REMEMBER

Q-22. Since **November of 1997** has the duration of your backcountry trips in Everglades National Park changed? (check one)

- \_46.4%\_ MY TRIP DURATION HAS NOT CHANGED.  
 \_05.6%\_ MY TRIPS ARE LONGER IN DURATION NOW.  
 \_12.1%\_ MY TRIPS ARE SHORTER IN DURATION NOW.  
 \_35.9%\_ DOES NOT APPLY/DON'T KNOW.

Q-23. On average, how many times per year do you participate in the following activities:

- Motorboating                      \_18.80 (avg.)\_ TIMES PER YEAR  
   \_0.4%\_        DON'T KNOW
- Canoeing/Kayaking/Rafting/etc. \_11.08 (avg.)\_ TIMES PER YEAR  
   \_0.4%\_        DON'T KNOW
- Backpacking                        \_2.98 (avg.)\_ TIMES PER YEAR  
   \_0.8%\_        DON'T KNOW

#### Section 5: Current Recreational Use

Q-24a. Over the next two years, how many overnight backcountry trips will you likely make to Everglades National Park at the current price of \$10 per permit (a per group/per trip fee for groups less than 6 people)?

- \_3.00 (avg.)\_ TRIPS IN THE NEXT TWO YEARS.

Q-24b. Over the next two years, how many overnight backcountry trips will you likely make to Everglades National Park if the permit price is \$1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 25, 30, 40, or 50 **MORE** per trip?

2.46 (avg.) TRIPS IN THE NEXT TWO YEARS.

Q-24c. If you reported zero trips to either of the past two questions, was it because:

8.4% THE TRIP IS NOT WORTH THAT PRICE TO ME.

4.8% I CANNOT AFFORD IT.

10.8% I WILL NOT VISIT THE BACKCOUNTRY OF A NATIONAL PARK THAT CHARGES FEES.

39.8% I DO NOT WANT TO, OR CANNOT, VISIT THE BACKCOUNTRY AT EVERGLADES NATIONAL PARK THE NEXT TWO YEARS, REGARDLESS OF PRICE.

36.1% OTHER, PLEASE SPECIFY: \_\_\_\_\_

- Q-25. There could be several reasons that prevent you from making more overnight visits to the backcountry in Everglades National Park. Please rate the importance of each reason in your decisions not to make more overnight backcountry trips to Everglades National Park.

**I don't make more trips because:**

	Not At All Important		Somewhat Important		Extremely Important	DR/NO
a. I dislike having to obtain the backcountry permits.	1 51.9%	2 15.3%	3 15.3%	4 8.5%	5 7.2%	6 1.7%
b. I dislike the inability to make advanced reservations.	1 30.6%	2 12.9%	3 19.4%	4 11.2%	5 23.3%	6 2.6%
c. Backcountry fees are too high.	1 48.7%	2 23.3%	3 16.4%	4 4.7%	5 5.2%	6 1.7%
d. My family obligations have changed (more children, take care of elderly, etc.).	1 47.8%	2 9.1%	3 15.9%	4 9.1%	5 13.4%	6 4.7%
e. The overall cost of the trip is too high.	1 52.6%	2 18.1%	3 18.1%	4 6.5%	5 3.0%	6 1.7%
f. The trip was only a once-in-a-lifetime visit for me.	1 70.2%	2 4.0%	3 6.7%	4 5.8%	5 3.6%	6 9.8%
g. I go to a different area that does not charge fees.	1 66.8%	2 9.5%	3 6.5%	4 4.3%	5 7.3%	6 5.6%
h. My lifestyle has changed (job situation, preferred activities, etc.).	1 50.4%	2 7.3%	3 14.2%	4 11.2%	5 9.5%	6 7.3%
i. I cannot afford the backcountry permit fees.	1 75.9%	2 10.3%	3 8.6%	4 1.3%	5 1.3%	6 2.6%
j. I have moved farther away from Everglades National Park.	1 72.3%	2 5.2%	3 4.3%	4 4.3%	5 7.4%	6 6.5%
k. I do not feel safe at Everglades National Park for my property or myself.	1 80.5%	2 10.4%	3 3.5%	4 1.3%	5 2.2%	6 2.2%
l. There are too many other fees in addition to backcountry permit fees.	1 59.5%	2 12.1%	3 9.9%	4 8.2%	5 8.6%	6 1.7%
m. Everglades National Park has become less attractive to visit because of conditions in the park such as crowding, environmental damage, noise, etc.	1 44.2%	2 13.3%	3 17.2%	4 11.6%	5 10.3%	6 3.4%
n. Other, please specify: __	1	2	3	4	5	6

Q-26. If you have reduced your overnight backcountry use of Everglades National Park **since 1997** please answer the following questions. **If not, skip to Question 27.**

Q-26a. What have you done now that you have reduced your overnight backcountry use in Everglades National Park? (check one)

- 11.0% STAYED AT HOME MORE
- 9.4% DONE A DIFFERENT ACTIVITY IN EVERGLADES NATIONAL PARK
- 37.0% VISITED A DIFFERENT BACKCOUNTRY AREA
- 29.9% DONE A DIFFERENT ACTIVITY AT SOME OTHER AREA
- 12.6% OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-26b. If you have been to other outdoor recreation areas instead of making backcountry trips in Everglades National Park, what kind of area have you most often visited instead? (check only one)

- 28.0% A NATIONAL PARK AND/OR PRESERVE
- 15.3% A NATIONAL FOREST
- 18.6% A STATE, COUNTY, OR CITY PARK
- 08.5% A WILDLIFE REFUGE
- 04.2% PRIVATELY OWNED RECREATION AREA
- 18.6% OTHER, PLEASE SPECIFY: \_\_\_\_\_
- 06.8% DON'T KNOW

## Section 6: Permit Package and Location Options

Q-27. National Parks throughout the United States are currently using a wide variety of options for charging user fees. What is your opinion about implementing these options at Everglades National Park? (please rate all)

	Strongly Oppose		Neutral		Strongly Support	DK/ NO
a. In addition to the current backcountry permit system, an annual permit that costs more but allows unlimited trips would be available.	1 20.6%	2 8.2%	3 23.0%	4 18.1%	5 28.4%	6 1.6%
b. Backcountry permits would be less expensive during weekdays.	1 11.5%	2 8.2%	3 31.3%	4 23.0%	5 24.3%	6 1.6%
c. Backcountry permits would be less expensive during the off-season.	1 9.1%	2 4.1%	3 24.5%	4 25.3%	5 36.1%	6 0.8%
d. Backcountry permits would be less expensive for less popular campsites.	1 17.4%	2 8.3%	3 31.1%	4 20.3%	5 21.2%	6 1.7%
e. Backcountry permits would cost the same for all groups, regardless of group size.	1 39.9%	2 23.9%	3 16.5%	4 7.0%	5 11.5%	6 1.2%
f. Backcountry permit prices would rise depending on the number of days spent in the backcountry.	1 33.7%	2 18.5%	3 21.0%	4 15.6%	5 9.9%	6 1.2%
g. Backcountry permit fees and park entrance fees could be paid at the same time and place.	1 6.2%	2 2.9%	3 20.2%	4 18.2%	5 50.4%	6 2.1%
h. Backcountry permits would be available for purchase on a self-service/honor system.	1 18.6%	2 12.8%	3 24.8%	4 14.0%	5 28.5%	6 1.2%
i. Backcountry permits would be replaced by a single fee for all Everglades National Park users that is the same for backcountry and frontcountry users.	1 27.5%	2 17.9%	3 23.8%	4 8.3%	5 18.8%	6 3.8%
j. Other, please specify: _____	1	2	3	4	5	6

Q-28. There are several different ways that people could reserve and pay for their backcountry permits. What is your level of support for the following options for acquiring Everglades National Park backcountry permits?

	Strongly Oppose		Neutral		Strongly Support	DK/NO
a. In person at the National Park	1 8.6%	2 6.4%	3 19.7%	4 19.3%	5 44.6%	6 1.3%
b. Through an advanced reservation system at Everglades National Park	1 11.9%	2 4.3%	3 13.2%	4 22.6%	5 46.4%	6 1.7%
c. Through a centralized reservation system for all parks	1 28.3%	2 12.6%	3 20.9%	4 12.6%	5 23.0%	6 2.6%
d. Through the mail	1 15.4%	2 9.4%	3 21.4%	4 17.1%	5 35.0%	6 1.7%
e. Through use of fax machines	1 13.4%	2 9.5%	3 21.6%	4 16.4%	5 37.1%	6 2.2%
f. Over the phone	1 7.2%	2 2.1%	3 13.1%	4 19.1%	5 56.8%	6 1.7%
g. Internet	1 11.6%	2 2.6%	3 18.9%	4 16.3%	5 48.5%	6 2.1%
h. Other, please specify:	1	2	3	4	5	6

Q-29. Many National Parks, including Everglades National Park are using the internet to communicate information to visitors.

Q-29a. How would you define yourself? (check one)  
 \_58.9%\_ I AM A FREQUENT USER OF THE INTERNET (MORE THAN ONCE A WEEK).  
 \_23.2%\_ I AM AN OCCASIONAL USER OF THE INTERNET (LESS THAN ONCE A WEEK).  
 \_05.7%\_ I DO NOT USE THE INTERNET YET, BUT WOULD LIKE TO.  
 \_12.2%\_ I HAVE NO INTEREST IN USING THE INTERNET AT ALL

Q-29b. Have you ever used the internet for acquiring backcountry permits for a backcountry/wilderness area? (check one)

\_5.3%\_ YES                                  \_94.7%\_ NO

### Section 7: Demographic Information

Now, we would like to ask a few questions about you. This information will remain confidential.

Q-30. How old are you? \_47.13 (avg.)\_ YEARS

Q-31. What is your gender? (check one)

\_86.1%\_ MALE    \_13.9%\_ FEMALE

Q-32. What is your highest level of education? (check highest)

- 00.8% GRADE SCHOOL
- 00.8% SOME HIGH SCHOOL, NO DEGREE
- 05.8% HIGH SCHOOL DEGREE OR G.E.D.
- 21.1% SOME COLLEGE/TECHNICAL SCHOOL, NO DEGREE
- 07.0% ASSOCIATE'S DEGREE/2-YEAR DEGREE
- 24.8% BACHELOR'S/4-YEAR DEGREE
- 12.8% SOME GRADUATE SCHOOL
- 15.3% MASTER'S DEGREE
- 11.6% DOCTORATE/LAW DEGREE

Q-33. What category best describes your employment situation? (check one)

- 51.9% WORKING FULL-TIME FOR PAY
- 01.3% PERMANENTLY DISABLED/UNABLE TO WORK
- 04.3% WORKING PART-TIME FOR PAY
- 00.9% HOMEMAKER
- 26.4% SELF-EMPLOYED
- 01.7% STUDENT
- 00.4% CURRENTLY SEEKING WORK
- 00.0% OTHER, PLEASE SPECIFY: \_\_\_\_\_
- 13.2% RETIRED

Q-34. In what ethnicity would you place yourself? (check one)

- 4.6% HISPANIC OR LATINO
- 95.4% NOT HISPANIC OR LATINO

Q-35. In what race would you place yourself? (check one or more)

- 00.4% AMERICAN INDIAN OR ALASKA NATIVE
- 00.4% ASIAN
- 00.0% BLACK OR AFRICAN AMERICAN
- 03.0% HISPANIC OR LATINO
- 00.4% NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER
- 93.2% WHITE
- 02.5% OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-36. What is your current annual household income before taxes? (check one)

- 01.8% LESS THAN \$9,999
- 03.9% \$10,000 TO \$19,999
- 08.8% \$20,000 TO \$29,999
- 10.1% \$30,000 TO 39,999
- 11.8% \$40,000 TO 49,999
- 26.3% \$50,000 TO 74,999
- 16.7% \$75,000 TO \$99,999
- 12.3% \$100,000 TO \$149,999
- 08.3% MORE THAN \$150,000

Q-37. How many people are supported by this income, including yourself?

- 2.36 (avg.)



Any other comments you have about your visits to the backcountry in Everglades National Park or suggestions about managing Everglades National Park are welcomed. Please use the space below to write your comments.

*Thank you for your help!*

**If you want more information about this study, contact the Department of Forest Resources, Oregon State University, 280 Peavy Hall, Corvallis, Oregon 97331, (541) 737-5874.**

16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by the National Park Service, the Department of Interior, and Everglades National Park to improve resources management and visitor services. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. The information you provide will be anonymous. Please do not put your name or that of any member of your group on the questionnaire. Data collected through visitor surveys may be disclosed to the Department of Justice when relevant to litigation, or to appropriate Federal, State, local or foreign agencies responsible for investigating or prosecuting a violation of law. Public reporting burden for this form is estimated to average 20 minutes per respondent. Direct comments regarding the burden estimate or any other aspect of this form to the Office of Information and Regulatory Affairs of OMB, Attention Desk Officer for the Interior Department, Paperwork Reduction Project 1024-0224, and to the Information Collection Clearance Officer, WASO APC, Accountability and Audits Team, National Park Service, 1849 C Street NW, Washington, D.C. 20240. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

OMB Control Number: 1024-0224 National Park Service Identification Number: 00-001 Expiration Date: 03/2001

**Appendix B: 1999 Everglades National Park Summary Statistics**

# Everglades National Park Backcountry User Survey

## 1999 Summary Statistics



Department of Forest Resources  
Oregon State University  
280 Peavy Hall – Corvallis, OR 97331-5703

**Section 1: Trip Information**

Please think about the specific overnight backcountry trip specified in your cover letter. For the following questions, try to **reply as accurately as possible** about this specific trip.

