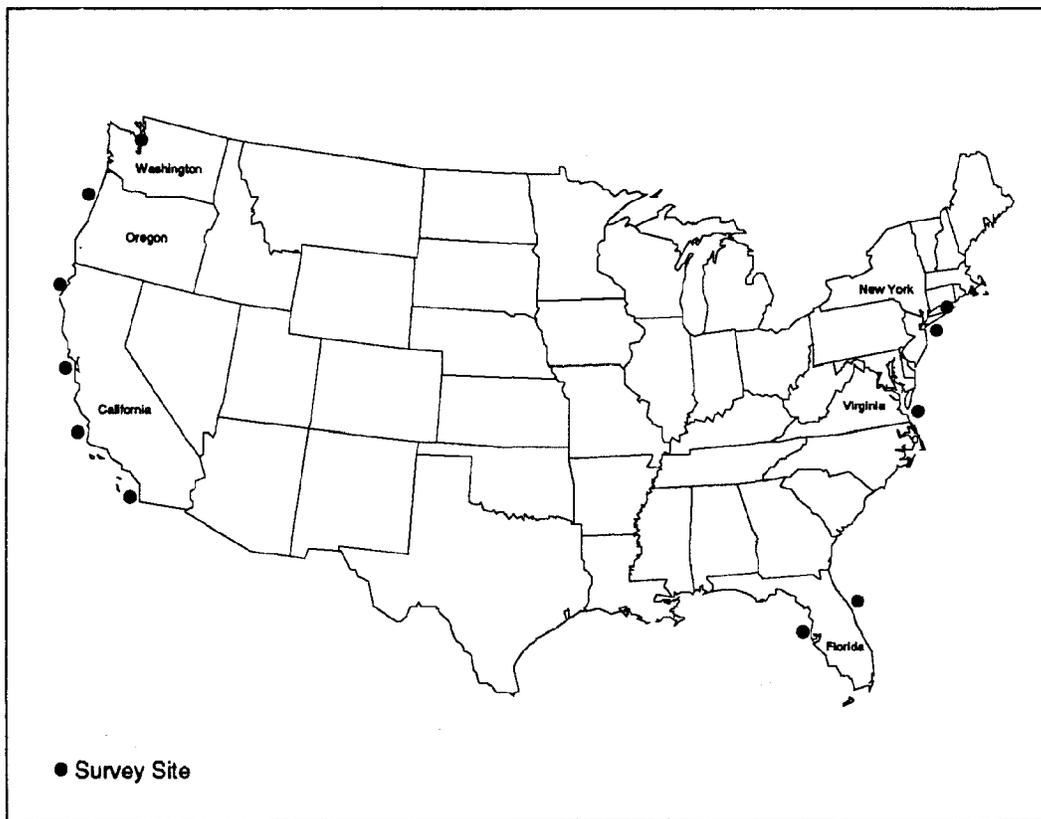


**A Socioeconomic Profile of Recreationists
at Public Outdoor Recreation
Sites in Coastal Areas: Volume 6**

Vernon R. Leeworthy and Daniel S. Schroefer
and Peter C. Wiley
April 1991



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration



HT392
.S635
1989
v.6

Coastal and Ocean Resource Economics Program

The Coastal and Ocean Resource Economics Program is an evolving set of activities to develop Nationwide data bases, products and analytical capabilities for conducting economic assessments of activities that directly affect or are affected by the health of the nation's coastal and oceanic resources. The program is conducted by the Strategic Assessments Branch (SAB) of NOAA's Office of Oceanography and Marine Assessments. It's major program elements are described below. Since 1985, the program has also co-sponsored a set of annual workshops with the Environmental Protection Agency on natural resource and environmental economics to support it's major program elements.

Inventory and Value of Coastal Recreation. Because outdoor recreation has been identified as the single largest category of benefit from the improvements in water quality, SAB began to develop a program to inventory and value coastal recreation. The first product of this program was a data base and report "Public Expenditures on Outdoor Recreation in the Coastal Areas of the U.S.A. (1986)" This led to development of an inventory of all publicly owned and/or managed recreation areas and facilities in the Nation's coastal areas. Summaries for 21 states and 25 groups of estuaries, by county and level of government, are available in a recently published atlas titled "National Estuarine Inventory, Data Atlas: Public Recreation Facilities in Coastal Areas (1988)." A complementary inventory of all privately owned and managed recreation facilities is also being developed through a cooperative agreement between NOAA and the U.S. Forest Service. Plans are to complete this inventory, Coastal Recreation Inventory, in 1992.

Public Area Recreation Visitors Survey (PARVS). PARVS is an ongoing intergovernmental cooperative research project involving seven federal and twelve state agencies. The survey was designed to provide data needed to develop highly credible and broadly comparable estimates of the economic importance of providing recreational opportunities on public lands. PARVS also enables development of detailed information about recreation uses and users and can provide estimates of the direct monetary value derived by users of public recreation areas. User values are critical to analyses of conflicts and trade-offs between recreation and other resource uses. In 1987, SAB initiated the effort to collect data at coastal recreation sites. To date, more than 15,000 interviews have been conducted at forty public outdoor recreation sites in the coastal areas of the U.S.A.

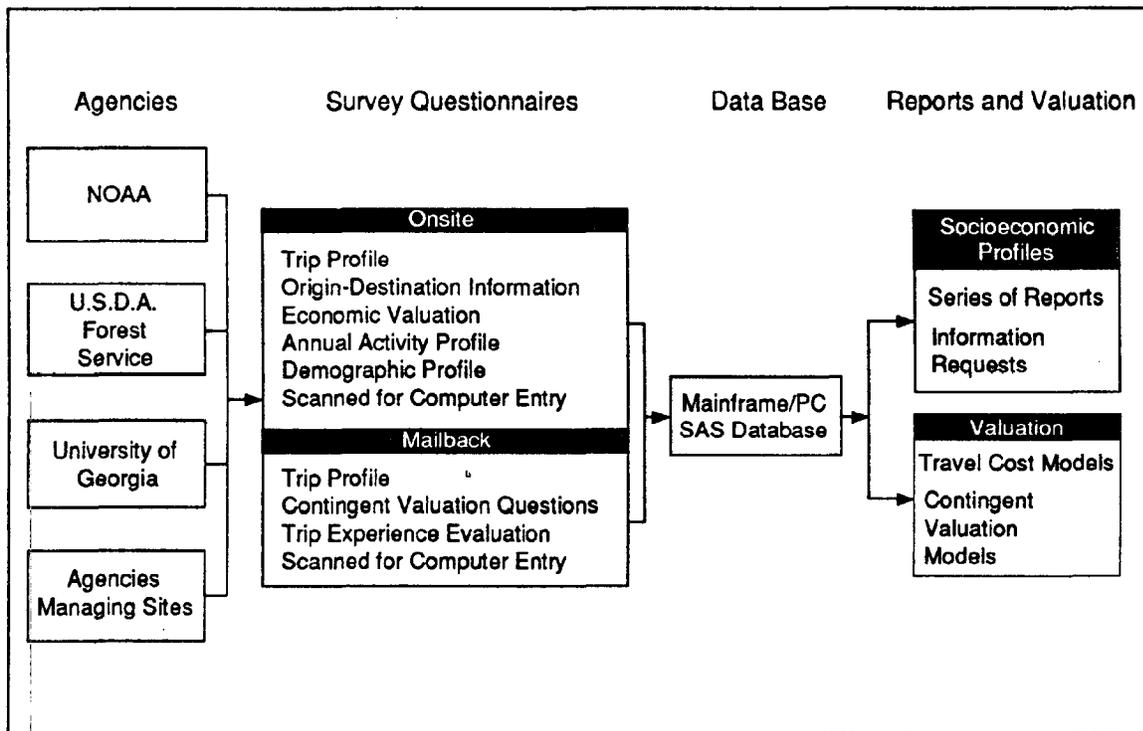
National Survey of Recreation and the Environment (NSRE). NSRE is an effort being led by NOAA and the U.S. Forest Service to update and extend a long series of national recreation surveys conducted approximately every five years from 1960 to 1982. This survey provides the only comprehensive view of the Nation's outdoor recreation activities and because of the time series of data, the only data for tracking trends in the Nation's demand for various recreational activities. Past surveys, however, have never focused on the coastal areas of the Nation. NOAA's involvement will for the first time provide a picture of how and to what extent the Nation's coastal areas are used for outdoor recreation. A broad coalition of federal and state agencies and various non-profit groups interested in recreation and environmental issues are now coming together to institute this important survey. Data collection will begin either in 1991 or 1992.

