

TRENDS IN RECREATION PARTICIPATION ON PUBLIC LANDS

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Abstract—Trends in visitation to Federal and State lands are examined and compared to 1977 visitation data. Although total visitor hours have levelled off or declined on some Federal lands, the number of visits has increased. This appears to be attributable to more close-to-home trips of shorter duration. Visitation to State lands has remained fairly consistent, with about 9 of every 10 visitors taking day trips. Characteristics of visitors to Federal and State lands are also examined using data from the 1985-87 Public Area Recreation Visitor Survey. Additionally, subsets of elderly respondents and those who indicated a willingness to pay user fees were examined. Analyses included travel distance and time, length of stay, and activities engaged in. Disaggregate analyses were performed by agency, length of visit, and region visited. The typical day trip, regardless of agency or region, was a 1 to 2 hour drive, less than 100 miles from home, with a length of stay of 3 to 4 hours. Much more variation existed in overnight visits. Overall, the most popular activities were sightseeing, walking and driving for pleasure, and picnicking. The data support the findings of the President's Commission on Americans Outdoors that demand for recreation is greatest near concentrations of population, especially central cities.

INTRODUCTION

Perhaps the most enduring conclusion that has come out of every assessment of outdoor recreation since the Outdoor Recreation Resources Review Commission (ORRRC) was formed in 1958 is that recreation is important to American life. As Clawson (1986) said, ". . . the outdoors is a basic part of American life today." Every indication is that outdoor recreation will continue to increase in importance as our society continues to grow and change (Outdoor Recreation Policy Review Group 1983).

The President's Commission on Americans Outdoors (PCAO), created by executive order in 1985 with a final report published in late 1986, is the latest attempt to assess and summarize the overall role of outdoor recreation in the United States. It was arguably the most comprehensive effort undertaken since ORRRC, one of its directives being to examine ". . . the relationship of outdoor recreation to the broader range of recreation pursuits and its implications for the supply of and demand for outdoor recreation resources and opportunities" (President's Commission on American Outdoors 1986).

Another nationwide assessment is the outdoor recreation and wilderness section of the Renewable Resources Planning Act (RPA), conducted at 10-year intervals by the USDA-Forest Service. The RPA Assessment examines current and projected future demand and supply for outdoor recreation. The purpose of this paper is to analyze one aspect of recreation demand, namely, current trends in recreation participation on public lands.

The PCAO (1986) report provides a good definition of outdoor recreation as an "experience, in some way, of the natural environment: land, water, air, trees, plants, wildlife and combinations of resources and landscapes." The terms "participation," "use," and "visitation" are used interchangeably and refer to the phenomenon of leisure behavior which occurs in the out-of-doors. These are not to be confused with the economic concept of demand, which describes quantities of recreation consumed at given price levels.

Public lands are defined as those resources (both land and water) under the jurisdiction of Federal, State, county, municipal or special district government agencies. Adequate data to describe the local government level—counties, municipalities, and special districts—are very difficult to come by, therefore, a description of the local situation is not attempted in this paper. This is unfortunate because although Federal lands constitute more than five times the acreage of State and locally managed resources (Cordell and Hendee 1982), most experts

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agree that the large majority of outdoor recreation participation occurs at the local level in parks and recreation areas close to home. Indeed, the PCAO recommends that the greatest needs for outdoor recreation are in urban areas (just as ORRRC did in 1962), close to where the majority of Americans live. This is particularly true for minority social groups: the elderly, disabled, ethnic minorities, and immigrants, who are most often clustered in central cities (President's Commission on Americans Outdoors 1986).

The focus of this paper is to describe and examine current trends in recreation participation on State and Federally managed lands. Where possible, comparisons are made to 1977 data, the date of the previous RPA Assessment. Specific tracking of trends is not attempted. The diversity of methods and lack of standardization of nationwide surveys make this a difficult task at best. Statewide trend analysis may be possible using individual State Comprehensive Outdoor Recreation Plans (SCORP), however, that is beyond the scope of this paper. A thorough, up-to-date examination of the characteristics of recreation users is useful information for both Federal and State outdoor recreation planning, policy, and management.

THE PUBLIC AREA RECREATION VISITOR SURVEY

The Public Area Recreation Visitor Survey (PARVS) is the largest and most comprehensive nationwide on-site survey to date, as well as the most current. Interviewing commenced in the summer of 1985 and has continued into 1987. Nearly 32,000 interviews have been completed. The primary objectives of PARVS are threefold:

- 1) To provide visitor expenditure data that would result in estimates of the income, employment, and industry growth in a region or State resulting from publicly provided recreation opportunities.

- 2) To provide willingness-to-pay estimates for access to public recreation areas by recreational visitors.

- 3) To describe the visitors, their activities, year-long participation patterns, and market areas for public recreation areas.

This paper focuses primarily on objective number three, and presents a few analyses related to the second objective. PARVS was conducted at over 280 sites nationwide, and involved five Federal and

11 State agencies (fig. 1). Two of the Federal agencies attempted to survey a national cross-section of sites, while the others were located primarily in the south-east. The State agencies were voluntary participants in the project, and therefore do not represent a geographic cross-section of the United States. Figure 1 demonstrates, however, a very even distribution of interview sites in the conterminous states. A few sites were selected in Alaska, but none in Hawaii. Moreover, the distribution of respondents' origins provides an even better graphic representation of the breadth and scope of the survey (fig. 2).

Every attempt was made in training interviewers to obtain as random a sample as possible. A random interval was selected for the recreational party as well as the individual respondent within the party. This was not always possible due to site logistics and constraints, availability of respondents, etc. Consequently, a disproportionate number of overnight visitors, specifically campers, were interviewed. The overall sample was weighted to adjust to a more realistic proportion of day users to overnight users (for details see U.S. Department of Agriculture, Forest Service 1987).

VISITATION TO FEDERAL LANDS

The United States Department of the Interior, through the annual "Federal Recreation Fee Report," makes a yearly report to Congress in accordance with the Land and Water Conservation Fund Act of 1965. The report contains information on resources, facilities, fee receipts, visitation, and so forth for both the seven Federal land-managing agencies and for the fifty States. Visitation figures are reported in visitor hours, which is the presence of one person engaging in a recreational activity for an aggregate of 60 minutes. In this paper, the data are presented as 12-hour "recreation visitor days," i.e., visitor hours divided by 12 (tables 1 and 2).