Q-1. How many nights did you spend in each of these types of backcountry sites:

Chickees (raised platforms)	<u>  1.01 (avg.)</u> NIGHTS
Ground sites (with no beach area)	<u>  0.75 (avg.)</u> NIGHTS
Beach sites	<u>  1.56 (avg.)</u> NIGHTS
<b>Total nights in the backcountry</b>	<b><u>  3.31 (avg.)</u> NIGHTS</b>
DON'T REMEMBER	<u>  1.4%</u>

Q-2. What was your primary mode of transportation during this backcountry trip? (check one)

 33.1% MOTORBOAT  
 01.1% OTHER, PLEASE SPECIFY: \_\_\_\_\_  
 65.8% CANOE/KAYAK/ETC.  
 00.0% DON'T REMEMBER

Q-3. Where did you begin your backcountry trip to Everglades National Park? (check one)

 42.9% FLAMINGO DISTRICT  
 25.0% GULF COAST DISTRICT  
 01.1% PINE ISLAND  
 02.0% KEY LARGO  
 26.1% OTHER, PLEASE SPECIFY: \_\_\_\_\_  
 02.8% DON'T REMEMBER

Q-4. How far in advance did you begin planning your backcountry trip to Everglades National Park? (check one)

 14.6% LESS THAN A WEEK  
 36.5% LESS THAN A MONTH  
 44.9% SEVERAL MONTHS  
 03.9% MORE THAN A YEAR IN ADVANCE  
 00.0% DON'T REMEMBER

Q-5. How would you describe your group on this trip? (check one)

<u> 13.8%</u> ALONE	<u> 13.0%</u> BOTH FRIENDS AND FAMILY
<u> 26.8%</u> FAMILY	<u> 07.0%</u> ORGANIZED GROUP
<u> 39.4%</u> FRIENDS	<u> 00.0%</u> DON'T REMEMBER

- Q-6. About how many miles did you travel from your home to reach the entry point (boat launch or trailhead) for your backcountry trip?
- \_671.75 (avg.)\_ MILES                      \_1.1%\_ DON'T REMEMBER
- Q-7. In 1997, Everglades National Park began charging a backcountry permit fee. When did you become aware of this fee program at Everglades National Park? (check one)
- \_64.0%\_ KNEW BEFORE THIS TRIP  
 \_31.8%\_ FOUND OUT AT PARK  
 \_04.2%\_ DON'T REMEMBER
- Q-8. The price currently charged for the backcountry camping permit at Everglades National Park is \$10 per permit. Do you think that price is: (check one)
- \_02.0%\_ FAR TOO LOW  
 \_12.7%\_ TOO LOW  
 \_70.9%\_ ABOUT RIGHT  
 \_06.5%\_ TOO HIGH  
 \_03.7%\_ FAR TOO HIGH  
 \_04.2%\_ DON'T KNOW/NO OPINION
- Q-9. Are you likely to change your plans for future overnight backcountry visits to Everglades National Park because of the fee program for backcountry permits? (check one)
- \_03.1%\_ Regardless of the fee program, I have **no plans to visit** the backcountry of this park again in the near future.  
 \_00.6%\_ I probably will visit the backcountry of this park **more often** because of the fee program.  
 \_03.4%\_ I probably will visit the backcountry of this park **less often** because of the fee program.  
 \_89.6%\_ The fee program **will not change** my future overnight backcountry visits to this park.  
 \_01.1%\_ Don't know or am not sure.  
 \_02.2%\_ Other, please specify what changes are likely: \_\_\_\_\_
- Q-10. We would like to know about your expenditures for this trip to Everglades National Park. This should be the amount you spent from the time you left home until you returned home, including all expenses for travel, food, lodging, souvenirs, entertainment, rentals, etc.
- PLEASE ESTIMATE THE TOTAL AMOUNT SPENT ON YOUR TRIP:  
 \$\_504.40 (avg.)\_
- Q-11. Were the total trip and fee costs you reported for you alone?
- \_42.4%\_ YES  
 \_57.6%\_ NO. . . . . If NO, how many people did the expenses cover?  
 \_3.11 (avg.)\_ PEOPLE

- Q-12. Now we would like to know about any recreation user fees you may have paid on your trip. For each of the following, indicate if you paid a fee. (check all that apply)

**Percentage indicating that they paid a fee.**

- 48.4% Park entrance fee  
 91.6% Backcountry camping permit fee  
 25.2% Raft/Boat launch fee  
 07.0% Golden Eagle or Age Passport  
 14.8% Other fees, please specify: \_\_\_\_\_

- Q-13. For this particular trip, was visiting the backcountry in Everglades National Park the primary purpose of your trip? (check one)

- 79.6% Yes, visiting the backcountry was the **primary purpose** of my trip.  
 05.5% No, visiting the backcountry was part of an extended trip in **Everglades National Park**.  
 14.9% No, visiting the backcountry was part of an extended trip **to the area or region**.

If you said NO, then please estimate the total amount spent on only the backcountry part of your overall trip: \$ 151.05 (avg.)

- 3.6% DON'T REMEMBER

- Q-14. The cost of visiting the backcountry area of a National Park can change over time. For example, gas prices, airfare, and equipment rentals can rise. Would you still have made this overnight backcountry trip if your share of costs were \$ 10, 20, 30, 40, 50, 75, 100, 150, 200, 250, 300, 400, 500, 750, or 1000 **more** than the amount you reported above? (check one)

- 45.6% YES                       35.8% NO                       18.6% NOT SURE

If you said NO, was it because: (check one)

- 21.1% THE TRIP WOULD NOT HAVE BEEN WORTH THAT MUCH TO ME.  
 21.1% I COULD NOT AFFORD IT.  
 48.9% I COULD NOT IMAGINE MY COSTS EVER GETTING THAT HIGH.  
 09.0% OTHER, PLEASE SPECIFY: \_\_\_\_\_

## Section 2: Use of Backcountry Permit Fees

Q-15a. The Recreational Fee Demonstration Program allows park managers to maintain and improve visitor services, resource protection and recreation conditions by retaining some of the collected fees for use by the park. Please indicate your level of support for the following uses of fee money from backcountry permits. (circle one number for each service or condition)

<b>Services or Conditions:</b>	<b>Strongly Oppose</b>	<b>Neutral</b>			<b>Strongly Support</b>	<b>DK/ NO</b>
	1	2	3	4	5	6
a. More backcountry visitor information services	5.7%	11.8%	50.3%	17.2%	13.2%	1.7%
b. More visitor center/ranger station office hours	6.1%	11.0%	46.1%	19.0%	16.1%	1.7%
c. More non-backcountry related services, maintenance, repairs, and projects	9.9%	15.7%	42.6%	13.0%	15.7%	3.2%
d. More archaeological preservation, monitoring, and restoration	4.3%	4.6%	27.8%	24.9%	33.9%	4.3%
e. Improved waterway signs	9.8%	8.9%	32.3%	22.2%	25.9%	0.9%
f. More waterway signs	15.7%	13.4%	29.7%	17.4%	22.4%	1.5%
g. Improved backcountry campsites	9.7%	9.7%	29.0%	17.0%	33.7%	0.9%
h. More designated backcountry campsites	7.2%	8.0%	17.2%	19.8%	46.7%	1.1%
i. More backcountry revegetation of impacted sites	2.3%	4.1%	29.4%	21.2%	39.8%	3.2%
j. More backcountry maintenance	3.7%	5.8%	29.7%	27.1%	32.0%	1.7%
k. More backcountry law enforcement of permit regulations	9.8%	7.8%	40.3%	16.4%	23.3%	2.3%
l. More noise reduction in the backcountry	6.1%	6.9%	34.1%	14.7%	33.8%	4.3%
m. More backcountry search and rescue rangers	6.4%	9.0%	52.8%	18.0%	10.4%	3.5%
n. Removal of non-native plants and animals in the backcountry	5.2%	5.5%	22.7%	23.6%	38.5%	4.6%
o. New or improved restrooms at trailheads, backcountry campsites, etc.	7.7%	7.25%	39.8%	22.1%	22.1%	1.1%
p. More educational programs	3.2%	5.2%	48.3%	23.1%	18.2%	2.0%
q. Other, please specify: _____	1	2	3	4	5	6

Q-15b. From the above list of services and conditions, what are your three highest priorities for spending backcountry permit fee revenues in Everglades National Park? (write the letters from the list above)

1<sup>st</sup>: \_15.2% = More designated backcountry campsites\_  
 2<sup>nd</sup>: \_9.3% = Removal of non-native plants and animals in the backcountry\_  
 3<sup>rd</sup>: \_9.2% = More backcountry revegetation of impacted sites \_

Q-15c. If you have visited the backcountry at Everglades National Park more than once since 1997 indicate whether you noticed any improvements over time in the above list of services and conditions. Write the letters corresponding to each area of improvement. For example, if you believe waterway signs have been improved, you would write "e."

1<sup>st</sup>: \_18.0% = New or improved restrooms at trailheads, backcountry campsites, etc.\_  
 2<sup>nd</sup>: \_11.3% Improved waterway signs\_  
 3<sup>rd</sup>: \_10.5% = Improved backcountry campsites \_

Q-16. Currently, 20% of the user fees collected in Everglades National Park is used by the National Park Service for other purposes, including improvements at other parks. The remaining 80% stays at Everglades National Park. How do you believe fee revenue should be allocated between Everglades National Park and other National Parks? (fill in the percentages)

Keep at <b>Everglades National Park only</b> .....	_88.33 (avg.)_ % (100% MAX)
Available for use by the National Park Service <b>to distribute to other National Parks</b> with needs.....	_11.67 (avg.)_ % (100% MAX)
	<b>TOTAL 100%</b>
___ Don't know/No opinion	



### Section 3: Opinions and Attitudes

Q-17. We would like to know how you feel, in general, about user fees at units of the National Park System (includes National Parks, historic and cultural sites, and many National Monuments), and more specifically at Everglades National Park. Please tell us whether you agree or disagree with the following statements. (circle one number for each item)

It is appropriate to:	Strongly Disagree		Neutral		Strongly Agree DK or N/A	
	1	2	3	4	5	6
a. Charge an entrance fee at most National Parks.	1 9.3%	2 5.1%	3 12.1%	4 29.7%	5 43.2%	6 0.6%
b. Charge an entrance fee to access Everglades National Park.	1 9.9%	2 5.4%	3 10.2%	4 29.7%	5 44.6%	6 0.3%
c. Charge for parking within National Parks in addition to entrance fees.	1 56.9%	2 16.4%	3 12.2%	4 6.5%	5 7.1%	6 0.8%
d. Charge permit fees for raft or boat use at rivers and lakes at National Parks in addition to entrance fees.	1 31.5%	2 18.5%	3 16.8%	4 13.6%	5 19.0%	6 0.6%
e. Charge permit fees for raft or boat use at Everglades National Park in addition to entrance fees.	1 31.7%	2 20.1%	3 14.4%	4 14.4%	5 18.4%	6 0.8%
f. Charge a fee for overnight backcountry use at most National Parks in addition to entrance fees.	1 20.9%	2 8.2%	3 14.1%	4 26.6%	5 30.2%	6 0.0%
g. Charge a fee for overnight backcountry use at Everglades National Park in addition to entrance fees.	1 20.7%	2 8.0%	3 13.6%	4 25.6%	5 32.1%	6 0.0%

**Do you agree or disagree with the following statements?**

	Strongly Disagree		Neutral		Strongly Agree	DK or N/A
a. I believe funding parks through user fees will lead the National Park Service to develop more fee-based services.	1 1.4%	2 6.8%	3 20.7%	4 28.6%	5 35.7%	6 6.8%
b. Backcountry fees are justifiable because it costs money to manage the backcountry.	1 8.5%	2 7.6%	3 9.6%	4 34.5%	5 39.8%	6 0.0%
c. I believe the National Park Service will <b>not</b> try to increase visitation for the sole purpose of raising revenue.	1 13.8%	2 12.7%	3 25.1%	4 20.0%	5 18.6%	6 9.9%
d. I believe people who visit National Parks should pay more for park improvement projects than those who do not visit.	1 17.2%	2 11.0%	3 16.6%	4 27.6%	5 26.5%	6 1.1%
e. I believe the National Park Service will not address crowding issues because it is dependent on revenue from high use.	1 11.6%	2 20.6%	3 23.4%	4 18.9%	5 17.2%	6 8.2%
f. I expect rangers to enforce the backcountry permit requirement more rigorously now that there are fees.	1 7.9%	2 9.0%	3 25.6%	4 31.2%	5 25.8%	6 0.6%
g. When I pay for a backcountry permit, I expect to have a guaranteed place to camp in the backcountry.	1 2.8%	2 3.4%	3 8.2%	4 18.6%	5 64.7%	6 2.3%
h. If fees were not charged for overnight backcountry use, it would be all right for backcountry visitor services to be reduced (fewer ranger patrols, reduction in permit office hours, reduction in maintenance, etc.)	1 24.8%	2 21.7%	3 14.4%	4 19.7%	5 17.7%	6 1.7%
i. I do not mind paying a fee if it is simple and convenient to pay.	1 4.0%	2 4.8%	3 8.2%	4 30.2%	5 52.3%	6 0.6%
j. Permits reduce my ability to take a trip with little advanced planning.	1 22.0%	2 19.2%	3 19.7%	4 16.9%	5 21.7%	6 0.6%
k. My trip planning now takes the same amount of time as it did before fees were implemented.	1 5.6%	2 8.7%	3 19.9%	4 24.2%	5 36.0%	6 5.6%
l. Fees have never prevented me from taking a trip to Everglades National Park.	1 2.2%	2 2.2%	3 7.3%	4 21.1%	5 65.7%	6 1.4%

Q-18a. For trips of the same length, should overnight backcountry users pay more, less, or the same for their backcountry permit as overnight visitors pay for camping in developed car campgrounds at Everglades National Park? (check one)

- 02.3% BACKCOUNTRY USERS SHOULD PAY MORE
- 22.1% BACKCOUNTRY USERS SHOULD PAY THE SAME
- 70.0% BACKCOUNTRY USERS SHOULD PAY LESS
- 05.7% DON'T KNOW/NO OPINION

Q-18b. Why do you feel this way?