For more information on NOAA's Coastal and Oceanic Resource Economics Program, write to:

Vernon R. Leeworthy
Strategic Assessment Branch, N/OMA31
National Oceanic and Atmospheric Administration
6001 Executive Blvd.
Rockville, MD 20852
(301) 443-8843

A Socioeconomic Profile of Recreationists at Public Outdoor Recreation Sites in Coastal Areas: Volume 6

Vernon R. Leeworthy, Daniel S. Schriefer
and Peter C. Wiley
April 1991



National Oceanic and Atmospheric Administration
Office of Oceanography and Marine Assessment
Ocean Assessments Division
Strategic Assessment Branch
6001 Executive Boulevard
Rockville, MD 20852

LIBRARY
NOAA/CCEH
1990 HOBSON AVE.
CHAS. SC 29408-2623

W 877. 50 69 1991 v. 6

FEB 19 1996

Contents

	Page
Introduction	1
Survey Design	1
Profile of Visitors	1
Type and Extent of Activities	3
Spending by Visitors	3
Willingness-to-Pay	4
Satisfaction Ratings	5
On-going and Future Activities	5
Footnotes	6
References	6
Figures and Tables	7

Figures

1. Recreation Sites Surveyed During the Summer of 1990	8
2. U.S. Bureau of the Census Regions and Divisions of the United States	9

Tables

1. Managing Agencies and Number of Completed Interviews for the 1990 PARVS Coastal Sites	10
2. Distribution of Visitors by Census Division or Country of Residence	11
3. Distribution of In-State and Out-of-State Visitors, by Site	12
4. Average Distance Traveled to the Eleven Coastal Sites	13
5. Age Distribution of All Visitors by Site, Compared to the States and the U.S.A.	14
6. Gender and Racial Composition of All Visitors by Site, Compared to the States and the U.S.A.	15
7. Distribution of All Visitors by Highest Education Level Attained, by Site	16
8. Distribution of Family Income of Visitors by Site, Compared to the States and the U.S.A.	17
9. Distribution of Visitors by Group Size	18
10. Distribution of Visitors by Group Type	19
11. Average Annual Number of Days on Site and Trips to the Site, and the Average Length of Stay on Site for the Interview Trip	20
12a. Ranking of the Top Ten Main Activities of Visitors Age 16 and Older	21

Contents (continued)

Tables (continued)		Page
12b.	Ranking of the Top 15 Activities of Visitors of All Ages	22
13.	Average Daily On-site Fees and Trip Expenditures Per Person	23
14.	Maximum Willingness-to-Pay for an Annual Vehicle Pass for the Interview Site Versus Any Site the Agency Manages	24
15.	Willingness-to-Pay Randomly Assigned Dollar Amounts - On-site Survey	25
16.	Willingness-to-Pay for Annual Vehicle Pass to Site: Randomly Assigned Dollar Amounts - Mailback Survey	26
17.	Satisfaction Ratings for Recreation Experience at the Site	27
18.	Satisfaction Ratings- Number of Other Visitors at the Site	28
19.	Satisfaction Ratings on Cleanliness of Facilities	29
20.	Satisfaction Ratings on Parking	30
21.	Satisfaction Ratings on Water Quality	31
22.	Satisfaction Ratings on Overall Condition of the Site	32
Appendix A: Site Profiles		33

(List of Coastal and Ocean Resource Economics Program Publications on inside back cover.)

Introduction

This report summarizes information collected during the summer of 1990 through surveys conducted at six state parks, one county beach and four city beaches in California, Connecticut, Florida, New York, Oregon, Virginia and Washington. Overall 3,840 on-site (intercept) interviews were completed from June, 1990 to September, 1990 at the sites. An additional 1,506 mailback questionnaires have been completed.

Tabular summaries of the following information are contained in this report: 1) socio-demographic profiles of users; 2) type and extent of recreation activities engaged in; 3) types and amount of expenditures on recreation activities; 4) willingness-to-pay for park access; and 5) satisfaction ratings for various park attributes. Also included are detailed profiles of the six state managed sites from the NOAA Inventory of Public Recreation Areas and Facilities in Coastal Areas. Individual site profiles for each local agency are not available in the NOAA Inventory. The information in this report is intended for recreation planners and managers and business marketing agents that require simple summary information on the uses and users of coastal recreation sites.

Future reports will provide estimates of activity and site specific user values currently being developed using travel cost demand models and contingent valuation techniques.

Survey Design

Survey Questionnaires. Data collection employed two survey questionnaires: 1) an intercept (completed using a face-to-face interview); and 2) a mailback. The intercept, or on-site questionnaire, obtains information on the users and uses of the site and other information necessary for recreational demand modeling. The mailback questionnaire is used in a follow-up survey to obtain detailed information on trip-related expenditures, willingness-to-pay for park access using contingent valuation questions, and user satisfaction ratings (on a 0 to 10 scale) for several park attributes. The mailback survey also provides information necessary for estimating the importance of parks to local and regional economies.

Site Selection. Sites were selected from the NOAA Inventory of Public Recreation Areas and Facilities in Coastal Areas based on several criteria: 1) they had to be adjacent to tidal or ocean waters; 2) the sites had to have at least 100,000 visitors annually; 3) they had to have camping facilities either on-site or nearby to house interviewers; 4) the sites had to be geographically dispersed; and 5) the managing agencies had to agree

to provide on-site logistical support for the interviewers. With some exceptions, Volumes 1-5 included rural or wilderness oriented sites. However, most of the sites included in this volume were chosen to represent the more urbanized beaches. Several state managed sites on the West Coast were chosen to fill in several geographic gaps in our National sample of sites. Figure 1 shows the geographic dispersion of the eleven PARVS coastal sites, while Table 1 lists the managing agencies for each site. Detailed profiles of the sites are included in Appendix A.

Number of Responses. Overall, 3,840 interviews were completed on-site (intercept survey) while 1,506 follow-up mailbacks were received, for an overall mailback response rate of about 39 percent (Table 1). Given historical mailback response rates from PARVS, each site was targeted for at least 300-350 on-site interviews to ensure at least 100 mailback responses. The 300-350 on-site interview target was achieved at all sites. Mailback response rates were higher than the average for other coastal PARVS sites reported in Volumes 1, 2, 3 and 5 of this series, but lower than the average response rates reported in Volume 4.