The total number of visitor days increased slightly from 1977 to 1986. The 1977 Bureau of Land Management data had to be estimated due to an unrealistic figure for fee use (Cordell and Hendee 1982), therefore the validity of the data is in question. The increase in total visitor days from 1977 to 1986 was not substantial (2.4 percent), suggesting a leveling off in hours of visits to Federal recreation sites. The proportion of fee management units to non-fee management units stayed about the same, 24 percent and 76 percent respectively. The fee management units are an indicator of overnight visits, as a majority of these are user fees for camping. Many of the National Park Service fees, however, are entrance

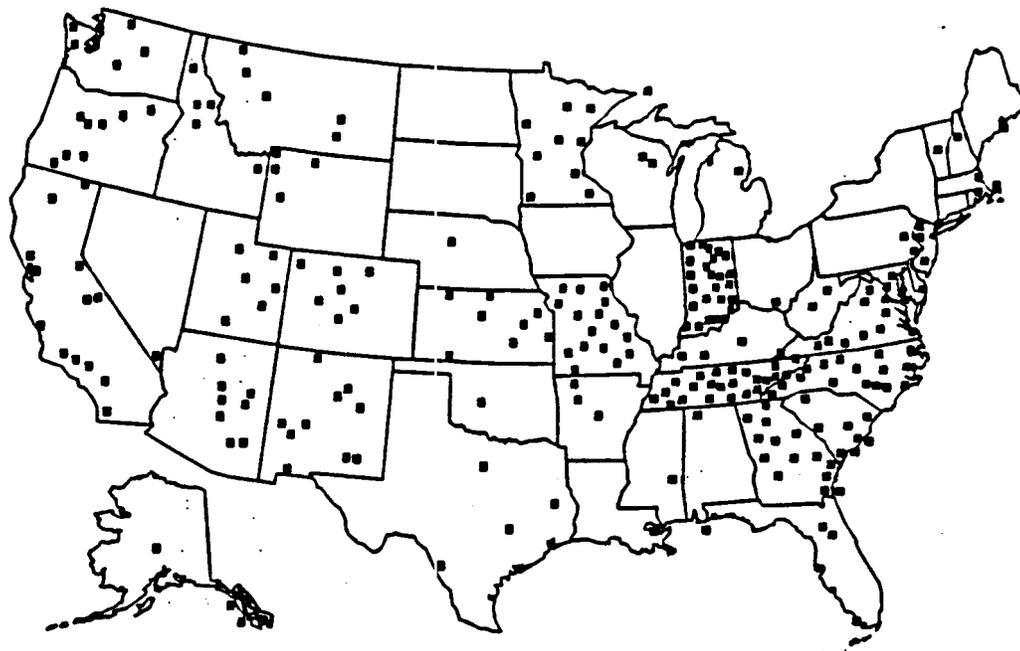


Figure 1. — PAFVS interviewing sites.

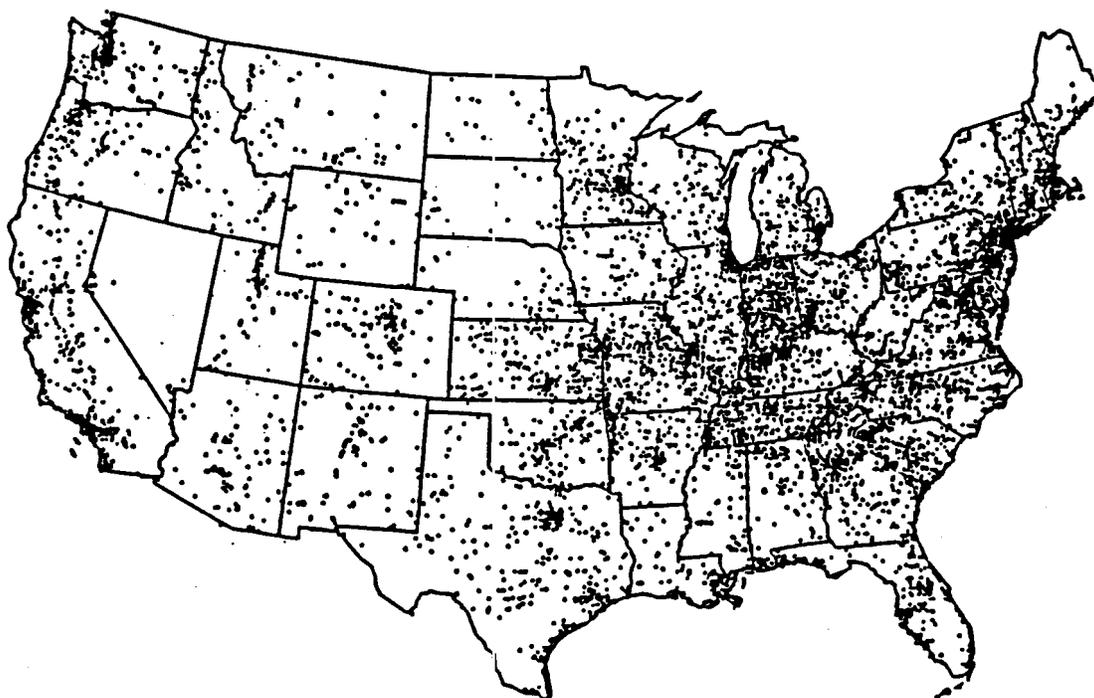


Figure 2. — Distribution of origins of PARVS respondents.

Table 1.--Recreation visitor days at Federal recreation areas in the United States, by managing agency and fee status, 1977

Agency	Total		Fee management units		Non-fee management units	
	Days (1000s)	Percent	Days (1000s)	Percent	Days (1000s)	Percent
Bureau of Land Mgmt.	27,349	5.1	7,039	1.3	20,310	3.8
Bureau of Reclamation	33,607	6.3	146	0.0	33,461	6.3
Corps of Engineers	162,751	30.5	11,238	2.1	151,513	28.4
Fish and Wildlife Service	6,010	1.1	1,123	.2	4,887	.9
USDA Forest Service	204,797	38.4	25,646	4.8	179,151	33.6
National Park Service	92,029	7.2	79,596	14.9	12,433	2.3
Tennessee Valley Auth.	6,980	1.3	542	.1	6,438	1.2
Total	533,523	100.0	125,330	23.5	408,193	76.5

SOURCE: U.S. Department of the Interior, Federal Recreation Fee Report, 1977.