- 56.3% = The backcountry requires less services and should cost the NPS less than front country (bathrooms, campgrounds, running water, etc.)
- 8.3% = Other
- 8.0% = Backcountry users "leave no trace" and have a lower impact on resources

Q-19. Approximately, what percentage of Everglades National Park funding do you think comes from these sources?

Taxes/Congressional Funding	<u>59.85 (avg.)</u> %
User Fees (entrance fees, backcountry permit fees, etc.)	<u>23.61 (avg.)</u> %
Concessionaire Fees (paid by food, lodging, souvenir companies operating within National Parks)	<u>16.08 (avg.)</u> %
Other, please specify: _____	<u>8.71 (avg.)</u> %
<b>Total</b>	<b>100%</b>
<u>41.7%</u> No opinion/Don't know	

Q-20. What do you think is the ideal percentage of funding from these sources?

Taxes/Congressional Funding	<u>63.65 (avg.)</u> %
User Fees (entrance fees, backcountry permit fees, etc.)	<u>18.26 (avg.)</u> %
Concessionaire Fees (paid by food, lodging, souvenir companies operating within National Parks)	<u>17.67 (avg.)</u> %
Other, please specify: _____	<u>12.47 (avg.)</u> %
<b>Total</b>	<b>100%</b>
<u>25.1%</u> No opinion/Don't know	

#### Section 4: History of Recreational Use

Q-21. About how many overnight backcountry trips did you make to Everglades National Park in each of the following years, including the trip specified in the cover letter? (circle number of trips for each year)

Year	Number of trips								
	0	1	2	3	4	5	6-10	10-20	20+
1994	64.9%	14.4%	5.70%	2.8%	2.5%	0.8%	3.7%	1.1%	0.0%
1995	64.6%	11.9%	7.6%	3.4%	1.4%	2.5%	4.0%	1.1%	0.0%
1996	55.8%	16.7%	7.9%	5.4%	1.7%	2.3%	4.8%	1.7%	0.6%
1997	50.7%	20.4%	8.5%	3.7%	3.7%	1.7%	6.2%	1.4%	1.1%
1998	35.5%	30.7%	9.4%	8.8%	2.8%	3.1%	5.4%	2.8%	0.3%
1999	16.1%	48.7%	12.2%	7.1%	3.4%	2.8%	5.9%	2.5%	0.3%

If you visited before 1994, in what year did you take your first backcountry trip to Everglades National Park? 19\_92 (avg.)\_ \_10.8%\_ DON'T REMEMBER

Q-22. Since **November of 1997** has the duration of your backcountry trips in Everglades National Park changed? (check one)

- \_51.5%\_ MY TRIP DURATION HAS NOT CHANGED.  
 \_08.8%\_ MY TRIPS ARE LONGER IN DURATION NOW.  
 \_04.4%\_ MY TRIPS ARE SHORTER IN DURATION NOW.  
 \_35.4%\_ DOES NOT APPLY/DON'T KNOW.

Q-23. On average, how many times per year do you participate in the following activities:

Motorboating \_21.95 (avg.)\_ TIMES PER YEAR  
 \_0.6%\_ DON'T KNOW

Canoeing/Kayaking/Rafting/etc. \_16.47 (avg.)\_ TIMES PER YEAR  
 \_0.6%\_ DON'T KNOW

Backpacking \_03.47 (avg.)\_ TIMES PER YEAR  
 \_0.9%\_ DON'T KNOW

#### Section 5: Current Recreational Use

Q-24a. Over the next two years, how many overnight backcountry trips will you likely make to Everglades National Park at the current price of \$10 per permit (a per group/per trip fee for groups less than 6 people)?

\_3.72 (avg.)\_ TRIPS IN THE NEXT TWO YEARS.

Q-24b. Over the next two years, how many overnight backcountry trips will you likely make to Everglades National Park if the permit price were \$\_1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 25, 30, 40, or 50\_ **MORE** per trip?

\_3.16 (avg.)\_ TRIPS IN THE NEXT TWO YEARS.

Q-24c. If you reported zero trips to either of the past two questions, was it because:

\_16.5%\_ THE TRIP IS NOT WORTH THAT PRICE TO ME.

\_06.3%\_ I CANNOT AFFORD IT.

\_01.3%\_ I WILL NOT VISIT THE BACKCOUNTRY OF A NATIONAL PARK THAT CHARGES FEES.

\_39.2%\_ I DO NOT WANT TO, OR CANNOT, VISIT THE BACKCOUNTRY AT EVERGLADES NATIONAL PARK IN THE NEXT TWO YEARS, REGARDLESS OF PRICE.

\_36.7%\_ OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-25. There could be several reasons that prevent you from making more overnight visits to the backcountry in Everglades National Park. Please rate the importance of each reason in your decisions not to make more overnight backcountry trips to Everglades National Park.

**I don't make more trips because:**

	Not At All Important		Somewhat Important		Extremely Important	DR/ NO
a. I dislike having to obtain the backcountry permits.	1 59.6%	2 14.6%	3 12.2%	4 6.7%	5 4.9%	6 2.1%
b. I dislike the inability to make advanced reservations.	1 27.9%	2 11.2%	3 20.9%	4 13.6%	5 23.9%	6 2.4%
c. Backcountry fees are too high.	1 54.2%	2 22.7%	3 11.5%	4 3.9%	5 6.4%	6 1.2%
d. My family obligations have changed (more children, take care of elderly, etc.).	1 49.5%	2 9.1%	3 12.4%	4 11.2%	5 13.3%	6 4.5%
e. The overall cost of the trip is too high.	1 47.3%	2 15.5%	3 20.6%	4 8.8%	5 6.7%	6 1.2%
f. The trip was only a once-in-a-lifetime visit for me.	1 64.1%	2 10.5%	3 7.4%	4 2.8%	5 2.8%	6 12.4%
g. I go to a different area that does not charge fees.	1 67.4%	2 11.0%	3 9.1%	4 3.7%	5 2.7%	6 6.1%
h. My lifestyle has changed (job situation, preferred activities, etc.)	1 57.8%	2 11.6%	3 9.7%	4 6.7%	5 7.6%	6 6.7%
j. I cannot afford the backcountry permit fees.	1 77.0%	2 12.4%	3 6.3%	4 1.2%	5 1.2%	6 1.8%
k. I have moved farther away from Everglades National Park.	1 69.6%	2 7.6%	3 6.4%	4 3.3%	5 8.5%	6 4.6%
l. I do not feel safe at Everglades National Park for my property or myself.	1 77.9%	2 8.5%	3 6.1%	4 2.7%	5 2.1%	6 2.7%
m. There are too many other fees in addition to backcountry permit fees.	1 59.9%	2 17.9%	3 9.4%	4 4.3%	5 6.4%	6 2.1%
n. Everglades National Park has become less attractive to visit because of conditions in the park such as crowding, environmental damage, noise, etc.	1 40.5%	2 17.2%	3 18.7%	4 8.0%	5 12.0%	6 3.7%
o. Other, please specify: _____	1	2	3	4	5	6

Q-26. If you have reduced your overnight backcountry use of Everglades National Park **since 1997** please answer the following questions. **If not, skip to Question 27.**

Q-26a. What have you done now that you have reduced your overnight backcountry use in Everglades National Park? (check one)

- 11.7% STAYED AT HOME MORE
- 02.6% DONE A DIFFERENT ACTIVITY IN EVERGLADES NATIONAL PARK
- 35.1% VISITED A DIFFERENT BACKCOUNTRY AREA
- 31.2% DONE A DIFFERENT ACTIVITY AT SOME OTHER AREA
- 19.5% OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-26b. If you have been to other outdoor recreation areas instead of making backcountry trips in Everglades National Park, what kind of area have you most often visited instead? (check only one)

- 26.9% A NATIONAL PARK AND/OR PRESERVE
- 16.4% A NATIONAL FOREST
- 20.9% A STATE, COUNTY, OR CITY PARK
- 03.0% A WILDLIFE REFUGE
- 06.0% PRIVATELY OWNED RECREATION AREA
- 19.4% OTHER, PLEASE SPECIFY: \_\_\_\_\_
- 07.5% DON'T KNOW

## Section 6: Permit Package and Location Options

Q-27. National Parks throughout the United States are currently using a wide variety of options for charging user fees. What is your opinion about implementing these options at Everglades National Park? (please rate all)

	Strongly Oppose		Neutral		Strongly Support	DK/ NO
a. In addition to the current backcountry permit system, an annual permit that costs more but allows unlimited trips would be available.	1 17.6%	2 6.1%	3 26.9%	4 18.5%	5 29.8%	6 1.2%
b. Backcountry permits would be less expensive during weekdays.	1 13.0%	2 7.2%	3 28.8%	4 25.1%	5 24.8%	6 1.2%
c. Backcountry permits would be less expensive during the off-season.	1 8.9%	2 4.6%	3 22.2%	4 26.8%	5 36.9%	6 0.6%
d. Backcountry permits would be less expensive for less popular campsites.	1 21.4%	2 11.0%	3 30.6%	4 19.1%	5 16.8%	6 1.2%
e. Backcountry permits would cost the same for all groups, regardless of group size.	1 42.7%	2 24.8%	3 15.3%	4 4.6%	5 11.2%	6 1.4%
f. Backcountry permit prices would rise depending on the number of days spent in the backcountry.	1 30.8%	2 15.1%	3 21.2%	4 20.9%	5 10.8%	6 1.2%
g. Backcountry permit fees and park entrance fees could be paid at the same time and place.	1 7.2%	2 4.3%	3 23.6%	4 19.6%	5 43.5%	6 1.7%
h. Backcountry permits would be available for purchase on a self-service/honor system.	1 24.9%	2 15.3%	3 22.3%	4 14.7%	5 21.4%	6 1.4%
i. Backcountry permits would be replaced by a single fee for all Everglades National Park users that is the same for backcountry and frontcountry users.	1 29.8%	2 15.8%	3 26.9%	4 11.7%	5 12.9%	6 2.9%
j. Other, please specify: _____	1	2	3	4	5	6



Q-28. There are several different ways that people could reserve and pay for their backcountry permits. What is your level of support for the following options for acquiring Everglades National Park backcountry permits?

	Strongly Oppose		Neutral		Strongly Support		DK/ NO
a. In person at the National Park	1 5.5%	2 4.7%	3 18.6%	4 18.9%	5 51.7%	6 0.6%	
b. Through an advanced reservation system at Everglades National Park	1 11.4%	2 6.4%	3 12.2%	4 20.7%	5 48.1%	6 1.2%	
c. Through a centralized reservation system for all parks	1 25.2%	2 11.4%	3 22.6%	4 13.5%	5 26.1%	6 1.2%	
d. Through the mail	1 16.6%	2 9.2%	3 21.6%	4 19.2%	5 32.2%	6 1.2%	
e. Through use of fax machines	1 19.6%	2 7.6%	3 19.3%	4 19.6%	5 32.5%	6 1.5%	
f. Over the phone	1 10.5%	2 3.5%	3 10.5%	4 21.1%	5 53.5%	6 0.9%	
g. Internet	1 11.7%	2 4.4%	3 13.7%	4 18.1%	5 51.6%	6 0.6%	
h. Other, please specify: _____	1	2	3	4	5	6	

Q-29. Many National Parks, including Everglades National Park are using the internet to communicate information to visitors.

Q-29a. How would you define yourself? (check one)

\_71.8%\_ I AM A FREQUENT USER OF THE INTERNET (MORE THAN ONCE A WEEK).

\_15.3%\_ I AM AN OCCASIONAL USER OF THE INTERNET (LESS THAN ONCE A WEEK).

\_05.9%\_ I DO NOT USE THE INTERNET YET, BUT WOULD LIKE TO.

\_07.1%\_ I HAVE NO INTEREST IN USING THE INTERNET AT ALL

Q-29b. Have you ever used the internet for acquiring backcountry permits for a backcountry/wilderness area? (check one)

\_5.4%\_ YES

\_94.6%\_ NO

### Section 7: Demographic Information

Now, we would like to ask a few questions about you. This information will remain confidential.