Sampling. The number of interviews at each site were stratified across various access points and time of week (weekdays versus weekends) to give proper representation of the various recreation activities available at each site. The sampling frame was a vehicle, while the sampling unit was an individual. One person was randomly selected from each randomly selected vehicle. Only those age 16 and older were interviewed. Demographic information was collected on up to eight people traveling in the vehicle. The number of people in each vehicle that participated in each activity was also collected. The mailback survey was sent to the person that was interviewed unless someone else paid for their expenses. In these cases, the person that paid expenses was identified and that person received the mailback portion of the survey.

Profile of Visitors

Information on the users of marine recreational resources, such as where they come from, how far they travel to get there, their age distribution, gender and racial composition, education levels, family incomes, group type and size are all important for assessing current and future demands for park services. These data are also used in economic impact studies to estimate the demand for other goods and services from local areas surrounding the parks.

Market Area. Home zip code, state, and county data was obtained from each person interviewed on-site. This information has been aggregated into Bureau of the

Census "census divisions" to show the market areas for each of the sites (Table 2). Each of the census divisions is made up of a group of states and can be further aggregated into four census regions (Figure 2).

All of the eleven sites draw the majority of the visitors from within the census division in which the site is located. Foreigners accounted for six percent of all visitors to the sites. Foreign visitation ranged from just 0.3 percent at Jones Beach State Park, New York to 23.7 percent at Clearwater Beach, Florida.

For assessing local and regional economic impacts, in terms of sales, employment, income, tax revenues, and the cost of local services, it sometimes is important to know more detail about travel patterns than Table 2 provides. Table 3 shows the in-state and out-of-state distribution of visitors for each of the eleven sites. All of the sites, except Clearwater Beach, Daytona Beach and Virginia Beach draw most of their visitors from inside the states where they are located. The Florida and Virginia sites are important to their state's economies because they stimulate an influx of expenditures from non-residents.

Distances Traveled to the Sites. For modeling recreational demand, it is important to know how far visitors travel to the sites. From this information, a proxy for the willingness-to-pay, or price, of site access is constructed. This is generally referred to as the "travel cost method". See Bockstael et. al. (1986) for a review of this popular method for modeling recreation demand.

One of the many issues debated in travel cost modeling is the proper specification of distance traveled. For single purpose, single-destination trips, total distance to the site, or total round trip mileage is appropriate. However, when multiple purpose or multiple destination trips are involved, total distance traveled to the site may overstate the cost of access. Information was obtained in the PARVS interviews to determine the purpose of the trip and if there were destinations other than the park visited. Additional information was also obtained on the primary purpose and destination of the trip. If other destinations were involved, the destination previous to the park where the respondents were interviewed was obtained. From this information, two distance variables were constructed (Table 4).

The first measure is unadjusted and represents the distance from where the trip was started to the park.¹ On average, visitors traveled over 432 miles one-way to the sites. The second measure is adjusted for those that visited multiple sites and for whom the park where interviewed was not the primary destination of the trip. For individuals in this category, the distance from the site visited previously to the site where the interview

took place was calculated. On average, for all eleven sites, this yielded a one-way travel distance of only about 291 miles, or about 67 percent less than the unadjusted measure.

Age Distribution of All Visitors. Table 5 shows the age distribution of all visitors to the eleven sites. The actual age of up to eight people traveling in each vehicle interviewed was obtained. Eight age groups were formed to correspond to those used by the Bureau of the Census. This allows for the comparison of age distributions across the relevant market areas (i.e., states or regions where the sites are located). Differences between the age distributions in the general market area for each site and the age distributions of visitors of each site suggest that age may be an important factor in explaining park visitation. Also, different sites attract different age groups.

Gender and Racial Composition of All Visitors. All sites, except Daytona Beach and Beverly Beach had a smaller proportion of male visitors than the general population (Table 6). This suggests that gender may be an important factor in explaining park visitation. Racial composition also appears to be a significant factor. The percentage of visitors that are white is significantly higher than the general population for all the sites except for Half Moon Bay. Pismo Beach and Half Moon Bay in California which have a higher percentage of Hispanic visitors than the general populations of California or the Pacific region. Blacks are underrepresented at all sites including Virginia Beach where they account for 15 percent of total visitation.

Education Levels of All Visitors. Education level may be an important factor in explaining park visitation, however, the manner in which the data is reported by the Bureau of the Census does not lend itself to direct comparison with defined market areas. It may be possible with further work on Bureau of the Census data tapes to compile comparable categories. Another important use of this information is in park planning, to the extent that park activities are education dependent. Guided tours of archaeological or historical sites or on nature trails where interpretive services are available are important examples. Table 7 summarizes the education levels of all visitors to the parks.

Family Income of Visitors. Many studies of recreational behavior have found income to be an important factor in explaining both recreational participation and avidity. Table 8 shows the distribution of family incomes of all visitors aggregated into six groups that correspond to those categories reported by the Bureau of the Census. The survey actually collects income using 12 income categories. The family incomes of park visitors at all eleven sites are significantly higher than the U.S. population as a whole. This lends further support for the

hypothesis that income is an important determinant of park visitation.

Group Size and Type. The average group size across all sites consisted of about four people, with a high of 4.97 at Seattle and a low of 2.61 at Daytona Beach (Table 9). In addition, over 40 percent of all groups were of two or less people. Over 65 percent of all groups were family based (Table 10). These findings are significant. Schomaker and Morck (1986), in a study of group composition in advertisements for recreationally related products and services, found that family groups and groups larger than two persons were underrepresented when compared to the results of the National Recreation Survey (1977). Family groups appeared in only five percent of the ads, with an average group size of only 2.2.

Group type may also be important to park managers in addressing the issue of imposing site fees. McCurdy (1970, 1985) found that family groups, as opposed to single individuals, couples, or groups of friends most readily accepted site fees. Referendum-type contingent valuation questions on site fees, which will be discussed below, are asked as part of the PARVS survey. Thus, the capability exists to further test this proposition.

Type and Extent of Activities

Recreational Usage. In recreational demand modeling, the two most important pieces of information are a proxy for price and a measure of quantity demanded. Recreational usage information can provide information necessary to obtain both these measures. For example, in many studies the number of trips to the site represent the quantity demanded, while on-site time is used as an input in calculating a portion of the cost of the trip (e.g., total on-site plus travel time multiplied by the value of time). Both the proxy for prices and the measure of quantity demanded have varied across studies depending on the purpose and scope of the analyses. Table 11 reports the average number of days spent on-site during the past 12 months, the average number of trips to the site over the past 12 months, the average length of stay per trip (e.g., the number of days spent on-site during the trip on which the interview was conducted), and the percentage of single day trips. For all eleven sites, the average person made 11.39 trips to the site where interviewed, and spent an average of 13.72 days there over the past 12 months. The average length of stay for the interview trip was 2.85 days, while 52.8 percent were single day trips.

There was a good deal of variation in these measures across sites. On average, the visitors to San Diego Beaches made the most trips (27.67) and spent the

most days on-site (28.65) during the past 12 months, while visitors to Beverly Beach made both the fewest trips (1.46) and spent the fewest days on-site over the past 12 months (4.19). The average length of stay on the interview trip was less than five days across all eleven sites with the highest at Clearwater Beach (4.61 days) and the lowest at Jones Beach (1.05 days). Over 80 percent of the visits to Jones Beach, San Diego and Seattle are single day visits.

Main Activities. Table 12a reports the ranking of the top ten "main" activities across all eleven sites and how each of these activities are ranked for each of the sites. The top ten activities are not ranked on the basis of the greatest number of participants in each activity, but by the percent of visitors, age 16 and older, that responded that a particular activity was their main activity. The greatest percent of visitors said that sunbathing was their main activity. Overall 6.6 percent of the sample said they had no main activity. At Hammonasset, 30.3 percent said they had no main activity. This suggests that modeling park demand on an activity basis using a travel cost model may not be advisable. The reason being that activity specific travel cost models employ the assumption that one activity provided the main motivation for the trip. This is clearly not true for a large proportion of this sample.