Table 2.--Recreation visitor days at Federal recreation areas in the United States, by managing agency and fee status, 1986

Agency	Total		Fee management units		Non-fee management units	
	Days (1000s)	Percent	Days (1000s)	Percent	Days (1000s)	Percent
Bureau of Land Mgmt.	23,679	4.3	672	.1	23,007	4.2
Bureau of Reclamation	24,706	4.5	715	.1	23,991	4.4
Corps of Engineers	144,170	26.4	11,760	2.2	132,410	24.2
Fish and Wildlife Service	5,590	1.0	837	.2	4,722	.8
USDA Forest Service	226,533	41.5	23,923	4.4	202,610	37.1
National Park Service	115,335	21.1	91,918	16.8	23,417	4.3
Tennessee Valley Auth.	6,458	1.2	599	.1	5,859	1.1
Total	546,440	100.0	130,424	23.9	416,016	76.1

SOURCE: U.S. Department of the Interior, Federal Recreation Fee Report, 1986.

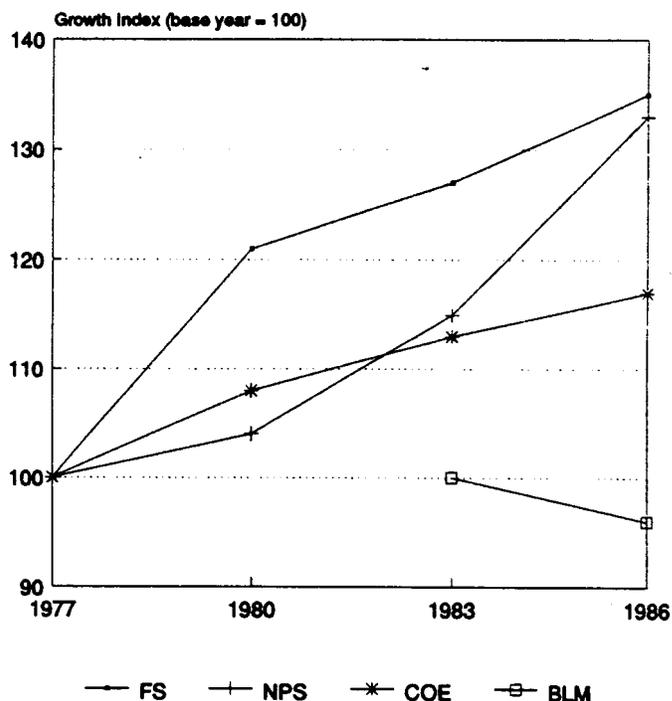
fees only and may not indicate overnight stays. Removing the National Park Service fee units, the remaining agency fee usage dropped 17.4 percent.

Visitor hours, however, do not provide a complete picture. While hours of use have remained stable or declined slightly, the number of visits to these same Federal sites appear to have been on the increase. An examination of visitation records of the Forest Service (FS), National Park Service (NPS), U.S. Army Corps of Engineers (COE), and Bureau of Land Management (BLM) have, in fact, indicated an increase in numbers of annual visits to sites of three of the four agencies (fig. 3). The Forest Service does not keep records on visits, so these were estimated by dividing visitor hours by mean length of stay (derived from 1977 Federal Estate Visitor Survey and 1985-87 PARVS and interpolated for 1980 and 1983).

The visitation growth indices depicted in figure 3 demonstrate that the flattening and down turn of amounts of FS and COE visitor hours between 1977 and 1986 (shown in fig. 4) does not hold true for visits. Average growth of visits to FS sites between 1977 and 1986 was about 4 percent per year; to COE projects it was about two percent per year. Visits to and visitor hours at NPS sites increased between 1977 and 1986, mostly it would appear, because of rapid increases of visitation to NPS sites in or near urban areas. Visits to BLM sites were down in 1986 from 1983, but the decline was slight, only 4 percent over 3 years.

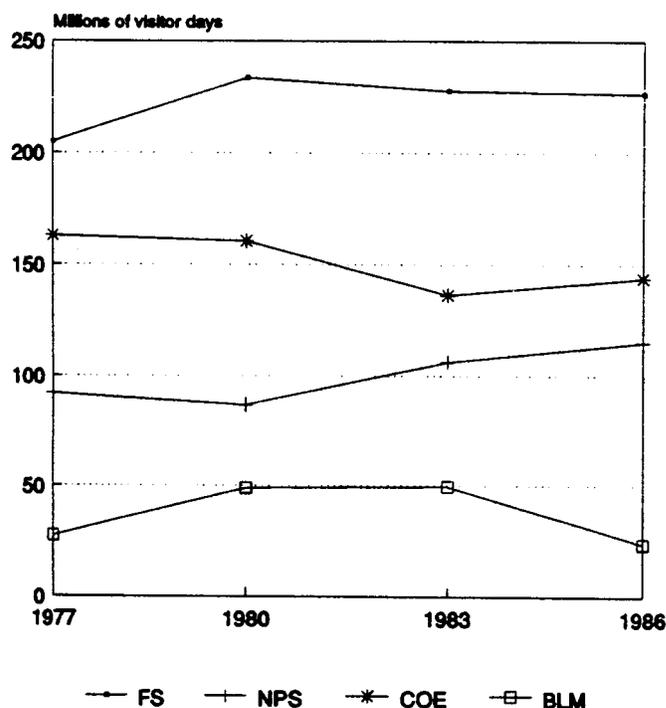
The probable causes of increased visits, relative to visitor hours, is the decreased length of visit at the sites. An examination of FS and NPS recreation sites from the 1977 Federal Estate Visitor Survey (U.S. Department of the Interior 1979) and the 1985-87 PARVS was conducted. Table 3 reports that frequency of visits of less than 4 hours duration increased dramatically for the FS—14 percent in 1977 to 48 percent in 1986—and increased from 41 percent to 59 percent for the NPS. Even more dramatic, however, was the reduction in percentage of visits of more than one day's duration between 1977 and 1986; from 70 percent to 21 percent for the FS and from 40 to 14 percent for the NPS. Also associated with increased annual number of visits is a substantial increase in number of repeat visits to both National Forests and National Parks (table 3).

Further, the distribution of one-way travel times changed considerably (table 3). Trips of less than 2 hours increased 67 percent for the Forest Service and 77 percent for the National Park Service. Lengthy



Source: Communication with resource specialists at each agency--1987.

Figure 3.—Index of relative growth in number of visits to Federal recreation areas.



Source: Federal Recreation Fee Reports, (USDI, 1977-1986). Statistics on Outdoor Recreation (RFF, 1984).

Figure 4.—Visitation to Federal lands by agency, 1977-86.