Q-30. How old are you? \_42.95 (avg.)\_ YEARS

Q-31. What is your gender? (check one)

\_86.0%\_ MALE \_14.0%\_ FEMALE

Q-32. What is your highest level of education? (check highest)

- 00.0% GRADE SCHOOL
- 00.3% SOME HIGH SCHOOL, NO DEGREE
- 06.7% HIGH SCHOOL DEGREE OR G.E.D.
- 17.7% SOME COLLEGE/TECHNICAL SCHOOL, NO DEGREE
- 05.6% ASSOCIATE'S DEGREE/2-YEAR DEGREE
- 26.7% BACHELOR'S/4-YEAR DEGREE
- 10.7% SOME GRADUATE SCHOOL
- 19.7% MASTER'S DEGREE
- 12.6% DOCTORATE/LAW DEGREE

Q-33. What category best describes your employment situation? (check one)

- 60.1% WORKING FULL-TIME FOR PAY
- 00.3% PERMANENTLY DISABLED/UNABLE TO WORK
- 04.6% WORKING PART-TIME FOR PAY
- 01.1% HOMEMAKER
- 21.8% SELF-EMPLOYED
- 03.7% STUDENT
- 01.1% CURRENTLY SEEKING WORK
- 00.3% OTHER, PLEASE SPECIFY: \_\_\_\_\_
- 06.9% RETIRED

Q-34. In what ethnicity would you place yourself? (check one)

- 2.8% HISPANIC OR LATINO
- 97.2% NOT HISPANIC OR LATINO

Q-35. In what race would you place yourself? (check one or more)

- 00.3% AMERICAN INDIAN OR ALASKA NATIVE
- 00.6% ASIAN
- 00.0% BLACK OR AFRICAN AMERICAN
- 02.3% HISPANIC OR LATINO
- 00.0% NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER
- 94.8% WHITE
- 02.0% OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-36. What is your current annual household income before taxes? (check one)

- 02.4% LESS THAN \$9,999
- 05.6% \$10,000 TO \$19,999
- 09.5% \$20,000 TO \$29,999
- 10.1% \$30,000 TO 39,999
- 08.3% \$40,000 TO 49,999
- 26.3% \$50,000 TO 74,999
- 17.2% \$75,000 TO \$99,999
- 11.2% \$100,000 TO \$149,999
- 09.5% MORE THAN \$150,000

Q-37. How many people are supported by this income, including yourself?

2.41 (avg.)

Any other comments you have about your visits to the backcountry in Everglades National Park or suggestions about managing Everglades National Park are welcomed. Please use the space below to write your comments.

*Thank you for your help!*

**If you want more information about this study, contact the Department of Forest Resources, Oregon State University, 280 Peavy Hall, Corvallis, Oregon 97331, (541) 737-5874.**

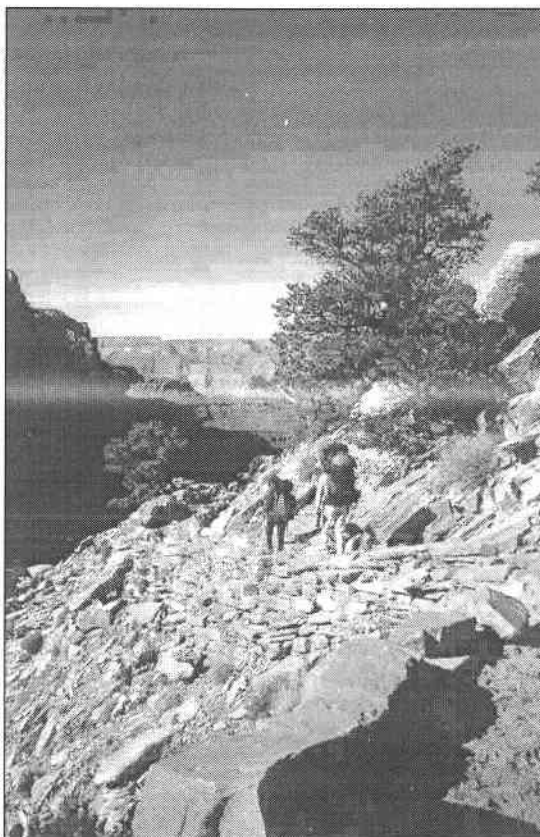
16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by the National Park Service, the Department of Interior, and Everglades National Park to improve resources management and visitor services. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. The information you provide will be anonymous. Please do not put your name or that of any member of your group on the questionnaire. Data collected through visitor surveys may be disclosed to the Department of Justice when relevant to litigation, or to appropriate Federal, State, local or foreign agencies responsible for investigating or prosecuting a violation of law. Public reporting burden for this form is estimated to average 20 minutes per respondent. Direct comments regarding the burden estimate or any other aspect of this form to the Office of Information and Regulatory Affairs of OMB, Attention Desk Officer for the Interior Department, Paperwork Reduction Project 1024-0224, and to the Information Collection Clearance Officer, WASO APC, Accountability and Audits Team, National Park Service, 1849 C Street NW, Washington, D.C. 20240. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

OMB Control Number: 1024-0224 National Park Service Identification Number: 00-001 Expiration Date: 03/2001

## **Appendix C: 1996 Grand Canyon National Park Summary Statistics**

# Grand Canyon National Park Backcountry Visitor Survey

## 1996 Summary Statistics



Department of Forest Resources  
Oregon State University  
280 Peavy Hall – Corvallis, OR 97331-5703

### Section 1: Trip Information

Please think about the specific overnight backcountry trip specified in your cover letter. For the following questions, try to **reply as accurately as possible** about this specific trip.

Q-1. Did you take this particular trip? (Check one)

96.7% YES.

03.3% NO. **If you said NO, the rest of this survey is not for you. Please return it in the self-addressed, stamped envelope.**

Q-2. How many nights did you spend in each of the following backcountry areas:

Above Rim  0.88 (avg.) NIGHTS

Below Rim  2.88 (avg.) NIGHTS

**Total nights in the backcountry  3.72 (avg.) NIGHTS**

DON'T REMEMBER  2.0%

Q-3. Where did you begin your backcountry trip to Grand Canyon National Park? (check one)

16.6% BRIGHT ANGEL TRAIL

29.4% SOUTH KAIBAB TRAIL

14.2% NORTH KAIBAB TRAIL

09.0% HERMIT TRAIL

04.4% GRANDVIEW TRAIL

03.2% TANNER TRAIL

02.0% NEW HANCE TRAIL

00.9% BOUCHER TRAIL

02.9% SOUTH BASS TRAIL

03.8% BILL HALL & THUNDER RIVER TRAIL

02.6% NANKOWEAP TRAIL

01.2% NORTH BASS TRAIL

07.0% OTHER, PLEASE SPECIFY: \_\_\_\_\_

02.9% DON'T REMEMBER

Q-4. How far in advance did you begin planning your backcountry trip to Grand Canyon National Park? (check one)

10.5% LESS THAN A WEEK

08.8% LESS THAN A MONTH

71.8% SEVERAL MONTHS

08.2% MORE THAN A YEAR IN ADVANCE

00.8% DON'T REMEMBER

- Q-5. How would you describe your group on this trip? (check one)
- |  |  |
|--|--|
| <input type="checkbox"/> 12.5% <u> ALONE</u>   | <input type="checkbox"/> 15.3% <u> BOTH FRIENDS AND FAMILY</u> |
| <input type="checkbox"/> 32.0% <u> FAMILY</u>  | <input type="checkbox"/> 05.4% <u> ORGANIZED GROUP</u>         |
| <input type="checkbox"/> 34.3% <u> FRIENDS</u> | <input type="checkbox"/> 00.6% <u> DON'T REMEMBER</u>          |
- Q-6. About how many miles did you travel from your home to reach the entry point (trailhead) for your backcountry trip?
- |  |  |
|--|--|
| <input type="checkbox"/> 1023 (avg.) <u> MILES</u> | <input type="checkbox"/> 1.4% <u> DON'T REMEMBER</u> |
|--|--|
- Q-7. In 1997, Grand Canyon National Park began charging a backcountry permit fee and a per person per night impact fee. Are you aware of this fee program at Grand Canyon National Park? (check one)
- |  |   |
|--|---|
| <input type="checkbox"/> 72.0% <u> YES</u> | <input type="checkbox"/> 28.0% <u> NO</u> |
|--|---|
- Q-8. The price currently charged for a backcountry camping permit at Grand Canyon National Park is \$10 per permit plus \$5 **per person** for each night **below** the rim and \$5 **per group** for each night **above** the rim. Do you think the \$10 per permit part of the price is: (check one)
- |  |
|--|
| <input type="checkbox"/> 01.4% <u> FAR TOO LOW</u>           |
| <input type="checkbox"/> 09.9% <u> TOO LOW</u>               |
| <input type="checkbox"/> 63.8% <u> ABOUT RIGHT</u>           |
| <input type="checkbox"/> 12.4% <u> TOO HIGH</u>              |
| <input type="checkbox"/> 10.2% <u> FAR TOO HIGH</u>          |
| <input type="checkbox"/> 02.3% <u> DON'T KNOW/NO OPINION</u> |
- Q-9. For below rim permits, do you think the \$5 per **person** per night part of the price is: (check one)
- |  |
|--|
| <input type="checkbox"/> 01.7% <u> FAR TOO LOW</u>           |
| <input type="checkbox"/> 07.9% <u> TOO LOW</u>               |
| <input type="checkbox"/> 53.3% <u> ABOUT RIGHT</u>           |
| <input type="checkbox"/> 20.7% <u> TOO HIGH</u>              |
| <input type="checkbox"/> 14.4% <u> FAR TOO HIGH</u>          |
| <input type="checkbox"/> 02.0% <u> DON'T KNOW/NO OPINION</u> |
- Q-10. For above rim permits, do you think the \$5 per **group** per night part of the price is: (check one)
- |  |
|--|
| <input type="checkbox"/> 04.8% <u> FAR TOO LOW</u>           |
| <input type="checkbox"/> 22.1% <u> TOO LOW</u>               |
| <input type="checkbox"/> 49.3% <u> ABOUT RIGHT</u>           |
| <input type="checkbox"/> 09.1% <u> TOO HIGH</u>              |
| <input type="checkbox"/> 07.4% <u> FAR TOO HIGH</u>          |
| <input type="checkbox"/> 07.4% <u> DON'T KNOW/NO OPINION</u> |

Q-11. Are you likely to change your plans for future overnight backcountry visits to Grand Canyon National Park because of the fee program for backcountry permits? (check one)

08.8% Regardless of the fee program, I have **no plans to visit** the backcountry of this park again in the near future.

00.9% I probably will visit the backcountry of this park **more often** because of the fee program.

12.2% I probably will visit the backcountry of this park **less often** because of the fee program.

71.9% The fee program probably **will not change** my future overnight backcountry visits to this park.

01.7% I probably will **buy an annual frequent hiker membership** to this park and visit the backcountry more often.

02.6% Don't know or am not sure.

02.0% Other, please specify what changes are likely: \_\_\_\_\_.

Q-12. We would like to know about your expenditures for your trip to Grand Canyon National Park. This should be the amount of money you spent from the time you left home until you returned home, including all expenses for travel, food, lodging, souvenirs, entertainment, rentals, etc.

PLEASE ESTIMATE THE TOTAL AMOUNT SPENT ON YOUR TRIP:

\$ 807.17 (avg.)

Q-13. Were the total trip and fee costs you reported for you alone?

46.1% YES

53.9% NO. . . . . If NO, how many people did the expenses cover?

3.18 (avg.) PEOPLE

Q-14. For this particular trip, was visiting the backcountry in Grand Canyon National Park the primary purpose of your trip? (check one)

71.4% Yes, visiting the backcountry was the **primary purpose** of my trip.

04.4% No, visiting the backcountry was part of an extended trip **in Grand Canyon National Park.**

24.2% No, visiting the backcountry was part of an extended trip **to the area or region.**

If you said NO, then please estimate the total amount spent on only the backcountry part of your overall trip:

\$ 211.14 (avg.)

5.9% DON'T REMEMBER



Q-15. The cost of visiting the backcountry area of a National Park can change over time. For example, gas prices, airfare, and equipment rentals can rise. Would you still have made this overnight backcountry trip if your share of costs were \$ 10, 20, 30, 40, 50, 75, 100, 150, 200, 250, 300, 400, 500, 750, or 1000 **more** than the amount you reported above? (check one)

57.0% YES                      28.1% NO                      14.9% NOT SURE

If you said NO, was it because: (check one)

19.2% THE TRIP WOULD NOT HAVE BEEN WORTH THAT MUCH TO ME.

34.6% I COULD NOT AFFORD IT.

36.5% I COULD NOT IMAGINE MY COSTS EVER GETTING THAT HIGH.

09.6% OTHER, PLEASE SPECIFY: \_\_\_\_\_

## Section 2: Use of Backcountry Permit Fees

Q-16a. The Recreational Fee Demonstration Program allows park managers to maintain and improve visitor services, resource protection and recreation conditions by retaining some of the collected fees for use by the park. Please indicate your level of support for the following uses of fee money from backcountry permits.