Activities of All Visitors. Table 12b reports the ranking of the top 15 activities. Activities are ranked on the basis of the greatest percent of participants from the sample of visitors of all ages. From 3,840 interviews of people 16 and older, there were 11,609 people of all ages for which activity participation was reported. Sunbathing remains the number one activity across all sites when based on total participation. Walking for pleasure rose to number two overall.

Participation rate, by activity, varied greatly across sites. Sunbathing, ranked number one overall, was only ranked number one at five out of the eleven individual sites and as low as 14th at Patrick's Point. Developed Camping ranked number one at Beverly Beach and number two at Patrick's Point where over 80 percent of the visitors participated in the activity.

Spending by Visitor

Studies in the economics of outdoor recreation have utilized expenditures for two purposes: 1) for specifying a proxy for price when modeling the demand for recreation; and 2) for economic impact analysis where the impact of recreational activity is estimated on local and/or regional economies in terms of sales, employment, income, tax revenues, etc. It is primarily to the former purpose that NOAA intends to apply the PARVS data.

Onsite Fees. Column one of Table 13 reports the average daily on-site fees paid per person. This information was obtained from the intercept portion of the survey. On-site fees represent a portion of the total cost of accessing a site and will be used with travel costs in constructing a proxy for price in future demand modeling work. The average expenditure varied greatly across the eleven sites with a high of \$31.70 per person per day at Hammonasset Beach State Park and a low of \$0.00 per person per day at San Diego Beaches. Only one person reported spending anything for on-site fees at Seattle Beaches. This may simply be a coding error. If so, the true estimate would be zero for Seattle Beaches.

Trip Expenditures. Table 13 also reports all trip related expenditures. These expenditures include: 1) the amount spent while preparing for the trip at home, or upon return from the trip (e.g., film purchased at home in preparation for the trip and film development upon return from the trip); 2) while traveling to and from the site (e.g., expenses for lodging, food and travel); and 3) while visiting the site or immediate area (e.g., expenses for food, lodging, local travel, on-site fees, fishing bait, souvenirs, etc.). This comprehensive expenditure profile is particularly useful for analyzing the economic impact that visitors to parks have on local and/or regional economies.²

On average, total trip expenditures ranged from a high of \$668 per person at Clearwater Beach City Beaches to a low of \$53 per person at Jones Beach State Park.

There are several possible problems with the trip expenditures reported in Table 13. First, they are unweighted for sample response bias. Second, about 30 percent of the sample were on multiple destination trips. It is not clear whether all the expenditures made, while preparing for the trip or upon return home from the trip and while traveling to and from the site, should be considered as attributable to the site where interviewed. Future assessments of economic impact will have to address these problems. See Leeworthy et. al, 1989 for an example.

Willingness-to-Pay

The survey used several direct approaches for measuring the willingness of visitors to pay site access fees. Each of these approaches utilize the contingent valuation method (CVM). Four separate questions were asked, one on the intercept questionnaire and three in the mailback survey. The question asked on the intercept survey was repeated on the mailback questionnaire.³ Two of the questions on the mailback survey were open-ended in that the maximum dollar amount the individual would pay was asked and that individual

simply fills in a dollar amount. This represents the more traditional CVM approach. One question was asked on-site (repeated on mailback, see footnote 3) and one on the mailback survey using a relatively new approach which asks for "yes" or "no" responses to randomly assigned dollar amounts. This is commonly known as the referendum approach, since each person is simply asked to vote "yes" or "no" to the assigned dollar amount. This approach is thought to have several advantages over the open-ended question approach. For example, the referendum approach avoids strategic bias,⁴ and is similar to market transactions where consumers either purchase or do not purchase a product at the given market prices. The main disadvantages of this new approach is that it requires more sophisticated analyses in order to yield answers comparable to the open-ended questions and the methods of analysis are still experimental.

Open Ended Questions. Table 14 reports the results of two open-ended CVM questions on the willingness-to-pay site access fees. The first question asked what was the maximum amount the individual would be willing to pay for an annual vehicle pass that would permit access to the site for all persons in the vehicle. The pass would apply to the interview site only and would only cover site admission, not any other fees (i.e., camping). The average for all sites was \$10.18 and ranged from a high of \$22.94 at Jones Beach State Park to a low of \$4.78 at Beverly Beach State Park.

The second open-ended question again asked for the maximum amount the individual would be willing to pay for an annual vehicle pass, but the pass would allow admission to all sites the agency manages. It was expected that the willingness-to-pay for this type of pass would be higher than the pass that allows access to only one site, since it is expected that the option to visit additional sites may have some value. Although all but one of the means were lower for the one site pass (Daytona Beach), the differences are statistically significant only at Half Moon Bay State Beach, Patrick's Point State Park and Pismo State Beach.

The results presented here are only preliminary since several issues in analyzing the data are as yet unresolved. The estimates in Table 14 are unweighted for mailback response bias and neither an analysis of protest bids (i.e., zero bids given because they do not like the idea of fees) nor an analysis of anchoring bias (caused by placing the referendum question before the open-ended question) have been conducted. In the latter case, the true maximum amount may not have been given because the individual may be biasing their bid toward the randomly assigned dollar amount asked in the referendum question. These issues are currently being researched.

Referendum Questions. Table 15 presents the percentage of yes votes for each of the ten randomly assigned per-person per-day charges for site admission that was asked on the intercept questionnaire. As expected, the percent of yes votes generally decline at higher dollar amounts. There are several inconsistencies where a higher percent of "yes" responses occur at higher dollar amounts. When aggregated across all eleven sites these inconsistencies disappear, suggesting relatively large sample sizes may be required to achieve consistent results with this method. A majority would be willing to pay at least \$1.00 per person per day at all sites.

Another referendum question was asked on the mail-back portion of the survey. This question asks for the willingness-to-pay for an annual vehicle pass to the site where interviewed. This pass would admit everyone in the vehicle. Again, as expected, the percent of yes votes declines with increased dollar amounts with a few exceptions (Table 16).

Satisfaction Ratings

The final section of the mailback survey asks visitors to rate their satisfaction with the site for six attributes on a scale from 0 to 10. The six attributes are: 1) the recreation experience at the site (Table 17); 2) the number of other visitors at the site (Table 18); 3) cleanliness of facilities (Table 19); 4) parking (Table 20); 5) water quality (Table 21); and 6) overall condition of the site (Table 22).

Recreation Experience. The mean ratings ranged from a low of 6.66 at Half Moon Bay State Beach to a high of 8.45 at Patrick's Point State Park. At least 61 percent of the visitors to all eleven sites gave a rating of eight or above.

Number of Visitors. This attribute is intended as an indicator of individuals perception of crowding conditions on their satisfaction. This attribute received the lowest rating across all sites. The mean scores ranged from 5.72 at Virginia Beach City Beaches Park to 6.62 at Clearwater Beach City Beaches.

Cleanliness of Facilities. This attribute generally received high ratings across all sites. The lowest rating was at Half Moon Bay State Beach (5.52). Patrick's Point State Park had the highest rating (8.40), with over 54 percent giving a rating of 9 or above.

Parking. Most visitors were generally pleased with the parking situation at the sites. This would seem to conflict with the ratings given on the number of other visitors. Hammonasset Beach State Park had the highest rating (8.39), with over 58 percent giving a rating

of 9 or above.