Table 3.--Comparison of reported length of stay, repeat visits, and one-way travel time for two Federal agencies, 1977-86

Item	USDA-FS		NPS	
	1977	1986	1977	1986
----- <u>Percent</u> -----				
Length of Stay:				
0-2 hours	6	26	28	30
2-4 hours	8	22	13	29
4 hours to 1 day	16	31	19	26
more than 1 day	70	21	40	14
Repeat Visits:				
0	40	23	63	34
1-2	24	28	16	29
3-5	14	16	8	12
more than 5	22	33	13	25
Travel Time (hours):				
< 2	43	72	31	55
3-4	19	14	13	21
5-8	16	8	15	15
> 8	23	6	41	9

SOURCE: 1977 Federal Estate Visitor Survey; 1985-87 Public Area Recreation Visitor Survey.

trips of greater than 8 hours dropped very sharply: 283 percent for the FS (from 23 percent of all trips to 6 percent) and 455 percent for NPS (from 41 percent of all trips to 9 percent).

Because of different survey methods, these comparisons between the 1977 Federal Estate Visitor Survey and the 1985-87 PARVS may not be totally

accurate. Nonetheless, the impact of close-to-home, shorter recreation trips is evident. The Forest Service and National Park Service cases presented cannot be generalized to the American public at large; however, they do support the PCAO's significant finding that more recreation is occurring closer to people's homes and for shorter periods of time.

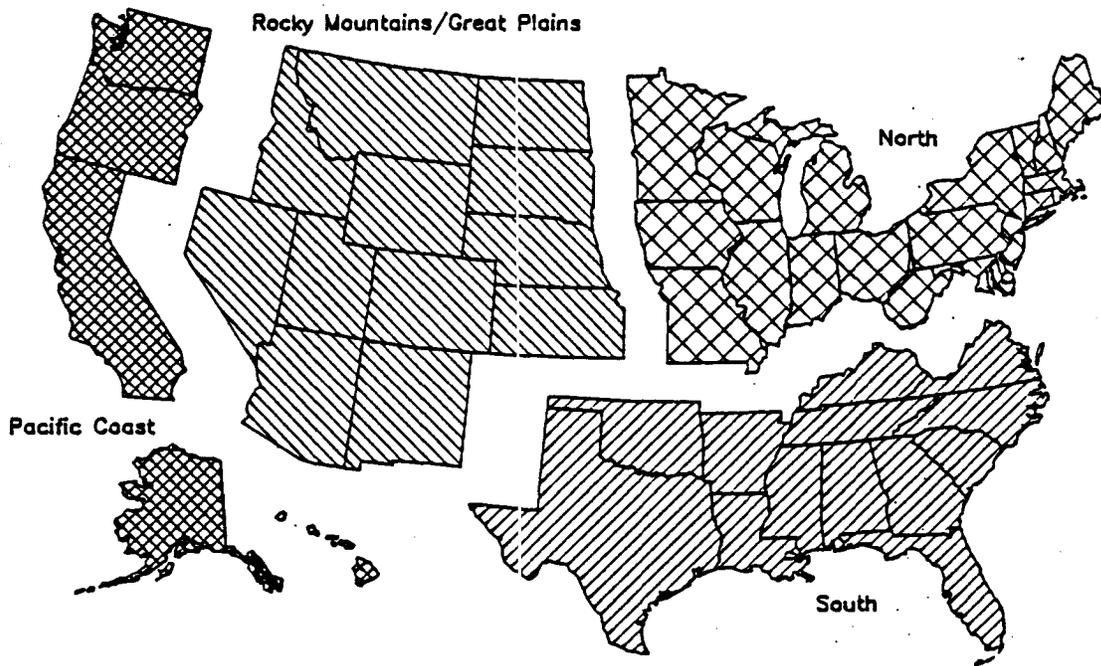


Figure 5. – RPA assessment regions.

CHARACTERISTICS OF VISITORS TO FEDERAL LANDS

The next two sections describe the people who use public lands for their outdoor recreation. The purpose of this section is to describe the characteristics of visitors to Federal recreation areas. The source for this information is the 1985-87 PARVS data base. A grand total of 31,995 interviews have been completed through the summer of 1987. The data set was disaggregated in the following manner:

- 1) By **agency**, defined as either Federal or State.
- 2) By **type of visit**, defined as either a **day** visit or an **overnight** visit. Day visits are those where the visitor(s) arrived and departed on the same calendar day. Overnight visitors were those who arrived and departed on two different calendar days.
- 3) By **region** of the country where the visit occurred. Four regions were identified for the RPA Assessment: North, South, Rocky Mountains/Great Plains (RM/GP), and Pacific Coast (PC) (fig. 5).

The intent of the descriptive characteristics was to examine four of the most basic components of recreation trips:

- 1) How far (miles) did people travel to the recreation site?

- 2) How many hours of travel time were involved?
- 3) How long did the typical party stay at the site?
- 4) In which activities did they most often engage?

To obtain more accurate and realistic descriptive statistics, it was necessary to separate day visits from overnight visits. A 2-week camping trip, for example, would badly skew the responses of the more typical 1 to 2-hour day visitor. The day and overnight responses still tended toward the higher values, therefore medians may be a better indicator of the true situation than means (though both are reported).

Table 4 reports the mean and median one-way travel distances to Federal recreation sites. Here the median distances reflect the fact that the average day and overnight recreation trips were probably much closer to have than the mean distances indicate. The regional differences in medians for day visits are not nearly as pronounced as the means. The North and South regions have the same median distance, while the Pacific Coast and RM/GP regions are only five miles apart. Although the median distance in the two western regions is twice that of the two eastern regions, regardless of the region the typical recreation day trip appears to be within an hour's drive. The regional means for day visits show more variation as expected, especially in the western regions.

Table 4.--One-way travel miles to Federal recreation areas¹

Region	Day visitors		Overnight visitors	
	Mean	Median	Mean	Median
North	65	20	238	180
South	54	20	234	110
RM/GP	114	45	373	150
PC	153	40	228	87
Total	74	25	255	130

SOURCE: 1985-87 PARVS.

¹ANOVA, $p < .001$.

The mean distance for overnight visits to the Pacific Coast, North, and South regions was nearly the same, while the RM/GP region was more than 50 percent higher. Interestingly, though, the median overnight distance was shortest in the Pacific Coast, followed by the South, RM/GP and North. This indicates that more visitors travel consistently longer distances in the North to stay overnight, perhaps due to the heavy urbanization and the fact that most urban Federal sites in the North region do not accommodate overnight visitors.

The same pattern seems to hold for one-way travel time (table 5). The mean for overnight trips is greatest in the RM/GP, but the longest median trip time is shared by RM/GP and the North. The Pacific Coast region again appears to have attracted the closest overnight visitors.