Services or Conditions:	Strongly Oppose		Neutral		Strongly Support		DK NO
	1	2	3	4	5	6	
a. More backcountry visitor information services	4.3%	7.0%	36.2%	27.8%	22.6%	2.0%	
b. More backcountry office hours	4.0%	6.1%	36.0%	25.1%	27.1%	1.7%	
c. More non-backcountry related services, maintenance, repairs, and projects	20.8%	14.7%	35.3%	14.2%	11.8%	3.2%	
d. More backcountry trail maintenance	4.0%	10.6%	20.1%	24.1%	40.1%	1.1%	
e. More archaeological preservation, monitoring, and restoration	4.6%	5.2%	22.1%	23.8%	42.7%	1.7%	
f. Improved backcountry trail signs	7.5%	7.8%	31.8%	25.7%	26.6%	0.6%	
g. More backcountry trail signs	12.7%	12.7%	34.4%	17.6%	22.0%	0.6%	
h. Improved backcountry campsites	14.9%	15.2%	27.8%	18.4%	22.8%	0.9%	
i. More designated backcountry campsites	15.2%	17.0%	19.4%	21.4%	25.8%	1.2%	
j. More backcountry revegetation of impacted sites	2.6%	4.3%	18.8%	27.8%	44.9%	1.4%	
k. Improved shuttle service to backcountry trail heads	8.1%	6.1%	27.0%	26.1%	29.9%	2.9%	
l. More backcountry law enforcement of permit regulations	10.8%	11.7%	36.2%	21.9%	17.8%	1.7%	
m. More noise reduction in the backcountry	4.3%	5.7%	29.8%	18.9%	39.5%	1.7%	
n. More backcountry search and rescue rangers	4.6%	11.9%	45.2%	27.0%	9.6%	1.7%	
o. Removal of non-native plants and animals in the backcountry	10.1%	11.6%	40.2%	19.4%	16.8%	2.0%	
p. New or improved restrooms at trailheads or backcountry campsites	7.8%	9.2%	30.3%	28.5%	23.1%	1.2%	
q. More backcountry educational programs (Leave No Trace, Heat Kills, etc.)	3.2%	7.5%	30.6%	28.3%	29.5%	0.9%	
r. Other, please specify _____	1	2	3	4	5	6	

Q-16b. From the above list of services and conditions, what are your three highest priorities for spending backcountry permit fee revenues in Grand Canyon National Park? (write the letters from the list above)

- 1<sup>st</sup>: 11.9% = More backcountry trail maintenance \_
- 2<sup>nd</sup>: 10.5% = More archaeological preservation, monitoring, and restoration \_
- 3<sup>rd</sup>: 9.3% = More backcountry revegetation of impacted sites \_

Q-16c. If you have visited the backcountry at Grand Canyon National Park since 1997 indicate whether you noticed any improvements over time in the above list of services and conditions. Write the letters corresponding to each improved service or condition. For example, if you feel trail signs have been improved, you would write "f."

- 1<sup>st</sup>: 13.1% = More backcountry visitor information services \_
- 2<sup>nd</sup>: 12.6% = New or improved restrooms at trailheads or backcountry campsites \_
- 3<sup>rd</sup>: 10.9% = More backcountry educational programs (Leave No Trace, Heat Kills, etc.) \_

Q-17. Currently, 20% of the user fees collected in Grand Canyon National Park is used by the National Park Service for other purposes, including improvements at other parks. The remaining 80% stays at Grand Canyon National Park. How do you believe fee revenue should be allocated between Grand Canyon National Park and other places? (fill in the percentages)

Keep at <b>Grand Canyon National Park only</b> .....	85.99 (avg.)_% (100% MAX)
Available for use by the National Park Service to <b>distribute to other National Parks</b> with needs.....	14.01 (avg.)_% (100% MAX)
<b>TOTAL</b>	<b>100%</b>
_9.6%_ Don't know/No opinion	

### Section 3: Opinions and Attitudes

Q-18. We would like to know how you feel, in general, about user fees at units of the National Park System (includes National Parks, historic and cultural sites, and many National Monuments), and more specifically at Grand Canyon National Park. Please tell us whether you agree or disagree with the following statements.

It is appropriate to:	Strongly Disagree		Neutral		Strongly Agree		DK Or N/A
	1	2	3	4	5	6	
a. Charge an entrance fee at most National Parks.	6.6%	5.1%	8.5%	31.1%	48.7%	0.0%	
b. Charge an entrance fee to access Grand Canyon National Park.	6.5%	4.5%	8.0%	28.1%	52.8%	0.0%	
c. Charge for parking within National Parks in addition to entrance fees.	52.4%	20.4%	11.3%	6.5%	9.1%	0.3%	
d. Charge permit fees for raft or boat use at rivers and lakes at most National Parks in addition to entrance fees.	13.4%	8.5%	15.7%	25.9%	34.5%	2.0%	
e. Charge permit fees for raft or boat use at rivers at Grand Canyon National Park in addition to entrance fees.	12.5%	5.4%	15.6%	24.4%	40.1%	2.0%	
f. Charge a fee for overnight backcountry use at most National Parks in addition to entrance fees.	19.3%	9.4%	11.6%	28.4%	31.0%	0.3%	
g. Charge a fee for overnight backcountry use at Grand Canyon National Park in addition to entrance fees.	17.3%	9.9%	8.5%	29.0%	34.9%	0.3%	

**Do you agree or disagree with the following statements?**

	Strongly Disagree		Neutral		Strongly Agree	DK N/A
	1	2	3	4	5	6
a. I believe funding parks through user fees will lead the National Park Service to develop more fee-based services.	3.4%	6.6%	19.4%	29.3%	25.9%	5.4%
b. Backcountry fees are justifiable because it costs money to manage the backcountry.	10.8%	8.5%	8.2%	31.3%	41.2%	0.0%
c. I believe the National Park Service will <b>not</b> try to increase visitation for the sole purpose of raising revenue.	11.9%	9.9%	24.4%	23.3%	20.5%	9.9%
d. I believe people who visit National Parks should pay more for park improvement projects than those who do not visit.	15.6%	8.5%	14.5%	32.4%	28.7%	0.3%
e. I believe the National Park Service will not address crowding issues because it is dependent on revenue from high use.	11.7%	26.3%	22.6%	17.1%	14.3%	8.0%
f. I expect rangers to enforce the backcountry permit requirement more rigorously now that there are fees.	7.1%	8.2%	26.1%	30.4%	26.4%	1.7%
g. When I pay for a backcountry permit, I expect to have a guaranteed place to camp in the backcountry.	5.4%	4.6%	10.3	19.1%	59.7%	0.9%
h. If fees were not charged for overnight backcountry use, it would be all right for backcountry visitor services to be reduced (fewer ranger patrols, reduction in permit office hours, reduction in trail maintenance, etc.)	22.2%	22.8%	13.7%	18.8%	19.9%	2.6%
i. I do not mind paying a fee if it is simple and convenient to pay.	8.0%	3.1%	9.1%	32.4%	46.6%	0.9%
j. Permits reduce my ability to take trips with little advanced planning.	12.5%	11.1%	12.3%	23.6%	38.7%	1.7%
k. My trip planning now takes the same amount of time as it did before fees were implemented.	10.0%	12.3%	13.7%	24.0%	30.0%	10.0%
l. Fees have never prevented me from taking a trip to Grand Canyon National Park.	5.4%	5.1%	6.8%	21.1%	58.7%	2.8%

Q-19a. For trips of the same length, should overnight backcountry users pay more, less, or the same for their backcountry permit as overnight visitors pay for camping in developed car campgrounds at Grand Canyon National Park? (check one)

- 08.4% BACKCOUNTRY USERS SHOULD PAY MORE
- 19.9% BACKCOUNTRY USERS SHOULD PAY THE SAME
- 67.4% BACKCOUNTRY USERS SHOULD PAY LESS
- 04.3% DON'T KNOW/NO OPINION

Q-19b. Why do you feel this way?

- 40.9% = The backcountry requires less services and should cost the NPS less than front country (bathrooms, campgrounds, running water, etc.)
- 14.9% = Backcountry users "leave no trace" and have a lower impact on resources
- 9.9% = Other

Q-20. Approximately, what percentage of Grand Canyon National Park funding do you think comes from these sources?

Taxes/Congressional Funding	<u>50.45 (avg.)</u> %
User Fees (entrance fees, backcountry permit fees, etc.)	<u>30.04 (avg.)</u> %
Concessionaire Fees (paid by food, lodging, and souvenir companies operating within National Parks)	<u>18.37 (avg.)</u> %
Other, please specify: _____	<u>09.67 (avg.)</u> %
<b>Total</b>	<b>100%</b>
<u>40.1%</u> No opinion/Don't know	

Q-21. What do you think is the ideal percentage of funding from these sources?

Taxes/Congressional Funding	<u>49.69 (avg.)</u> %
User Fees (entrance fees, backcountry permit fees, etc.)	<u>24.05 (avg.)</u> %
Concessionaire Fees (paid by food, lodging, souvenir companies operating within National Parks)	<u>25.35 (avg.)</u> %
Other, please specify: _____	<u>10.00 (avg.)</u> %
<b>Total</b>	<b>100%</b>
<u>25.3%</u> No opinion/Don't know	

**Section 4: History of Recreational Use**

Q-22a. About how many overnight backcountry trips did you make to Grand Canyon National Park in each of the following years, including the trip specified in the cover letter? (circle number of trips for each year)

Year	Number of trips									
	0	1	2	3	4	5	6-10	10-20	20+	
1994	54.8%	27.3%	7.7%	4.3%	1.7%	0.6%	2.0%	0.3%	0.3%	
1995	58.5%	21.6%	10.8%	3.4%	0.9%	0.9%	2.6%	0.9%	0.0%	
1996	5.7%	71.0%	12.5%	2.8%	2.3%	1.1%	2.6%	1.1%	0.3%	
1997	59.1%	22.4%	10.2%	1.4%	2.0%	0.6%	2.3%	0.6%	0.6%	
1998	60.2%	21.9%	8.8%	3.7%	1.1%	0.3%	2.3%	0.9%	0.3%	
1999	68.5%	17.3%	6.5%	2.6%	1.7%	0.3%	1.4%	0.9%	0.3%	

Q22b. If you visited before 1994, in what year did you take your first backcountry trip to Grand Canyon National Park?

19\_88 (avg.)\_                      \_5.5%\_ DON'T REMEMBER

Q-23. Since **January of 1997** has the duration of your backcountry trips in Grand Canyon National Park changed? (check one)

- \_35.8%\_ MY TRIP DURATION HAS NOT CHANGED.
- \_08.1%\_ MY TRIPS ARE LONGER IN DURATION NOW.
- \_08.7%\_ MY TRIPS ARE SHORTER IN DURATION NOW.
- \_47.4%\_ DOES NOT APPLY/DON'T KNOW.

Q-24. On average, how many times per year do you participate in the following activities:

Backpacking                      \_4.73 (avg.)\_ TIMES PER YEAR  
     \_1.7%\_ DON'T KNOW  
 Rafting/Canoeing/Kayaking/etc. \_1.78 (avg.)\_ TIMES PER YEAR  
     \_2.0%\_ DON'T KNOW

**Section 5: Current Recreational Use**

Q-25a. Over the next two years, how many overnight backcountry trips will you likely make to Grand Canyon National Park at the current price of \$10 per permit plus \$5 per **person** per night for **below** rim backpacking, and \$10 per permit plus \$5 per **group** per night for **above** rim backpacking?

\_1.66 (avg.)\_ TRIPS IN THE NEXT TWO YEARS

Q-25b. Over the next two years, how many overnight backcountry trips will you likely make to Grand Canyon National Park if the total permit price (permit and per person/per night fee) were \$\_1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 25, 30, 40, or 50\_ **more** per trip?

\_1.48 (avg.)\_ TRIPS IN THE NEXT TWO YEARS

Q-25c. If you reported zero trips to either of the past two questions, was it because:

\_07.1%\_ THE TRIP IS NOT WORTH THAT PRICE TO ME.

\_04.8%\_ I CANNOT AFFORD IT.

\_05.6%\_ I WILL NOT VISIT THE BACKCOUNTRY OF A NATIONAL PARK THAT CHARGES FEES.

\_08.0%\_ I DO NOT WANT TO, OR CANNOT, VISIT THE BACKCOUNTRY AT GRAND CANYON NATIONAL PARK IN THE NEXT TWO YEARS, REGARDLESS OF PRICE.

\_01.2%\_ OTHER, PLEASE SPECIFY: \_\_\_\_\_



- Q-26. There could be several reasons that prevent you from making more overnight visits to the backcountry in Grand Canyon National Park. Please rate the importance of each reason in your decision not to make more overnight backcountry trips to Grand Canyon National Park.