Water Quality. Average water quality ratings varied from a low of 6.36 at San Diego County Beaches to a high of 8.42 at Patrick's Point State Park. Overall, 60 percent of the visitors gave a rating of 9 or above.

Overall Conditions of the Site. This attribute received the overall highest rating. The average ratings ranged from a low of 6.35 at Half Moon Bay State Beach to a high of 9.02 at Patrick's Point State Park. Over 58 percent at Patrick's Point State Park gave a rating of 9 or above.

On-Going and Future Activities

In 1991, no data collection is planned. However, consideration is being given to whether PARVS could be extended to include other types of sites such as wildlife refuges, hunting/game management areas and nature preserves. This would provide the capability to develop a more comprehensive set of activity and site specific user day values for coastal recreation.

Estimation of User Day Values. Researchers at SAB and North Carolina State University are currently developing travel cost demand models and contingent valuation methods using the data summarized in this report. These methods will be assessed for their ability to produce consistent and credible estimates of activity and site specific user day values.

Once accepted, these methods will be applied to the data collected at the remaining forty sites around the Nation. The result will be a National set of user day values developed with a consistent set of data and methodologies.

Site Valuation. For many policy and management decisions, it is important to know the total annual value generated by a site. Here user day values must be aggregated. Estimates of total site use by activity are required. Updates of total annual site visitation are being compiled for all sites surveyed (See Appendix A for site visitation for 1984, 1982, 1977 and 1972 from NOAA Inventory of Recreation Areas and Facilities) in cooperation with the local, state and federal agencies managing the sites.

Changes in Site Qualities. Total loss of a site is more rare than small, sometimes continuous changes in site qualities. Degradation of the site by water and air pollution and debris washed-up on shorelines result in losses in site value due to losses in user day values and lower visitation rates. Future research efforts will attempt to model (in a broad regional or National context) the losses in site values due to reductions in site

qualities. The major focus will be on water quality.

Total Value of Coastal Recreation. A much more ambitious goal of the SAB program is to place a total annual value on all coastal recreation sites. To accomplish this, estimates of total coastal recreational use are required. Very little information currently exists.

To remedy this, NOAA and the U.S.D.A. Forest Service are leading a broad coalition of federal and state agencies and non-profit groups interested in recreation and environmental issues in modifying the 1991 National Recreation Survey to obtain total use estimates for coastal recreation. Although sample sizes will be too small to provide more than broad regional estimates of use, the study combined with PARVS data and analysis will provide the capability to provide regional and National estimates of the total value of coastal recreation.

Footnotes

1. The respondent was asked how many miles they traveled from where they started their trip to the site. As an alternative we used the highway mileage calculated using a micro-computer based software program called "Highways and Byways" by New Direction Software, Inc. A comparison of the mileages provided by the respondent and that calculated from the computer program revealed that the absolute value of the differences increased with the total distance traveled. Many include mileage associated with the side trips. The mileage reported in Table 4 is from the Hyways and Byways computer program.

2. The U.S. Forest Service has developed an analytic capability for assessing economic impacts called "Implan". Implan provides planning analysts with the capability to construct a local and/or regional input-output models for any applicable area and to perform evaluations of potential economic effects of alternative courses of action. See Cordell et. al. (1987) for an example.

3. The on-site referendum question was repeated on the mailback because recent evidence from research being conducted at the University of Colorado, at Boulder, suggests that people may change their bids after they have had more time to think about the decision. The results of this repeat of the question are not reported here. Future analysis of this data will test for this effect.

4. The overstatement of willingness-to-pay when it is perceived that the fee will not be charged but will lead to park protection or improvement, or understatement if it is perceived management is planning to impose fees but the individual is reasonably sure the park will be

protected. See Desvousges et. al. (1983) for a discussion of biases.

References

Bockstael, N.E., Hanemann, W.M. and Strand, I.E., 1986, "Benefit Analysis Using Indirect or Imputed Market Methods." *Measuring the Benefits of Water Quality Improvements Using Recreation Demand Models*, Vol. 2. Washington, D.C.: Environmental Protection Agency, Office of Policy Analysis, CR - 811043-01-0, University of Maryland, 1986.

Cordell, H. Ken, Bergstrom, John C. and Watson, Allan A., 1987, "Report on Estimates of Economic Impact of Proposed Recreational Development at Land Between the Lakes." A final report of an economic assessment study prepared for the Tennessee Valley Authority, Land Between the Lakes, Golden Pond, Kentucky 42231. Report prepared by the U.S. D.A. Forest Service, Outdoor Recreation and Wilderness Assessment Group, Southeastern Forest Experiment Station, Athens, Georgia.

Desvousges, William H., Smith, V. Kerry and McGivney, Matthew P., 1983. "A Comparison of Alternative Approaches for Estimation of Recreation and Related Benefits of Water Quality Improvements". Washington, D.C.: Environmental Protection Agency, Office of Policy and Planning.

McCurdy, Dwight R., 1970, "Recreationists Attitudes Toward User Fees: Management Implications." *Journal of Forestry*. 68 (8): 645-646.

McCurdy, Dwight R., 1985, *Park Management*. Carbondale, Illinois: Southern Illinois University Press.

Schomaker, John N. and Morck, Victoria L., 1986, "Representation of Outdoor Recreation in Magazine Advertisements". In *Proceedings: Southern Recreation Research Conference*, February 1986. Asheville, North Carolina.

Smith, V. Kerry and Desvousges, William H., 1986, *Measuring Water Quality Benefits*. Kluwer-Nyhoff Publishing, Boston, Massachusetts.

Strategic Assessment Branch. *The NOAA Inventory of Public Recreation Areas and Facilities in Coastal Areas*. Rockville, MD: National Oceanic and Atmospheric Administration.

List of Figures and Tables*

Figures

1. Recreation Sites Surveyed During the Summer of 1990.
2. U.S. Bureau of the Census Regions and Divisions of the United States.

Tables

1. Managing Agencies and Number of Completed Interviews for the 1990 PARVS Coastal Sites.
2. Distribution of Visitors by Census Division or Country of Residence.
3. Distribution of In-State and Out-of-State Visitors, by Site.
4. Average Distance Traveled to the Eleven Coastal Sites.
5. Age Distribution of All Visitors by Site, Compared to the States and the U.S.A.
6. Gender and Racial Composition of All Visitors by Site, Compared to the States and the U.S.A.
7. Distribution of All Visitors by Highest Education Level Attained, by Site.
8. Distribution of Family Income of Visitors by Site, Compared to the States and the U.S.A.
9. Distribution of Visitors by Group Size.
10. Distribution of Visitors by Group Type.
11. Average Annual Number of Days on Site and Trips to the Site, and the Average Length of Stay on Site for the Interview Trip.
12. a) Ranking of the Top Ten Main Activities of Visitors Age 16 and Older.
b) Ranking of the Top 15 Activities of Visitors of All Ages.
13. Average Daily On-site Fees and Trip Expenditures Per Person.
14. Maximum Willingness-to-Pay for an Annual Vehicle Pass for the Interview Site Versus Any Site the Agency Manages.
15. Willingness-to-Pay Randomly Assigned Dollar Amounts, On-site Survey.
16. Willingness-to-Pay for Annual Vehicle Pass to Site: Randomly Assigned Dollar Amounts - Mailback Survey.
17. Satisfaction Ratings for Recreation Experience at the Site.
18. Satisfaction Ratings-Number of Other Visitors at the Site.
19. Satisfaction Ratings on Cleanliness of Facilities.
20. Satisfaction Ratings on Parking.
21. Satisfaction Ratings on Water Quality.
22. Satisfaction Ratings on Overall Condition of the Site.