The median travel time for day visits was 1 hour across all regions, just as the mileage data suggested. It appears, then, that the typical day trip to a Federal recreation area was about an hour's drive and less

Table 5.--One-way travel time to Federal recreation areas¹

Region	Day visitors		Overnight visitors	
	Mean	Median	Mean	Median
----- Hours -----				
North	2.0	1.0	6.1	4.0
South	1.8	1.0	5.4	3.0
RM/GP	2.4	1.0	7.2	4.0
PC	2.5	1.0	4.4	2.0
Total	2.0	1.0	5.7	3.0

SOURCE: 1985-87 PARVS.

¹ANOVA, $p < .001$.

than 50 miles from home. The mean day visit travel time is higher for the western regions just as travel miles were. This indicates that more people traveled longer amounts of time to visit western areas, perhaps due to the relative distance and attractiveness of mountain sites.

Length of stay at the recreation site is the third descriptive characteristic (table 6). Here, regional differences appeared to be very slight. Median day visits were about 3 hours for each region, with mean stay times ranging from 3.4 to 4.1 hours. Overnight lengths of stay were about 12 hours longer in the eastern regions than in the west (both mean and median). One explanation may be that there is a much wider array of Federal sites to choose from in the west, so people are more inclined to leave an area and move on to another one.

Finally, the most popular activities, based on participation at the site, provide an indication of the types of outdoor recreation occurring at Federal recreation areas, by both day and overnight users. Tables 7 and 8 list the 10 most popular activities for day and overnight visitors, respectively, to the four regions. As a point of comparison, the 10 most popular activities (and percent of the sample activities participating on-site) for the entire sample were:

- 1) Sightseeing 45.1
- 2) Walking for pleasure 33.7
- 3) Picnicking 30.1
- 4) Driving for pleasure 26.0

- 5) Non-pool outdoor swimming 24.1
- 6) Wildlife observation and photography 17.8
- 7) Visiting a museum or information center 17.7
- 8) Photography 17.1
- 9) Day hiking 16.1
- 10) Developed camping 15.7

The data from all four regions shows conclusively that sightseeing is the most popular activity of day visitors, and in three of the four regions for overnight visitors. The only exception is the South, where developed camping edged out sightseeing by one percent. For day visitors, the passive activities of walking and driving for pleasure, photography, wildlife observation and photography, visiting a museum, and picnicking made the top ten in every region. Visitors across the country seem to be attracted by the scenic beauty of Federal recreation areas, and then mainly for short, spontaneous visits that do not require much advance planning (save perhaps picnicking).

For overnight visitors, developed camping made the top three of every region but the North, where this activity is not nearly as readily available as in the other three regions. Surprisingly, however, primitive camping finished sixth in the North region and failed to place elsewhere. Apparently, this is a very popular activity at the non-urban Federal areas in the North region. Otherwise, the same types of activities dominated the lists. The two western regions did

Table 6.--Length of stay at Federal recreation areas¹

Region	Day visitors		Overnight visitors	
	Mean	Median	Mean	Median
----- Hours -----				
North	3.7	3.3	96.6	70.0
South	3.6	3.0	91.1	64.0
RM/GP	3.4	3.0	82.6	50.0
PC	4.1	3.0	77.0	50.0
Total	3.6	3.0	87.7	58.0

SOURCE: 1985-87 PARVS.

¹ANOVA, p < .001.

Table 7.--Percentage participation of on site activities for the ten most popular activities at Federal recreation areas for day visitors, by region

Activity	Percent	Activity	Percent
North:		South:	
Sightseeing	48	Sightseeing	46
Walking for pleasure	46	Driving for pleasure	32
Visiting a museum	28	Picnicking	26
Visiting historic sites	27	Walking for pleasure	24
Picnicking	26	Outdoor swimming	22
Outdoor swimming	25	Warmwater fishing	17
Driving for pleasure	25	Visiting a museum	16
Wildlife observation	20	Visit historic sites	14
Photography	20	Wildlife observation	13
Reading roadside markers	16	Photography	12
RM/GP:		Pacific Coast:	
Sightseeing	57	Sightseeing	66
Driving for pleasure	33	Walking for pleasure	40
Photography	30	Driving for pleasure	33
Walking for pleasure	28	Photography	31
Day hiking	26	Day hiking	25
Visiting a museum	22	Visiting a museum	24
Wildlife observation	21	Wildlife observation	21
Picnicking	21	Picnicking	21
Visiting historic sites	17	Self-guided trails	15
Self-guided trails	16	Reading roadside markers	13

Source: 1985-87 PARVS.

Table 8.--Percentage participation of on site activities for the ten most popular activities at Federal recreation areas for overnight visitors, by region

Activity	Percent	Activity	Percent
North:		South:	
Sightseeing	57	Developed camping	54
Walking for pleasure	55	Sightseeing	53
Wildlife observation	44	Walking for pleasure	51
Visiting a museum	34	Outdoor swimming	39
Outdoor swimming	33	Wildlife observation	35
Primitive camping	33	Driving for pleasure	34
Driving for pleasure	30	Picnicking	32
Photography	30	Visiting a museum	29
Day hiking	30	Dining for pleasure	27
Picnicking	30	Photography	26
RM/GP:		Pacific Coast:	
Sightseeing	55	Sightseeing	56
Developed camping	45	Walking for pleasure	40
Walking for pleasure	37	Developed camping	37
Day hiking	36	Day hiking	32
Wildlife observation	35	Wildlife observation	31
Photography	35	Photography	29
Driving for pleasure	32	Driving for pleasure	24
Picnicking	27	Picnicking	22
Cold freshwater fishing	27	Collecting firewood	21
Visiting a museum	20	Coldwater fishing	21

SOURCE: 1985-87 PARVS.

Table 9.--One-way travel miles to State recreation areas¹

Region	Day visitors		Overnight visitors	
	Mean	Median	Mean	Median
North	49	30	108	70
South	51	25	240	120
RM/GP	85	35	130	75
Total	51	30	164	85

SOURCE: 1985-87 PARVS.

¹ANOVA, $p < .001$.

add cold freshwater fishing, and day hiking turned up in all but the South region. The most substantive finding of both day and overnight visits is the sweeping popularity of sightseeing. It is highly probable that this is because it is a family-centered activity, requires little advance preparation, and is an activity that lasts relatively short periods of time. This is consistent with the finding of increased numbers of shorter, more frequent trips.