**I don't make more trips because:**

	Not At All Important		Somewhat Important		Extremely Important	DR/ NO
a. I dislike having to obtain the backcountry permits.	1 45.9%	2 18.6%	3 18.9%	4 7.4%	5 8.0%	6 1.2%
b. Backcountry fees are too high.	1 48.8%	2 21.3%	3 15.7%	4 5.0%	5 8.0%	6 1.2%
c. My family obligations have changed (more children, taking care of elderly, etc.).	1 36.8%	2 6.5%	3 17.5%	4 15.1%	5 19.3%	6 4.7%
d. The overall cost of the trip is too high.	1 43.1%	2 16.8%	3 20.6%	4 10.0%	5 7.4%	6 2.1%
e. The trip was only a once-in-a-lifetime visit for me.	1 70.1%	2 7.0%	3 6.1%	4 4.9%	5 3.4%	6 8.5%
f. I go to a different area that does not charge fees.	1 59.7%	2 9.9%	3 12.5%	4 7.2%	5 6.9%	6 3.9%
g. My lifestyle has changed (job situation, preferred activities, etc.)	1 43.0%	2 10.4%	3 16.6%	4 14.2%	5 10.1%	6 5.6%
h. I cannot afford the backcountry permit fees.	1 70.4%	2 14.8%	3 7.7%	4 2.7%	5 1.8%	6 2.7%
i. I have moved farther away from Grand Canyon National Park.	1 70.8%	2 5.4%	3 5.4%	4 3.3%	5 8.3%	6 6.8%
j. I do not feel safe at Grand Canyon National Park for my property or myself.	1 81.7%	2 6.8%	3 4.7%	4 1.2%	5 1.2%	6 4.4%
k. There are too many other fees in addition to backcountry permit fees.	1 54.7%	2 17.5%	3 12.4%	4 6.2%	5 6.2%	6 3.0%
l. Grand Canyon National Park has become less attractive to visit because of conditions in the park such as crowding, environmental damage, noise, etc.	1 34.0%	2 12.4%	3 24.6%	4 15.4%	5 10.4%	6 3.3%
m. Other, please specify: _____	1	2	3	4	5	6

Q-27. If you have reduced your overnight backcountry use of Grand Canyon National Park **since 1997** please answer the following questions. **If not, skip to Question 28.**

Q-27a. What have you done now that you have reduced your overnight backcountry use in Grand Canyon National Park? (check one)

- 11.4% STAYED AT HOME MORE
- 03.0% DONE A DIFFERENT ACTIVITY IN GRAND CANYON NATIONAL PARK
- 45.5% VISITED A DIFFERENT BACKCOUNTRY AREA
- 30.5% DONE A DIFFERENT ACTIVITY AT SOME OTHER AREA
- 09.6% OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-27b. If you have been to other outdoor recreation areas instead of making backcountry trips in Grand Canyon National Park, what kind of area have you most often visited instead? (check only one)

- 35.9% A NATIONAL PARK AND/OR PRESERVE
- 37.0% A NATIONAL FOREST
- 11.4% A STATE, COUNTY, OR CITY PARK
- 01.6% A WILDLIFE REFUGE
- 02.7% PRIVATELY OWNED RECREATION AREA
- 09.8% OTHER, PLEASE SPECIFY: \_\_\_\_\_
- 01.6% DON'T KNOW

### Section 6: Permit Package and Location Options

Q-28. National Parks throughout the United States are currently using a wide variety of options for charging user fees. What is your opinion about implementing these options at Grand Canyon National Park? (please rate all)

	Strongly Oppose		Neutral		Strongly Support	DK NO
	1	2	3	4	5	6
a. Backcountry permits would be less expensive during weekdays.	12.1%	7.2%	24.6%	25.7%	28.3%	2.0%
b. Backcountry permits would be less expensive during the off-season.	8.1%	6.9%	17.9%	26.5%	39.2%	1.4%
c. Backcountry permits would be less expensive for less popular campsites.	13.3%	9.0%	22.5%	25.7%	28.0%	1.4%
d. Backcountry permits would cost the same for all groups, regardless of group size.	41.1%	23.6%	16.7%	5.5%	10.6%	2.6%
e. Backcountry permit prices would rise depending on the number of days spent in the backcountry.	33.0%	18.1%	19.5%	17.0%	9.8%	2.6%
f. Backcountry permit fees and park entrance fees could be paid at the same time and place.	6.9%	5.7%	31.6%	18.7%	33.6%	3.4%
g. Backcountry permits would be available for purchase on a self-service/honor-system.	32.6%	17.3%	21.9%	12.7%	13.0%	2.6%
h. Backcountry permits would be replaced by a single fee for all Grand Canyon National Park users that is the same for backcountry and frontcountry users.	28.4%	22.6%	22.9%	11.0%	11.0%	4.1%
i. Other, please specify: _____	1	2	3	4	5	6

Q-29. There are several different ways that people could reserve and pay for their backcountry permits. What is your level of support for the following options for acquiring Grand Canyon National Park backcountry permits?

	Strongly Oppose		Neutral		Strongly Support	DK/NO
a. In person at the National Park	1 12.8%	2 5.5%	3 14.0%	4 19.5%	5 47.7%	6 0.6%
b. Through a centralized reservation system for all parks	1 23.1%	2 12.1%	3 18.8%	4 17.6%	5 27.2%	6 1.2%
c. Through the mail	1 3.2%	2 3.2%	3 14.5%	4 33.2%	5 45.4%	6 0.6%
d. Through use of fax machines	1 4.9%	2 5.8%	3 21.4%	4 26.4%	5 39.7%	6 1.7%
e. Over the phone	1 2.6%	2 4.0%	3 10.9%	4 30.2%	5 51.4%	6 0.9%
f. Internet	1 5.2%	2 4.6%	3 9.5%	4 21.3%	5 57.3%	6 2.0%
g. Other, please specify: _____	1	2	3	4	5	6

Many National Parks, including Grand Canyon National Park are using the internet to communicate information to visitors.

Q-30a. How would you define yourself (check one)?

\_71.3%\_ I AM A FREQUENT USER OF THE INTERNET (MORE THAN ONCE A WEEK).

\_16.0%\_ I AM AN OCCASIONAL USER OF THE INTERNET (LESS THAN ONCE A WEEK).

\_04.6%\_ I DO NOT USE THE INTERNET YET, BUT WOULD LIKE TO.

\_08.0%\_ I HAVE NO INTEREST IN USING THE INTERNET AT ALL

Q-30b. Have you ever used the internet for acquiring backcountry permits for a backcountry/wilderness area? (check one)

\_15.4%\_ YES

\_84.6%\_ NO

### Section 7: Demographic Information

Now, we would like to ask a few questions about you. This information will remain confidential.

Q-31. How old are you? \_46.75 (avg.)\_ YEARS

Q-32. What is your gender? (check one)

\_79.8%\_ MALE

\_20.2%\_ FEMALE

Q-33. What is your highest level of education? (check highest)

- 00.6% GRADE SCHOOL
- 04.0% SOME HIGH SCHOOL, NO DEGREE
- 11.7% HIGH SCHOOL DEGREE OR G.E.D.
- 05.1% SOME COLLEGE/TECHNICAL SCHOOL, NO DEGREE DEGREE
- 31.1% ASSOCIATE'S DEGREE/2-YEAR DEGREE
- 31.1% BACHELOR'S/4-YEAR DEGREE
- 10.5% SOME GRADUATE SCHOOL
- 21.4% MASTER'S DEGREE
- 15.7% DOCTORATE/LAW

Q-34. What category best describes your employment situation? (check one)

- 64.7% WORKING FULL-TIME FOR PAY
- 00.0% PERMANENTLY DISABLED/UNABLE TO WORK
- 04.0% WORKING PART-TIME FOR PAY
- 01.1% HOMEMAKER
- 14.7% SELF-EMPLOYED
- 02.9% STUDENT
- 00.6% CURRENTLY SEEKING WORK
- 01.1% OTHER, PLEASE SPECIFY: \_\_\_\_\_
- 10.9% RETIRED

Q-35. In what ethnicity would you place yourself? (check one)

- 3.2% HISPANIC OR LATINO
- 96.8% NOT HISPANIC OR LATINO

Q-36. In what race would you place yourself? (check one or more)

- 00.9% AMERICAN INDIAN OR ALASKA NATIVE
- 01.2% ASIAN
- 00.6% BLACK OR AFRICAN AMERICAN
- 02.1% HISPANIC OR LATINO
- 00.0% NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER
- 94.1% WHITE
- 01.2% OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-37. What is your current annual household income before taxes? (check one)

- 01.8% less than \$9,999
- 04.2% \$10,000 to \$19,999
- 08.4% \$20,000 to \$29,999
- 09.3% \$30,000 to 39,999
- 10.5% \$40,000 to 49,999
- 22.5% \$50,000 to 74,999
- 14.1% \$75,000 to \$99,999
- 19.8% \$100,000 to \$149,999
- 09.6% more than \$150,000

Q-38. How many people are supported by this income, including yourself?

2.46 (avg.)

Any other comments you have about your visits to the backcountry in Grand Canyon National Park or suggestions about managing Grand Canyon National Park are welcomed. Please use the space below and additional paper to write your comments.

*Thank you for your help!*

**If you want more information about this study, contact the Department of Forest Resources, Oregon State University, 280 Peavy Hall, Corvallis, Oregon 97331, (541) 737-5874.**

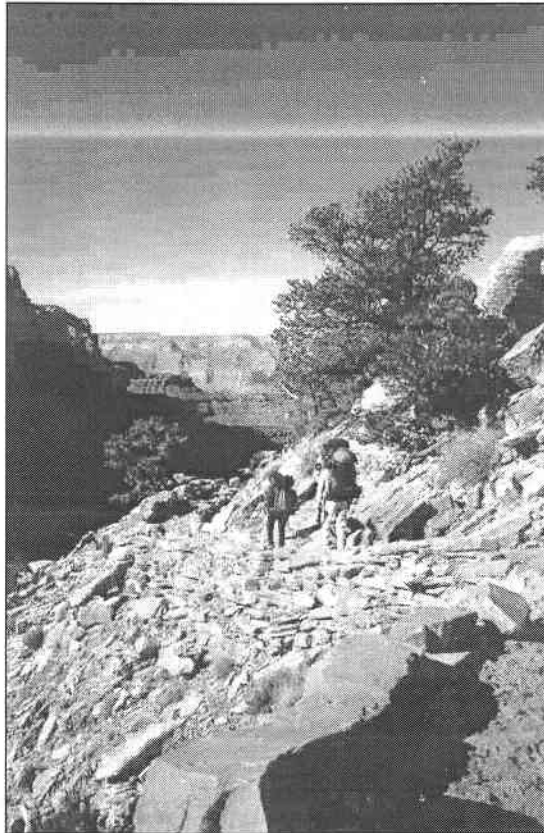
16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by the National Park Service, the Department of Interior, and Grand Canyon National Park to improve resources management and visitor services. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. The information you provide will be anonymous. Please do not put your name or that of any member of your group on the questionnaire. Data collected through visitor surveys may be disclosed to the Department of Justice when relevant to litigation, or to appropriate Federal, State, local or foreign agencies responsible for investigating or prosecuting a violation of law. Public reporting burden for this form is estimated to average 20 minutes per respondent. Direct comments regarding the burden estimate or any other aspect of this form to the Office of Information and regulatory Affairs of OMB, Attention Desk Officer for the Interior Department, Paperwork Reduction Project 1024-0224, and to the Information Collection Clearance Officer, WASO APC, Accountability and Audits Team, National Park Service, 1849 C Street NW, Washington, D.C. 20240. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

OMB Control Number: 1024-0224 National Park Service Identification Number: 00-001 Expiration Date: 03/2001

**Appendix D: 1999 Grand Canyon National Park Summary Statistics**

# Grand Canyon National Park Backcountry Visitor Survey

## 1999 Summary Statistics



Department of Forest Resources  
Oregon State University  
280 Peavy Hall – Corvallis, OR 97331-5703



**Section 1: Trip Information**

Please think about the specific overnight backcountry trip specified in your cover letter. For the following questions, try to **reply as accurately as possible** about this specific trip.

Q-1. How many nights did you spend in each of the following backcountry areas:

Above Rim	<u>0.70 (avg.)</u> NIGHTS
Below Rim	<u>2.63 (avg.)</u> NIGHTS
<b>Total nights in the backcountry</b>	<b><u>3.35 (avg.)</u> NIGHTS</b>
DON'T REMEMBER	<u>0.5%</u>

Q-2. Where did you begin your backcountry trip to Grand Canyon National Park? (check one)

<u>18.4%</u>	BRIGHT ANGEL TRAIL
<u>34.7%</u>	SOUTH KAIBAB TRAIL
<u>11.9%</u>	NORTH KAIBAB TRAIL
<u>07.9%</u>	HERMIT TRAIL
<u>05.4%</u>	GRANDVIEW TRAIL
<u>04.1%</u>	TANNER TRAIL
<u>03.0%</u>	NEW HANCE TRAIL
<u>01.9%</u>	BOUCHER TRAIL
<u>01.1%</u>	SOUTH BASS TRAIL
<u>03.0%</u>	BILL HALL & THUNDER RIVER TRAIL
<u>00.5%</u>	NANKOWEAP TRAIL
<u>00.8%</u>	NORTH BASS TRAIL
<u>05.4%</u>	OTHER, PLEASE SPECIFY: _____
<u>01.9%</u>	DON'T REMEMBER

Q-3. How far in advance did you begin planning your backcountry trip to Grand Canyon National Park? (check one)

<u>06.5%</u>	LESS THAN A WEEK
<u>13.6%</u>	LESS THAN A MONTH
<u>69.7%</u>	SEVERAL MONTHS
<u>09.9%</u>	MORE THAN A YEAR IN ADVANCE
<u>00.3%</u>	DON'T REMEMBER

Q-4. How would you describe your group on this trip? (check one)

<u>12.3%</u>	ALONE	<u>14.9%</u>	BOTH FRIENDS AND FAMILY
<u>28.0%</u>	FAMILY	<u>06.8%</u>	ORGANIZED GROUP
<u>37.7%</u>	FRIENDS	<u>00.3%</u>	DON'T REMEMBER

Q-5. About how many miles did you travel from your home to reach the entry point (trailhead) for your backcountry trip?