Figure 1. Recreation Sites Surveyed During the Summer of 1990.

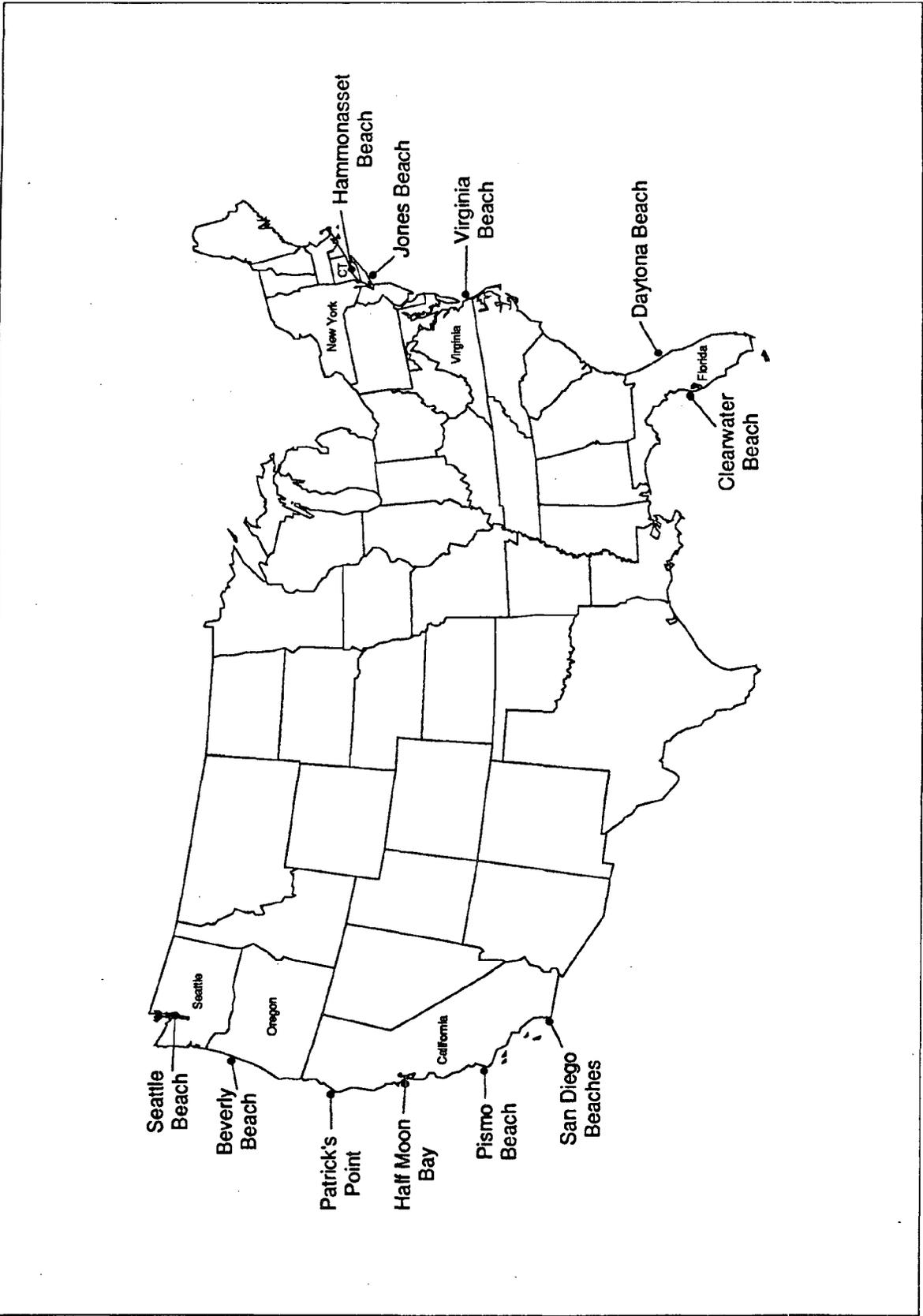


Figure 2. U.S. Bureau of the Census Regions and Divisions of the United States.

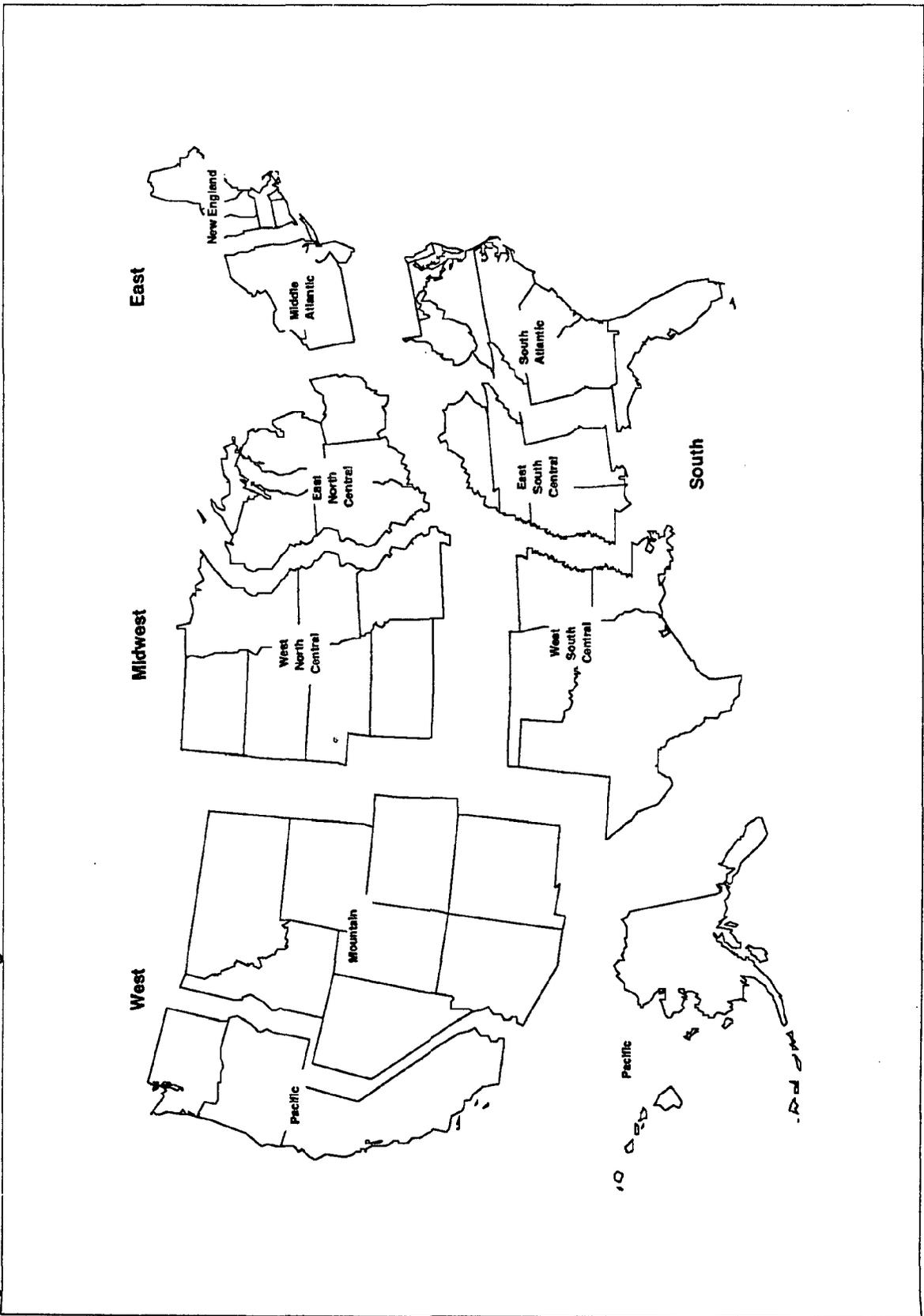


Table 1. Managing Agencies and Number of Completed Interviews for the 1990 PARVS Coastal Sites.