CHARACTERISTICS OF VISITORS TO STATE LANDS

Information about visitation to State parks and recreation agencies is collected annually by the National Association of State Park Directors' "Annual Information Exchange." These data make up the other major portion of the "Federal Recreation Fee Report." The State information exchange commenced in 1979, but only 39 States reported visitation. For 1979, 91.7 percent of State park users were day visitors, compared to 8.3 percent overnight visitors. In 1980, with 44 States reporting, day visitation constituted 87.3 percent of State park recreation participation. With 50 States reporting in 1986, the proportions were 90.3 percent day use and 9.7 percent overnight use. It appears that State park and recreation participation has held relatively constant, with about 9 of every 10 visitors making a day visit.

Visitor characteristics for State park users were also disaggregated by length of visit and region of the country visited. There were no State agency PARVS interviews conducted in the Pacific Coast region. The median one-way travel distance for day

visitors was very close for the three regions, ranging from 25 to 35 miles (table 9). Mean distance for the two eastern regions was nearly identical, while in the RM/GP region the mean distance was considerably longer. Again, lengthy trips produced a much higher mean distance.

Interestingly, overnight trips in the RM/GP and North regions were very similar. The South region, however, showed trips to be almost twice the distance of the other regions. The best explanation may be that inland residents were attracted to the coastal sites in the South. The North region interviewing areas included very few beach environments.

Reported one-way travel time supports the mileage data. Similar to Federal areas, the median day visit was a 1-hour trip (table 10). Mean travel times were very similar in the RM/GP and South, and slightly lower in the North. Overnight visit travel times also closely reflected miles traveled. Medians were 2 hours in the RM/GP and North and 3 hours in the South. Mean travel time was considerably longer in the South region, more than twice that of the North and 50 percent greater than RM/GP.

Length of stay at the recreational site for the three regions did not demonstrate as many differences as distance and travel time (table 11). The median overnight length of stay was longest in the South, as would be expected for longer trips. The mean overnight stay time, however, showed the RM/GP to be longer than the two eastern regions. A higher percentage of visits lasting one week or more appears to have pulled the RM/GP mean up, while the South had more trips in the two day to one week range of

Table 10.--One-way travel time to State recreation areas¹

Region	Day visitors		Overnight visitors	
	Mean	Median	Mean	Median
----- Hours -----				
North	1.8	1.0	2.9	2.0
South	2.4	1.0	5.9	3.0
RM/GP	2.2	1.0	3.7	2.0
Total	2.0	1.0	4.2	2.0

SOURCE: 1985-87 PARVS.

¹ANOVA, $p < .001$.

Table 11.--Length of stay at State recreation areas¹

Region	Day visitors		Overnight visitors	
	Mean	Median	Mean	Median
----- Hours -----				
North	4.3	4.0	73.5	48.8
South	3.7	3.2	89.6	61.8
RM/GP	4.3	3.0	102.0	55.0
Total	4.1	3.5	82.3	51.0

SOURCE: 1985-87 PARVS.

¹ANOVA, $p < .001$.

duration. Day trips seem to be almost normally distributed around the three to 4-hour range, with visits in the North region being slightly longer. Almost identical to Federal area visits, the typical State park day visit appeared to be a drive of an hour or two of less than 100 miles, with the party staying 3 or 4 hours at the site.

The most popular activities engaged in at State recreation areas also looks similar to Federal areas. Active sports such as swimming and fishing, however, appeared to be more popular at State areas (table 12). Sightseeing was popular for day visits, but not to the degree it was at Federal areas. It trailed picnicking and walking for pleasure in the RM/GP region, and outdoor swimming and picnicking in the North, but was the most popular day activity in the South. Interpretive activities such as visiting museums and historic areas also proved to be popular. A few popular State activities that did not appear on the Federal lists were motorboating, canoeing, pool swimming, and family gatherings. Picnicking, and walking and driving for pleasure maintained their popularity.

Developed camping was the most popular activity of overnight visitors to all three regions. This suggests that more campers choose State areas as an overnight destination than Federal areas. This is likely due to the greater availability of State areas, however, it is possible that PARVS interviewed a disproportionate number of campers versus visitors who used other accommodations, e.g., cabins, lodges. Again, for State park overnight visitors the activities of sightseeing, picnicking, walking and driving for pleasure, and swimming proved to be very popular. Across all regions, agencies and lengths of visits, these activities were consistently among the most popular. This would seem to indicate that very many recreation trips are basically spontaneous in nature, do not require much advance planning, and generally fit into a generic category that might be called "enjoying nature or the outdoors."

In summary, the simple enjoyment of the outdoor environment seems to be the pervasive motivation for visits to both Federal and State recreation areas. For day visits, the reported travel time was very nearly the same to both Federal and State areas. The median distance traveled was slightly higher to State areas, but mean travel distance was longer to Federal areas. The higher mean indicates that the majority of Federal sites are not as accessible as State sites. It also indicates that visitors to Federal areas are willing to travel greater distances. The lower median is probably

due to the urban Federal areas located primarily in the North region. As mentioned, the most likely length of stay for a day visit to a recreation area was about 3 or 4 hours, regardless of agency.

Overnight visits to Federal and State areas showed more differences than day visits. Reported travel time was about 50 percent longer to Federal areas (medians: 3 hours Federal, 2 hours State). Miles traveled was also considerably longer for Federal areas (medians: 130 miles Federal, 85 miles State). Length of stay for overnight visits, however, was not appreciably different between Federal and State areas. Median stay time was a little over 2 days for both Federal and State areas, while the means were both about 3½ days. It is very likely that vacationers and retirees skewed this distribution. The typical length of stay for overnight visits to both Federal and State recreation sites is probably not as long as the PARVS data indicate.

USER FEES AND THE ELDERLY

The final section of this paper examines two of the most prominent issues facing recreation resource management today: user fees and the increasing elderly population. Subsets of the PARVS data set provide an examination of visitor characteristics related to these two important topics. The PARVS data set was weighted to represent the U.S. population over 12 years of age who indicated they were participants in any form of outdoor recreation. The subset of elderly respondents should therefore, be a fairly accurate profile of the typical elderly outdoor recreationist.

The subset of respondents who reported they would be willing to pay a user fee, however, may be biased by non-response. The portion of the PARVS instrument containing that information was a questionnaire that was returned via mail. Just a little over 20 percent of the total PARVS sample returned the mail-back questionnaire. Nevertheless, the comparison of persons willing to pay a user fee versus the entire sample is of considerable interest.

User Fees—The issue of user fees for publicly provided recreation areas, particularly at the Federal level, has received considerable attention recently (Binkley and Mendelsohn 1987; Driver and others 1985; Harris and Driver 1987; Siehl 1985). The PCAO (1986) Report suggests that ". . . local, State, and Federal recreation and resources management agencies charge visitors fees to supplement regular appropriations."