<u>967 (avg.)</u>	MILES	<u>2.6%</u>	DON'T REMEMBER
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- Q-6. In 1997, Grand Canyon National Park began charging a backcountry permit fee and a per person per night impact fee. When did you become aware of this fee program at Grand Canyon National Park? (check one)

86.1% KNEW BEFORE THIS TRIP  
 11.0% FOUND OUT AT PARK  
 02.9% DON'T REMEMBER

- Q-7. The price currently charged for a backcountry camping permit at Grand Canyon National Park is \$10 per permit plus \$5 **per person** for each night **below** the rim and \$5 **per group** for each night **above** the rim. Do you think the \$10 per permit part of the price is: (check one)

02.1% FAR TOO LOW  
 13.0% TOO LOW  
 68.8% ABOUT RIGHT  
 09.0% TOO HIGH  
 05.0% FAR TOO HIGH  
 02.1% DON'T KNOW/NO OPINION

- Q-8. For below rim permits, do you think the \$5 per **person** per night part of the price is: (check one)

02.9% FAR TOO LOW  
 08.0% TOO LOW  
 65.8% ABOUT RIGHT  
 14.3% TOO HIGH  
 06.9% FAR TOO HIGH  
 02.1% DON'T KNOW/NO OPINION

- Q-9. For above rim permits, do you think the \$5 per **group** per night part of the price is: (check one)

07.7% FAR TOO LOW  
 21.4% TOO LOW  
 49.6% ABOUT RIGHT  
 06.1% TOO HIGH  
 04.5% FAR TOO HIGH  
 10.8% DON'T KNOW/NO OPINION

Q-10. Are you likely to change your plans for future overnight backcountry visits to Grand Canyon National Park because of the fee program for backcountry permits? (check one)

- 05.0% Regardless of the fee program, I have **no plans to visit** the backcountry of this park again in the near future.
- 00.8% I probably will visit the backcountry of this park **more often** because of the fee program.
- 06.4% I probably will visit the backcountry of this park **less often** because of the fee program.
- 78.8% The fee program probably **will not change** my future overnight backcountry visits to this park.
- 04.2% I probably will **buy an annual frequent hiker membership** to this park and visit the backcountry more often.
- 01.6% Don't know or am not sure.
- 03.2% Other, please specify what changes are likely: \_\_\_\_\_.

Q-11. We would like to know about your expenditures for your trip to Grand Canyon National Park. This should be the amount of money you spent from the time you left home until you returned home, including all expenses for travel, food, lodging, souvenirs, entertainment, rentals, etc.

PLEASE ESTIMATE THE TOTAL AMOUNT SPENT ON YOUR TRIP:  
 \$\_768.93 (avg.)\_

Q-12. Were the total trip and fee costs you reported for you alone?

- 44.5% YES
- 55.5% NO. . . . . If NO, how many people did the expenses cover?  
 \_3.39 (avg.)\_ PEOPLE

Q-13. Now we would like to know about any recreation user fees you may have paid on your trip. For each of the following, indicate if you paid a fee. (check all that apply)

**Percentage indicating that they paid a fee.**

- 63.3% Park entrance fee
- 88.2% Backcountry camping permit fee
- 00.8% Raft/Boat launch fee
- 24.4% Golden Eagle or Age Passport
- 11.4% Other fees, please specify: \_\_\_\_\_

Q-14. For this particular trip, was visiting the backcountry in Grand Canyon National Park the primary purpose of your trip? (check one)

81.6% Yes, visiting the backcountry was the **primary purpose** of my trip.

04.7% No, visiting the backcountry was part of an extended trip in **Grand Canyon National Park**.

13.7% No, visiting the backcountry was part of an extended trip **to the area or region**.

If you said NO, then please estimate the total amount spent on only the backcountry part of your overall trip:

\$ 361.67 (avg.)

3.9% DON'T REMEMBER

Q-15. The cost of visiting the backcountry area of a National Park can change over time. For example, gas prices, airfare, and equipment rentals can rise. Would you still have made this overnight backcountry trip if your share of costs were \$ 10, 20, 30, 40, 50, 75, 100, 150, 200, 250, 300, 400, 500, 750, or 1000 **more** than the amount you reported above (check one)?

53.0% YES

29.6% NO

17.4% NOT SURE

If you said NO, was it because: (check one)

12.2% THE TRIP WOULD NOT HAVE BEEN WORTH THAT MUCH TO ME.

37.4% I COULD NOT AFFORD IT.

37.4% I COULD NOT IMAGINE MY COSTS EVER GETTING THAT HIGH.

13.0% OTHER, PLEASE SPECIFY: \_\_\_\_\_

## Section 2: Use of Backcountry Permit Fees

Q-16a. The Recreational Fee Demonstration Program allows park managers to maintain and improve visitor services, resource protection and recreation conditions by retaining some of the collected fees for use by the park. Please indicate your level of support for the following uses of fee money from backcountry permits. (circle one number for each service or condition)

Services or Conditions:	Strongly Oppose		Neutral		Strongly Support	DK/ NO
a. More backcountry visitor information services	1 4.1%	2 7.6%	3 43.5%	4 20.0%	5 23.0%	6 1.9%
b. More backcountry office hours	1 1.9%	2 6.6%	3 41.0%	4 23.7%	5 25.0%	6 1.9%
c. More non-backcountry related services, maintenance, repairs, and projects	1 12.2%	2 16.2%	3 36.4%	4 16.5%	5 16.0%	6 2.7%
d. More backcountry trail maintenance	1 4.0%	2 9.3%	3 24.4%	4 27.3%	5 34.5%	6 0.5%
e. More archaeological preservation, monitoring, and restoration	1 2.4%	2 2.9%	3 19.9%	4 26.3%	5 46.2%	6 2.4%
f. Improved backcountry trail signs	1 5.6%	2 10.7%	3 33.3%	4 26.1%	5 24.0%	6 0.3%
g. More backcountry trail signs	1 11.0%	2 14.4%	3 32.6%	4 21.9%	5 19.3%	6 0.8%
h. Improved backcountry campsites	1 10.1%	2 16.8%	3 32.2%	4 21.0%	5 19.1%	6 0.8%
i. More designated backcountry campsites	1 14.4%	2 15.8%	3 24.3%	4 20.6%	5 23.3%	6 1.6%
j. More backcountry revegetation of impacted sites	1 1.6%	2 2.7%	3 17.3%	4 30.7%	5 45.9%	6 1.9%
k. Improved shuttle service to backcountry trail heads	1 6.1%	2 7.0%	3 30.5%	4 29.4%	5 25.4%	6 1.6%
l. More backcountry law enforcement of permit regulations	1 8.0%	2 8.3%	3 40.3%	4 22.4%	5 19.5%	6 1.6%
m. More noise reduction in the backcountry	1 1.9%	2 4.3%	3 26.1%	4 15.7%	5 48.7%	6 3.5%
n. More backcountry search and rescue rangers	1 4.8%	2 8.0%	3 46.9%	4 27.1%	5 10.2%	6 2.9%
o. Removal of non-native plants and animals in the backcountry	1 8.8%	2 8.8%	3 37.5%	4 25.5%	5 16.6%	6 2.7%
p. New or improved restrooms at trailheads or backcountry campsites	1 5.8%	2 10.1%	3 33.9%	4 24.6%	5 24.9%	6 0.8%
q. More backcountry educational programs (Leave No Trace, Heat Kills, etc.)	1 2.9%	2 7.2%	3 29.3%	4 32.3%	5 27.2%	6 1.1%
r. Other, please specify: _____	1	2	3	4	5	6

Q-16b. From the above list of services and conditions, what are your three highest priorities for spending backcountry permit fee revenues in Grand Canyon National Park? (write the letters from the list above)

- 1<sup>st</sup>. 12.1% = More backcountry revegetation of impacted sites\_
- 2<sup>nd</sup>. 11.9% = More archaeological preservation, monitoring, and restoration\_
- 3<sup>rd</sup>. 10.4% = More backcountry trail maintenance\_
- 4<sup>th</sup>. 10.3% = More noise reduction in the backcountry\_

Q-16c. If you have visited the backcountry at Grand Canyon National Park more than once since 1997 indicate whether you noticed any improvements over time in the above list of services and conditions. Write the letters corresponding to each improved service or condition. For example, if you feel trail signs have been improved, you would write "f."

- 1<sup>st</sup>. 14.2% = More backcountry visitor information services\_
- 2<sup>nd</sup>. 14.2% = More backcountry trail maintenance\_
- 3<sup>rd</sup>. 14.2% = More backcountry educational programs (Leave No Trace, Heat Kills, etc.)\_

Q-17. Currently, 20% of the user fees collected in Grand Canyon National Park is used by the National Park Service for other purposes, including improvements at other parks. The remaining 80% stays at Grand Canyon National Park. How do you believe fee revenue should be allocated between Grand Canyon National Park and other places? (fill in the percentages)

<b>Keep at Grand Canyon National Park only</b> .....	85.38 (avg.)_% (100% MAX)
Available for use by the National Park Service to <b>distribute to other National Parks</b> with needs.....	14.62 (avg.)_% (100% MAX)
<b>TOTAL</b>	<b>100%</b>
_15.3%_ Don't know/No opinion	

### Section 3: Opinions and Attitudes

Q-18. We would like to know how you feel, in general, about user fees at units of the National Park System (includes National Parks, historic and cultural sites, and many National Monuments), and more specifically at Grand Canyon National Park. Please tell us whether you agree or disagree with the following statements. (circle one number for each item)

It is appropriate to:	Strongly Disagree		Neutral		Strongly Agree		DK/ N/A
	1	2	3	4	5	6	
a. Charge an entrance fee at most National Parks.	1 7.1%	2 5.8%	3 10.3%	4 26.2%	5 50.3%	6 0.3%	
b. Charge an entrance fee to access Grand Canyon National Park.	1 5.6%	2 4.5%	3 9.3%	4 25.9%	5 54.5%	6 0.3%	
c. Charge for parking within National Parks in addition to entrance fees.	1 52.0%	2 19.9%	3 11.1%	4 6.4%	5 9.8%	6 0.8%	
d. Charge permit fees for raft or boat use at rivers and lakes at most National Parks in addition to entrance fees.	1 9.6%	2 9.6%	3 18.2%	4 27.5%	5 33.2%	6 1.9%	
e. Charge permit fees for raft or boat use at rivers at Grand Canyon National Park in addition to entrance fees.	1 8.3%	2 9.7%	3 15.8%	4 27.9%	5 37.0%	6 1.3%	
f. Charge a fee for overnight backcountry use at most National Parks in addition to entrance fees.	1 11.8%	2 8.3%	3 13.9%	4 30.7%	5 35.3%	6 0.0%	
g. Charge a fee for overnight backcountry use at Grand Canyon National Park in addition to entrance fees.	1 11.3%	2 6.7%	3 12.1%	4 31.1%	5 38.9%	6 0.0%	

**Do you agree or disagree with the following statements?**

		Strongly Disagree		Neutral		Strongly Agree		DK N/A
		1	2	3	4	5	6	
a.	I believe funding parks through user fees will lead the National Park Service to develop more fee-based services.	0.8%	4.0%	24.4%	29.4%	34.2%	7.2%	
b.	Backcountry fees are justifiable because it costs money to manage the backcountry.	6.4%	3.7%	8.0%	32.9%	49.1%	0.0%	
c.	I believe the National Park Service will <b>not</b> try to increase visitation for the sole purpose of raising revenue.	9.3%	14.6%	27.8%	24.1%	19.3%	5.0%	
d.	I believe people who visit National Parks should pay more for park improvement projects than those who do not visit.	10.6%	7.4%	15.6%	38.1%	27.0%	1.3%	
e.	I believe the National Park Service will not address crowding issues because it is dependent on revenue from high use.	13.0%	28.6%	22.8%	18.0%	13.8%	3.7%	
f.	I expect rangers to enforce the backcountry permit requirement more rigorously now that there are fees.	4.2%	8.2%	29.4%	29.4%	26.7%	2.1%	
g.	When I pay for a backcountry permit, I expect to have a guaranteed place to camp in the backcountry.	3.2%	3.4%	7.2%	23.1%	62.1%	1.1%	
h.	If fees were not charged for overnight backcountry use, it would be all right for backcountry visitor services to be reduced (fewer ranger patrols, reduction in permit office hours, reduction in trail maintenance, etc.)	26.8%	14.6%	15.6%	25.5%	16.7%	0.8%	
i.	I do not mind paying a fee if it is simple and convenient to pay.	4.2%	3.7%	7.7%	31.1%	53.3%	0.0%	
j.	Permits reduce my ability to take trips with little advanced planning.	13.2%	11.6%	12.7%	27.2%	34.3%	1.1%	
k.	My trip planning now takes the same amount of time as it did before fees were implemented.	10.1%	16.4%	18.0%	22.5%	23.3%	9.8%	
l.	Fees have never prevented me from taking a trip to Grand Canyon National Park.	2.4%	4.2%	7.7%	19.4%	64.7%	1.6%	



Q-19a. For trips of the same length, should overnight backcountry users pay more, less, or the same for their backcountry permit as overnight visitors pay for camping in developed car campgrounds at Grand Canyon National Park? (check one)

9.6% BACKCOUNTRY USERS SHOULD PAY MORE  
24.8% BACKCOUNTRY USERS SHOULD PAY THE SAME  
59.7% BACKCOUNTRY USERS SHOULD PAY LESS  
05.9% DON'T KNOW/NO OPINION

Q-19b. Why do you feel this way?

39.6% = The backcountry requires less services and should cost the NPS less than front country (bathrooms, campgrounds, running water, etc.)  
15.6% = Backcountry users "leave no trace" and have a lower impact on resources  
14.7% = Other

Q-20. Approximately, what percentage of Grand Canyon National Park funding do you think comes from these sources?

Taxes/Congressional Funding	<u>42.94 (avg.)</u> %
User Fees (entrance fees, backcountry permit fees, etc.)	<u>35.97 (avg.)</u> %
Concessionaire Fees (paid by food, lodging, and souvenir companies operating within National Parks)	<u>20.23 (avg.)</u> %
Other, please specify: _____	<u>8.86 (avg.)</u> %
<b>Total</b>	<b>100%</b>
<u>38.5%</u> No opinion/Don't know	

Q-21. What do you think is the ideal percentage of funding from these sources?