State/Site	Managing Agencies	Number of Interviews	
		On-site	Mailback
California			
Half Moon Bay State Beach	California Parks and Recreation	358	134
Pismo State Beach	California Parks and Recreation	349	153
Patrick's Point State Park	California Parks and Recreation	338	213
San Diego County Beaches	San Diego County, Parks and Recreation	360	85
Connecticut			
Hammonasset Beach State Park	CT Parks and Recreation	350	158
Florida			
Clearwater Beach City Beaches	City of St. Petersburg, Leisure Services Department	352	152
Daytona Beach City Beaches	City of Daytona Beach, Parks and Recreation Department	361	164
New York			
Jones Beach State Park	NY Parks, Recreation and Historical Preservation	354	143
Oregon			
Beverly Beach State Park	Oregon Parks and Recreation	350	133
Virginia			
Virginia Beach City Beaches	City of Virginia Beach, Parks and Recreation Department	349	100
Washington			
Seattle City Beaches	City of Seattle, Parks and Recreation Department	315	71
All Sites		3,840	1,506

Table 2. Distribution of Visitors by Census Division or Country of Residence.*

Census Division - Country	Sites (Percent)											
	All Sites	Half Moon Beach	Pismo Beach	Patrick's Point	San Diego	Hammonasset Beach	Clearwater Beach	Daytona Beach	Jones Beach	Beverly Beach	Seattle	Virginia Beach
New England	7.6	0.6	0.0	0.9	1.1	69.7	2.3	1.3	0.6	0.3	3.7	3.4
Middle Atlantic	13.9	2.0	0.9	0.6	0.8	11.7	8.6	7.3	93.7	0.6	0.9	26.0
South Atlantic	14.1	0.8	0.9	0.3	1.7	4.0	39.0	55.9	3.1	0.8	0.6	52.5
East North Central	4.0	1.1	0.6	1.2	1.1	3.4	14.9	11.4	1.4	0.3	1.7	7.1
East South Central	1.9	0.6	0.3	0.0	0.0	0.6	6.9	12.7	0.0	0.0	0.0	0.8
West North Central	0.8	1.4	0.3	0.3	0.6	0.6	1.7	1.9	0.3	0.3	0.6	0.8
West South Central	0.7	1.4	0.3	0.6	0.6	1.1	1.1	1.0	0.0	0.3	0.3	0.6
Mountain	2.7	4.5	3.7	1.8	6.4	1.1	0.9	1.9	0.3	6.9	0.9	0.6
Pacific	48.4	83.2	90.5	91.7	83.6	0.9	0.9	0.6	0.3	84.5	89.7	1.1
Canada	3.4	1.4	0.6	2.1	0.6	4.3	12.0	3.5	0.3	5.5	1.1	5.9
All Other Foreign	2.6	3.1	2.0	0.6	3.6	2.6	11.7	2.5	0.0	0.8	0.6	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Toned areas show census division within which site is located.

Table 3. Distribution of In-State and Out-of State Visitors, by Site.

State/Site	Visitors (Percent)	
	In-State	Out-of-State
California		
Half Moon Bay State Beach	81.3	18.7
Pismo State Beach	89.9	10.1
Patrick's Point State Park	88.8	11.2
San Diego County Beaches	83.1	16.9
Connecticut		
Hammonasset Beach State Park	59.4	40.6
Florida		
Clearwater Beach City Beaches	31.5	68.5
Daytona Beach City Beaches	33.3	66.7
New York		
Jones Beach State Park	93.2	6.8
Oregon		
Beverly Beach State Park	63.4	36.6
Virginia		
Virginia Beach City Beaches	40.4	59.6
Washington		
Seattle City Beaches	87.1	12.9

Table 4. Average Distance Traveled to the Eleven Coastal Sites.

State/Site	Average Miles to Site	
	From Where Started Trip ¹	From Site Previously Visited ²
California		
Half Moon Bay State Beach	514	171
Pismo State Beach	349	200
Patrick's Point State Park	407	223
San Diego County Beaches	413	290
Connecticut		
Hammonasset Beach State Park	318	83
Florida		
Clearwater City Beaches	1,240	1,077
Daytona City Beaches	620	527
New York		
Jones Beach State Park	38	34
Oregon		
Beverly Beach State Park	342	173
Virginia		
Virginia Beach City Beaches	319	294
Washington		
Seattle City Beaches	221	159
All Sites	432	291

¹ Most people (96%) started the trip from their home, so for the majority, this represents the distance from the home to the site.

² About 30 percent of the sample were on trips where they visited multiple sites. Of these, about 85 percent (i.e., 25.5 percent of the entire sample) did not designate the site (where they were interviewed) as their primary destination. For those that visited other sites and the site of interview was not the primary destination, the distance from the site visited previously to the site of the interview was calculated.

4 Table 5. Age Distribution of all Visitors by Site, Compared to the States and the U.S.A.

State/Site/Census Division	Age Group (Percent)							
	<15	15-19	20-24	25-34	35-44	45-54	55-64	65>
California	22	9	10	18	12	10	9	10
Half Moon Bay State Beach	29	6	7	15	20	8	9	6
Pismo State Beach	39	6	4	17	18	6	5	5
Patrick's Point State Park	35	4	3	14	23	10	7	4
San Diego County Beaches	31	10	13	19	14	6	4	3
Connecticut	22	9	9	18	12	9	9	11
Hammonasset Beach State Park	28	7	8	17	17	11	7	6
Florida	19	7	8	15	12	10	12	17
Clearwater Beach City Beaches	22	8	7	18	21	11	7	6
Daytona Beach City Beaches	21	6	12	22	19	10	6	4
New York	21	8	8	17	13	10	10	13
Jones Beach State Park	22	8	11	18	12	9	9	11
Oregon	22	22	9	18	13	9	9	12
Beverly Beach State Park	35	7	3	13	22	9	6	5
Virginia	22	10	10	17	12	10	9	10
Virginia Beach City Beaches	24	10	10	19	20	10	4	3
Washington	22	22	10	18	12	9	9	11
Seattle City Beaches	37	2	7	19	15	7	5	8
All Sites	30	7	7	17	19	9	6	5
Middle Atlantic	21	8	8	16	13	10	11	13
Mountain	25	9	10	18	11	9	8	10
New England	20	8	9	17	13	10	10	13
Pacific	22	9	10	18	12	10	9	10
South Atlantic	21	8	9	17	13	10	10	12
U.S.A.	22	8	9	17	13	10	9	12

Table 6. Gender and Racial Composition of Visitors by Site, Compared to the States and the U.S.A.