Table 12.--Ten most popular activities at State recreation areas for day and overnight visitors, by region¹

Activity	Percent	Activity	Percent
Day Visitors:		Overnight Visitors	
North:		North:	
Outdoor swimming	31	Developed camping	63
Picnicking	30	Walking	40
Sightseeing	24	Outdoor swimming	38
Walking	16	Sightseeing	34
Canoeing	14	Picnicking	33
Driving	12	Day hiking	23
Warmwater fishing	10	Warmwater fishing	22
Wildlife observation	9	Wildlife observation	22
Day hiking	21	Driving	20
Historic sites	7	Canoeing	19
South:		South:	
Sightseeing	43	Camping	60
Picnicking	42	Walking	56
Walking	37	Sightseeing	48
Swimming	24	Picnicking	38
Driving	22	Swimming	34
Museum	16	Dining	27
Family	14	Driving	27
Historic sites	13	Pool swimming	23
Swimming	12	Day hiking	21
Day hiking	11	Wildlife	20
RM/GP:		RM/GP:	
Picnicking	36	Camping	69
Walking	35	Walking	55
Sightseeing	32	Picnicking	48
Wildlife	30	Warm fishing	44
Museum	24	Sightseeing	39
Trail use	23	Swimming	33
Swimming	19	Motorboating	33
Driving	19	Driving	32
Warm fish	18	Family	22
Motorboat	16	Wildlife	22

¹No data available for Pacific Coast.

A wide variety of support exists both for and against the recreation user fees. It is beyond the scope of this paper to enumerate these. Our purpose is to compare the characteristics of PARVS interviewees who indicated support for user fees with the overall sample. The analyses are presented by agency and length of visit, but not by region of the country visited.

PARVS interviewees were asked to respond to the previously mentioned questionnaire which dealt primarily with trip expenditures. Included were two questions which asked, a) What is the maximum amount you would have been willing to pay for this year's vehicle pass to (the particular location they visited), and b) the same question, but for access to any of the agency's recreation sites. A response of greater than zero dollars to either question indicated at least implied support for recreation user fees. It was this group on which the descriptive analyses were performed.

Table 13 shows responses to the question "If this year's price of an annual pass to (the location visited) had been \$___, would you have bought one?" Respondents were not given a choice of price; every seventh form had one of the prices listed in table 13. Overall, more than half of the sample would have been willing to pay \$5, but not \$10. A majority of both day and overnight visitors to both Federal and

State areas would have been willing to pay \$5. Only Federal overnight visitors were willing to pay \$10, but this group balked at \$15.

Table 14 reports the mean and median maximum amount that people would pay for an annual pass to 1) an individual site, and 2) all agency sites. For an individual site pass, both Federal and State day and overnight visitors were nearly the same—all had medians of \$5. For all site passes, the median went up to \$10 for both day and overnight Federal visitors and for overnight State visitors. Day use State visitors were willing to pay a median maximum of \$15. The fact that this group most likely comprises the highest number of repeat visitors attributes to the higher maximum value. It makes good economic sense that the resources that are used most often would demand the highest annual fees. However, this group (State day users) is also the one for which user fees would be most discriminatory because these sites are more accessible to indigent participants.

Reported annual income of those persons in support of user fees gives an indication of the socio-economic groups that may be adversely affected by the imposition of user fees. Those people who said they would be willing to pay a fee were considerably wealthier than the sample as a whole (fig. 6). The distribution of fee supporters was smaller than the total sample in the two poorest income categories

Table 13.--Percentage of PARVS respondents willing to purchase an annual pass to recreation sites where interview occurred, by agency and length of visit

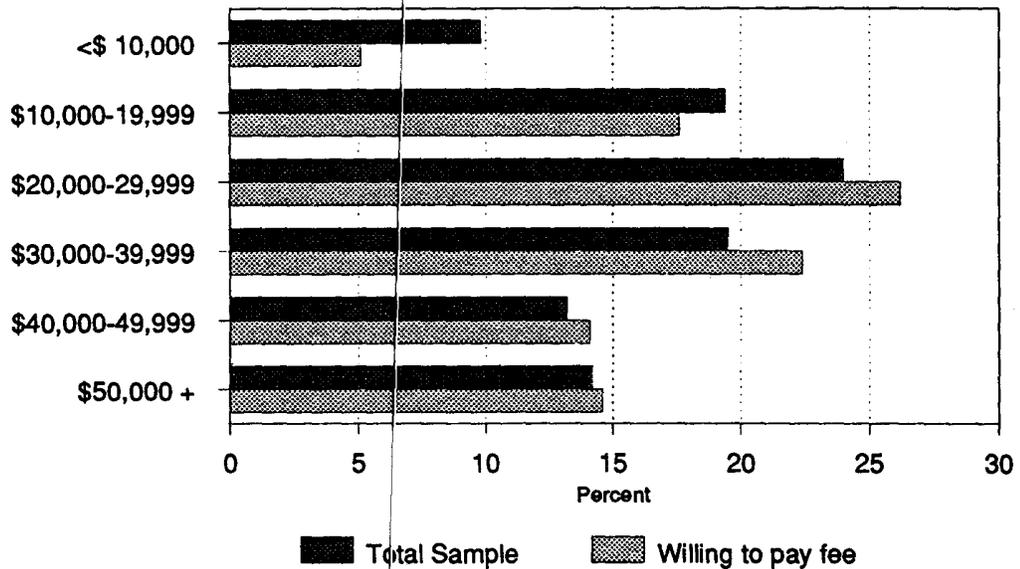
Fee	Day visits				Overnight visits					
	Federal		State		Federal		State		Total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
\$ 1	83	17	86	14	81	19	80	20	83	17
5	59	41	60	40	72	28	66	34	62	38
10	42	58	48	52	59	41	46	54	47	53
15	35	65	35	65	45	55	41	59	37	63
25	16	84	26	74	27	73	30	70	24	76
50	13	87	11	89	15	85	11	89	12	88
100	5	95	4	96	7	93	3	97	4	96

SOURCE: 1985-87 PARVS.

Table 14.--Maximum annual fee respondents would be willing to pay for access to recreation areas

Access	Day visitors		Overnight visitors		Total
	Federal	State	Federal	State	
	Mean (Median)				
One Site	\$13.81 (\$ 5.00)	\$11.17 (\$ 5.00)	\$13.54 (\$ 5.00)	\$10.43 (\$ 5.00)	\$11.96 (\$ 5.00)
All Sites	\$19.83 (\$10.00)	\$14.37 (\$15.00)	\$21.17 (\$10.00)	\$17.73 (\$10.00)	\$19.69 (\$10.00)

SOURCE: 1985-87 PARVS.