Taxes/Congressional Funding	<u>49.72 (avg.)</u> %
User Fees (entrance fees, backcountry permit fees, etc.)	<u>25.82 (avg.)</u> %
Concessionaire Fees (paid by food, lodging, and souvenir companies operating within National Parks)	<u>24.08 (avg.)</u> %
Other, please specify: _____	<u>10.75 (avg.)</u> %
<b>Total</b>	<b>100%</b>
<u>27.2%</u> No opinion/Don't know	

#### Section 4: History of Recreational Use

Q-22a. About how many overnight backcountry trips did you make to Grand Canyon National Park in each of the following years, including the trip specified in the cover letter? (circle number of trips for each year)

Year	Number of trips								
	0	1	2	3	4	5	6-10	10-20	20+
1994	72.1%	13.3%	6.4%	3.5%	0.8%	1.1%	2.1%	0.0%	0.3%
1995	71.3%	13.8%	5.6%	3.5%	1.9%	0.5%	2.1%	0.5%	0.0%
1996	67.3%	15.2%	6.6%	4.0%	2.7%	1.1%	1.9%	0.5%	0.3%
1997	61.4%	20.5%	7.4%	4.0%	3.2%	0.5%	1.6%	0.8%	0.5%
1998	60.9%	18.4%	9.6%	4.5%	1.9%	1.1%	2.1%	0.8%	0.8%
1999	4.0%	68.9%	11.5%	7.5%	2.9%	1.1%	1.9%	0.8%	1.1%

Q-22b. If you visited before 1994, in what year did you take your first backcountry trip to Grand Canyon National Park?

19\_91 (avg.)\_                    \_3.6%\_ DON'T REMEMBER

Q-23. Since **January of 1997** has the duration of your backcountry trips in Grand Canyon National Park changed? (check one)

\_36.7%\_ MY TRIP DURATION HAS NOT CHANGED.  
 \_18.2%\_ MY TRIPS ARE LONGER IN DURATION NOW.  
 \_02.4%\_ MY TRIPS ARE SHORTER IN DURATION NOW.  
 \_42.7%\_ DOES NOT APPLY/DON'T KNOW.

Q-24. On average, how many times per year do you participate in the following activities:

Backpacking                    \_5.97 (avg.)\_ TIMES PER YEAR  
     \_1.9%\_ DON'T KNOW

Rafting/Canoeing/Kayaking/etc. \_2.43 (avg.)\_ TIMES PER YEAR  
     \_3.4%\_ DON'T KNOW

#### Section 5: Current Recreational Use

Q-25a. Over the next two years, how many overnight backcountry trips will you likely make to Grand Canyon National Park at the current price of \$10 per permit plus \$5 per **person** per night for **below** rim backpacking, and \$10 per permit plus \$5 per **group** per night for **above** rim backpacking?

\_2.74 (avg.)\_ TRIPS IN THE NEXT TWO YEARS

Q-25b. Over the next two years, how many overnight backcountry trips will you likely make to Grand Canyon National Park if the total permit price (permit and per person/per night fee) were \$\_1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 25, 30, 40, or 50\_ **MORE** per trip?

\_\_2.53 (avg.)\_\_ TRIPS IN THE NEXT TWO YEARS

Q-25c. If you reported zero trips to either of the past two questions, was it because:

\_09.8%\_ THE TRIP IS NOT WORTH THAT PRICE TO ME.

\_11.8%\_ I CANNOT AFFORD IT.

\_02.0%\_ I WILL NOT VISIT THE BACKCOUNTRY OF A NATIONAL PARK THAT CHARGES FEES.

\_38.2%\_ I DO NOT WANT TO, OR CANNOT, VISIT THE BACKCOUNTRY AT GRAND CANYON NATIONAL PARK IN THE NEXT TWO YEARS, REGARDLESS OF PRICE.

\_38.2%\_ OTHER, PLEASE SPECIFY: \_\_\_\_\_

- Q-26. There could be several reasons that prevent you from making more overnight visits to the backcountry in Grand Canyon National Park. Please rate the importance of each reason in your decision not to make more overnight backcountry trips to Grand Canyon National Park.

**I don't make more trips because:**

	Not At All Important		Somewhat Important		Extremely Important	DR/ NO
	1	2	3	4	5	6
a. I dislike having to obtain the backcountry permits.	49.3%	21.6%	14.8%	8.2%	5.2%	0.8%
b. Backcountry fees are too high.	52.1%	21.6%	13.2%	5.8%	6.3%	1.1%
c. My family obligations have changed (more children, taking care of elderly, etc.).	42.7%	12.9%	16.6%	11.8%	11.0%	5.1%
d. The overall cost of the trip is too high.	40.7%	21.4%	18.1%	13.5%	5.2%	1.1%
e. The trip was only a once-in-a-lifetime visit for me.	65.8%	10.3%	6.9%	4.6%	4.9%	7.5%
f. I go to a different area that does not charge fees.	64.8%	11.4%	7.5%	5.3%	6.4%	4.7%
g. My lifestyle has changed (job situation, preferred activities, etc.)	49.9%	15.5%	13.0%	9.7%	7.5%	4.4%
h. I cannot afford the backcountry permit fees.	73.0%	16.0%	6.3%	1.4%	1.1%	2.2%
i. I have moved farther away from Grand Canyon National Park.	63.9%	8.3%	6.4%	5.8%	8.1%	7.5%
j. I do not feel safe at Grand Canyon National Park for my property or myself.	83.7%	9.6%	3.6%	0.6%	0.3%	2.2%
k. There are too many other fees in addition to backcountry permit fees.	58.2%	15.2%	13.3%	6.4%	5.0%	1.9%
l. Grand Canyon National Park has become less attractive to visit because of conditions in the park such as crowding, environmental damage, noise, etc.	39.4%	14.6%	18.5%	9.9%	15.7%	1.9%
m. Other, please specify: _____	1	2	3	4	5	6

Q-27. If you have reduced your overnight backcountry use of Grand Canyon National Park **since 1997** please answer the following questions. **If not, skip to Question 28.**

Q-27a. What have you done now that you have reduced your overnight backcountry use in Grand Canyon National Park? (check one)

- 06.6% STAYED AT HOME MORE
- 03.3% DONE A DIFFERENT ACTIVITY IN GRAND CANYON NATIONAL PARK
- 57.4% VISITED A DIFFERENT BACKCOUNTRY AREA
- 27.9% DONE A DIFFERENT ACTIVITY AT SOME OTHER AREA
- 04.9% OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-27b. If you have been to other outdoor recreation areas instead of making backcountry trips in Grand Canyon National Park, what kind of area have you most often visited instead? (check only one)

- 28.6% A NATIONAL PARK AND/OR PRESERVE
- 42.9% A NATIONAL FOREST
- 07.7% A STATE, COUNTY, OR CITY PARK
- 01.1% A WILDLIFE REFUGE
- 03.3% PRIVATELY OWNED RECREATION AREA
- 12.1% OTHER, PLEASE SPECIFY: \_\_\_\_\_
- 04.4% DON'T KNOW

## Section 6: Permit Package and Location Options

Q-28. National Parks throughout the United States are currently using a wide variety of options for charging user fees. What is your opinion about implementing these options at Grand Canyon National Park? (please rate all)

	Strongly Oppose	Neutral			Strongly Support	DK/NO
	1	2	3	4	5	6
a. Backcountry permits would be less expensive during weekdays.	10.8%	7.3%	30.6%	26.6%	23.6%	1.1%
b. Backcountry permits would be less expensive during the off-season.	6.7%	5.9%	20.2%	33.2%	33.2%	0.8%
c. Backcountry permits would be less expensive for less popular campsites.	10.5%	8.9%	25.7%	26.5%	27.6%	0.8%
d. Backcountry permits would cost the same for all groups, regardless of group size.	44.3%	25.4%	18.1%	4.1%	7.0%	1.1%
e. Backcountry permit prices would rise depending on the number of days spent in the backcountry.	29.6%	16.0%	21.2%	17.1%	14.4%	1.6%
f. Backcountry permit fees and park entrance fees could be paid at the same time and place.	9.2%	6.5%	25.5%	20.3%	36.0%	2.4%
g. Backcountry permits would be available for purchase on a self-service/honor-system.	33.5%	20.4%	18.8%	11.7%	13.1%	2.5%
h. Backcountry permits would be replaced by a single fee for all Grand Canyon National Park users that is the same for backcountry and frontcountry users.	33.1%	21.3%	21.3%	10.7%	10.4%	3.3%
i. Other, please specify: _____	1	2	3	4	5	6

- Q-29. There are several different ways that people could reserve and pay for their backcountry permits. What is your level of support for the following options for acquiring Grand Canyon National Park backcountry permits?

	Strongly Oppose	Neutral			Strongly Support	DK/NO
	1	2	3	4	5	6
a. In person at the National Park	10.4%	6.8%	16.9%	23.2%	42.4%	0.5%
b. Through a centralized reservation system for all parks	18.9%	9.6%	20.2%	17.8%	33.1%	0.5%
c. Through the mail	3.5%	4.4%	21.3%	25.3%	45.5%	0.0%
d. Through use of fax machines	4.6%	5.2%	16.9%	24.6%	47.8%	0.8%
e. Over the phone	5.4%	2.7%	13.6%	25.5%	52.7%	0.0%
f. Internet	3.5%	2.4%	8.4%	17.1%	67.9%	0.5%
g. Other, please specify: __	1	2	3	4	5	6

- Q-30. Many National Parks, including Grand Canyon National Park are using the Internet to communicate information to visitors.

- Q-30a. How would you define yourself? (check one)

\_78.7%\_ I AM A FREQUENT USER OF THE INTERNET (MORE THAN ONCE A WEEK).

\_11.7%\_ I AM AN OCCASIONAL USER OF THE INTERNET (LESS THAN ONCE A WEEK).

\_05.3%\_ I DO NOT USE THE INTERNET YET, BUT WOULD LIKE TO.

\_04.3%\_ I HAVE NO INTEREST IN USING THE INTERNET AT ALL

- Q-30b. Have you ever used the Internet for acquiring backcountry permits for a backcountry/wilderness area? (check one)

\_36.2%\_ YES

\_63.8%\_ NO

## Section 7: Demographic Information

Now, we would like to ask a few questions about you. This information will remain confidential.

- Q-31. How old are you? \_42.52 (avg.)\_ YEARS

- Q-32. What is your gender? (check one)

\_75.2%\_ MALE

\_24.8%\_ FEMALE

Q-33. What is your highest level of education? (check highest)

- 00.3% GRADE SCHOOL
- 00.8% SOME HIGH SCHOOL, NO DEGREE
- 03.2% HIGH SCHOOL DEGREE OR GED
- 12.1% SOME COLLEGE/TECHNICAL SCHOOL, NO DEGREE
- 05.0% ASSOCIATE'S DEGREE/2-YEAR DEGREE
- 26.9% BACHELOR'S/4-YEAR DEGREE
- 12.9% SOME GRADUATE SCHOOL
- 25.3% MASTER'S DEGREE
- 13.5% DOCTORATE/LAW DEGREE

Q-34. What category best describes your employment situation? (check one)

- 67.6% WORKING FULL-TIME FOR PAY
- 00.0% PERMANENTLY DISABLED/UNABLE TO WORK
- 04.0% WORKING PART-TIME FOR PAY
- 00.3% HOMEMAKER
- 13.9% SELF-EMPLOYED
- 06.1% STUDENT
- 00.3% CURRENTLY SEEKING WORK
- 00.8% OTHER, PLEASE SPECIFY: \_\_\_\_\_
- 07.0% RETIRED

Q-35. In what ethnicity would you place yourself? (check one)

- 3.3% HISPANIC OR LATINO
- 96.7% NOT HISPANIC OR LATINO

Q-36. In what race would you place yourself? (check one or more)

- 01.1% AMERICAN INDIAN OR ALASKA NATIVE
- 03.3% ASIAN
- 00.3% BLACK OR AFRICAN AMERICAN
- 03.0% HISPANIC OR LATINO
- 00.0% NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER
- 88.2% WHITE
- 04.1% OTHER, PLEASE SPECIFY: \_\_\_\_\_

Q-37. What is your current annual household income before taxes? (check one)

- 03.1% less than \$9,999
- 05.8% \$10,000 to \$19,999
- 08.1% \$20,000 to \$29,999
- 07.5% \$30,000 to 39,999
- 11.1% \$40,000 to 49,999
- 22.2% \$50,000 to 74,999
- 16.4% \$75,000 to \$99,999
- 15.6% \$100,000 to \$149,999
- 10.3% more than \$150,000

Q-38. How many people are supported by this income, including yourself?

2.28 (avg.)



Any other comments you have about your visits to the backcountry in Grand Canyon National Park or suggestions about managing Grand Canyon National Park are welcomed. Please use the space below and additional paper to write your comments.

*Thank you for your help!*

**If you want more information about this study, contact the Department of Forest Resources, Oregon State University, 280 Peavy Hall, Corvallis, Oregon 97331, (541) 737-5874.**

16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by the National Park Service, the Department of Interior, and Grand Canyon National Park to improve resources management and visitor services. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. The information you provide will be anonymous. Please do not put your name or that of any member of your group on the questionnaire. Data collected through visitor surveys may be disclosed to the Department of Justice when relevant to litigation, or to appropriate Federal, State, local or foreign agencies responsible for investigating or prosecuting a violation of law. Public reporting burden for this form is estimated to average 20 minutes per respondent. Direct comments regarding the burden estimate or any other aspect of this form to the Office of Information and regulatory Affairs of OMB, Attention Desk Officer for the Interior Department, Paperwork Reduction Project 1024-0024, and to the Information Collection Clearance Officer, WASO APC, Accountability and Audits Team, National Park Service, 1849 C Street NW, Washington, D.C. 20240. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.