Source: 1985-87 Public Area Recreation Visitor Survey; n = 31,995.

Figure 6.—Percent of recreationists willing to pay an annual access fee, by annual family income.

Table 15.--Characteristics of PARVS respondents who indicated willingness to pay an annual user's fee

Characteristic	Day Visitors		Overnight visitors	
	Federal	State	Federal	State
			Mean (Median)	
Travel Distance (miles)	153 (30)	87 (35)	279 (170)	204 (100)
Travel Time (hours)	4.4 (1.0)	2.8 (1.0)	6.7 (4.0)	4.8 (2.0)
Length of Stay (hours)	3.8 (3.6)	3.9 (4.0)	79.0 (80.0)	77.7 (70.0)

SOURCE: 1985-87 PARVS.

and larger in the four income categories over \$20,000. This does not necessarily infer that opposition to user fees is inversely related to wealth, however, it does demonstrate that individuals who say they would support user fees are wealthier than the average user.

The three characteristics reported earlier—miles and hours traveled, and duration of visit—are reported for fee supporters in table 15. Federal day visitors traveled slightly more median miles, but more than twice as many mean miles as the total sample. Their median travel time was 1 hour, as was the total sample's, but the mean hours traveled were more than double (4.4 to 2.0). Length of stay was not substantially different. All means and medians were between 3 and 4 hours.

Federal overnight visitors who supported fees traveled farther than the overall sample, spent more time traveling, and stayed longer at the site. State day visitors who supported fees also drove farther and slightly longer periods of time, but stayed the same amount of time as the total sample. State overnight visitors who supported fees drove farther and slightly longer, and also stayed longer at the site.

The point of these analyses is that persons who indicated they were in favor of user fees generally traveled longer and farther, and stayed longer than the sample as a whole. Whether this is because these individuals had more leisure time, more discretionary income, different preferences, or whatever, the reason is unknown. The data support the argument **against** user fees at those recreation areas most accessible to low income groups, the impaired or disabled, and other social groups who do not have the means for longer, more expensive trips. Such groups frequently live in the central cities of urban areas.

It is perfectly reasonable that the length of a recreation trip is a major determinant of willingness to pay a fee since as the trip length increases, the proportion of total costs a fee represents decreases. Thus, the characteristics of recreation trips are important information to the ongoing user fee debate.

Our Aging Population—The aging of the U.S. population is another important issue facing recreation resource planning and management. In 1982, the elderly (age 65 and over) made up 11.6 percent of the population. Middle-level projections call for this figure to increase 12 percent to 13.1 of the population

in the year 2000 (U.S. Department of Commerce, Bureau of the Census 1983). Middle-level projections for the year 2050 show an astounding 88 percent increase to 21.8 percent of the U.S. population. Wattenberg (1987) suggests that a "birth dearth" will continue indefinitely in the United States, gradually aging the population and bringing with it profound changes in our economic and social structure.

The aging issue is easily an issue in itself, and is covered only briefly in this paper. Some questions of interest to recreation policy-makers concern the future trends and characteristics of older persons' leisure behavior. What activities will future generations of the elderly participate in and how will the characteristics of their recreation trips change? An examination of the three major trip characteristics—miles and hours traveled, duration of visit, and most popular activities was performed on a subset of PARVS respondents aged 65 years and over.

Agency and visit breakdowns for elderly respondents are reported in table 16. The characteristics of

older respondents on day trips to both Federal and State areas did not differ significantly from the total PARVS sample. On overnight trips, however, there were substantive differences. Miles traveled were greater, travel time was about 25 percent greater, and length of stay at the site showed the biggest difference—about a full day longer (median). State overnight visits were only slightly farther and longer, but median length of stay was also about a day longer than the total PARVS sample. The most popular activities of the elderly did not differ much, but showed an even greater tendency towards passive enjoyment of the outdoors. The increased leisure time of older persons, as evidenced by the longer lengths of stay, is probably the most important implication facing resource planners and managers.

CONCLUSIONS

The purpose of this paper was to examine trends and changes in recreational visitation to public lands. Public lands were defined as those resources under

Table 16.--Characteristics of recreation trips by PARVS respondents age 65 and older

Character- istic	Day visitors		Overnight visitors	
	Federal	State	Federal	State
	Mean (Median)			
Travel Distance (miles)	110 (25)	53 (25)	320 (150)	201 (90)
Travel Time (hours)	2.5 (1.0)	1.7 (1.0)	7.8 (4.0)	5.0 (2.0)
Length of Stay (hours)	3.5 (3.6)	3.4 (3.4)	95.9 (87.7)	91.3 (82.3)
Activity Ranking:				
1.	sightseeing	sightseeing	sightseeing	camping
2.	driving	walking	camping	walking
3.	walking	picnicking	walking	sightseeing

Source: 1985-87 PARVS.

the jurisdiction of Federal, State, or local governments. Visitation data did not exist to analyze the local situation. Visitation data and user characteristics were examined for Federal and State recreation areas. A distinction was made between "visitor hours/days" to Federal areas, and "visits." Where visitor hours showed a flattening or leveling-off since 1977, visits (the entry of an individual onto a public land for purposes of recreation) were on a steady increase.

Visitor characteristics showed that day trips to recreation areas were generally short in duration and located close to home, regardless of the governing agency or region of the country visited. This supports the PCAO's major finding that demand for recreation is greatest close to population centers and will probably continue to increase. Overnight visits showed considerably more variation than day visits, both by agency and region of the country visited. The duration of visits at Federal and State sites did not differ nearly as much as the time and distance people traveled.

Sightseeing, walking and driving for pleasure, and picnicking dominated the lists of most popular activities by agency, length of visit and region visited. Developed camping, however, was the most participated in activity for State area overnight visitors. The popularity of these activities and others attests to the fact that a majority of recreation trips seem to be spontaneous in nature and do not require much advance planning. The popularity of sightseeing and driving for pleasure points out the importance of the automobile to outdoor recreation.

Finally, two important current topics to outdoor recreation management were addressed: user fees and the increasing elderly population. Analyses of PARVS subsets indicated some substantive differences between the characteristics of the total PARVS sample and 1) elderly recreationists and 2) those who would support an annual user fee. A thorough examination of visitation trends and the characteristics of visitors to recreation areas on public lands is essential information for effective outdoor recreation planning and management.

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