State/Site	Gender/Racial Composition (Percent)							
	Males	Native American	Asian/Pacific Islander	Black	Hispanic	White	Other	
California	49.30	1	5	8	8	77	1	
Half Moon Bay State Beach	47.70	<1	5	3	12	77	3	
Pismo State Beach	47.00	<1	3	1	12	82	2	
Patrick's Point State Park	46.00	0	<1	<1	<1	97	1	
San Diego County Beaches	46.50	<1	3	3	8	86	<1	
Connecticut	48.20	<1	<1	7	1	90	1	
Hammonasset Beach State Park	46.10	0	1	<1	3	95	<1	
Florida	48.00	<1	<1	14	<1	84	1	
Clearwater Beach City Beaches	45.00	0	<1	<1	<1	99	0	
Daytona Beach City Beaches	51.70	0	0	6	<1	94	0	
New York	47.50	<1	2	14	7	80	3	
Jones Beach State Park	41.00	0	<1	7	7	85	<1	
Oregon	49.25	1	2	1	1	95	<1	
Beverly Beach State Park	50.30	<1	1	<1	2	95	<1	
Virginia	48.96	<1	1	19	<1	79	<1	
Virginia Beach City Beaches	43.40	0	1	15	<1	82	1	
Washington	49.68	2	3	2	1	92	<1	
Seattle City Beaches	43.70	<1	3	2	<1	91	4	
All Sites	46.30	<1	2	3	4	89	1	
Middle Atlantic	47.70	1	1	12	2	84	2	
Mountain	49.68	3	1	2	5	88	<1	
New England	48.00	<1	<1	4	<1	94	1	
Pacific	48.45	<1	7	6	6	79	1	
South Atlantic	48.40	<1	<1	21	<1	78	<1	
U.S.A.	48.60	1	2	12	2	83	<1	

Table 7. Distribution of Visitors by Highest Education Level Attained, by Site.

State/Site	Education Levels (Percent completed)					
	8th Grade or Less	9th-11th Grade	High School Graduate	13-15 Years	College Graduate	Graduate Education
California						
Half Moon Bay State Beach	25	9	19	21	14	12
Pismo State Beach	35	7	19	21	10	8
Patrick's Point State Park	33	5	15	20	13	14
San Diego County Beaches	27	8	19	22	14	10
Connecticut						
Hammonasset Beach State Park	27	7	27	16	16	7
Florida						
Clearwater Beach City Beaches	19	11	29	16	15	10
Daytona Beach City Beaches	15	8	39	23	11	4
New York						
Jones Beach State Park	19	10	25	19	19	8
Oregon						
Beverly Beach State Park	32	10	20	20	10	8
Virginia						
Virginia Beach City Beaches	22	8	31	17	17	5
Washington						
Seattle City Beaches	34	2	14	17	21	12
All Sites	26	8	23	19	15	9

Table 8. Distribution of Family Income of Visitors by Site, Compared to the States and the U.S.A.

State/Site	Family Income Before Taxes (Percent)						
	Less than \$10,000	\$10,000 - 19,999	\$20,000 - 29,999	\$30,000 - 39,999	\$40,000 - 49,999	\$50,000 and over	
California	18	27	25	15	7	8	
Half Moon Bay State Beach	4	8	13	14	17	44	
Pismo State Beach	3	8	13	23	15	38	
Patrick's Point State Park	4	7	16	14	19	40	
San Diego County Beaches	8	10	12	20	16	34	
Connecticut	22	28	24	13	6	7	
Hammonasset Beach State Park	2	8	19	20	22	29	
Florida	33	32	19	8	3	4	
Clearwater Beach City Beaches	2	7	21	19	18	33	
Daytona Beach City Beaches	2	12	19	19	23	25	
New York	30	28	21	11	5	5	
Jones Beach State Park	2	6	10	19	24	39	
Oregon	19	31	27	13	5	5	
Beverly Beach State Park	4	12	21	21	19	23	
Virginia	20	30	25	13	6	6	
Virginia Beach City Beaches	2	10	14	21	22	31	
Washington	17	27	20	16	6	6	
Seattle City Beaches	7	16	19	19	14	25	
All Sites	4	9	16	19	19	33	
Middle Atlantic	28	29	22	11	5	5	
Mountain	20	31	26	13	5	5	
New England	27	20	22	11	5	5	
Pacific	28	27	25	15	7	8	
South Atlantic	31	31	20	9	4	4	
U.S.A.	29	29	22	11	4	5	

Table 9. Distribution of Visitors by Group Size.

State/Site	Average Group Size	Group Size (Percent of total)				
		One	Two	Three-Four	Five and Up	
California						
Half Moon Bay State Beach	4.56	5.3	26.5	34.1	34.1	
Pismo State Beach	4.71	2.9	20.5	39.3	37.3	
Patrick's Point State Park	3.95	3.2	30.2	39.4	27.2	
San Diego County Beaches	3.72	17.5	32.0	27.9	22.6	
Connecticut						
Hammonasset Beach State Park	4.14	3.4	34.1	39.0	23.5	
Florida						
Clearwater Beach City Beaches	3.27	5.0	43.7	35.3	16.0	
Daytona Beach City Beaches	2.61	16.5	42.2	33.0	8.3	
New York						
Jones Beach State Park	2.87	14.5	44.7	26.8	14.0	
Oregon						
Beverly Beach State Park	4.61	2.0	23.8	38.2	36.0	
Virginia						
Virginia Beach City Beaches	3.64	9.1	34.6	38.3	18.0	
Washington						
Seattle City Beaches	4.97	24.8	29.1	24.2	21.9	
All Sites	3.93	9.4	32.7	34.1	23.7	

Table 10. Distribution of Visitors by Group Type.

State/Site	Group Type (Percent)						
	Family	More than One Family	Friends and Family	Friends	Organized Group	One Person	Other
California							
Half Moon Bay State Beach	63.3	2.8	12.7	14.4	0.6	5.6	0.6
Pismo State Beach	75.1	2.6	11.9	7.2	0.0	3.2	0.0
Patrick's Point State Park	78.7	0.6	8.0	5.0	0.3	4.4	3.0
San Diego County Beaches	42.2	2.2	10.6	23.2	0.8	21.0	0.0
Connecticut							
Hammonasset Beach State Park	67.4	12.6	3.4	11.1	0.0	5.5	0.0
Florida							
Clearwater Beach City Beaches	84.6	2.3	1.7	8.7	0.3	2.3	0.0
Daytona Beach City Beaches	74.5	0.8	5.3	8.7	0.4	10.3	0.0
New York							
Jones Beach State Park	54.4	0.6	11.4	18.3	0.3	15.0	0.0
Oregon							
Beverly Beach State Park	80.4	3.0	7.3	6.2	0.8	2.2	0.0
Virginia							
Virginia Beach City Beaches	60.5	1.4	9.2	18.7	0.9	9.2	0.0
Washington							
Seattle City Beaches	42.1	2.3	7.9	15.5	1.2	24.3	6.7
All Sites	65.5	2.9	8.2	12.6	0.5	9.3	1.0

Table 11. Average Annual Number of Days on Site and Trips to the Site, and the Average Length of Stay on Site for the Interview Trip.

State/Site	Annual			Interview Trip		
	Days	Trips	Days	Days	% of Day Trips	
California						
Half Moon Bay State Beach	5.04	3.97	1.71	65.9		
Pismo State Beach	9.62	6.75	2.54	53.3		
Patrick's Point State Park	4.19	1.70	2.94	32.0		
San Diego County Beaches	28.65	27.67	2.26	80.4		
Connecticut						
Hammonasset Beach State Park	9.05	3.57	4.09	39.7		
Florida						
Clearwater Beach City Beaches	10.79	6.83	4.61	36.1		
Daytona Beach City Beaches	16.03	12.79	4.26	34.0		
New York						
Jones Beach State Park	25.08	24.93	1.05	98.9		
Oregon						
Beverly Beach State Park	4.35	1.46	3.15	14.7		
Virginia						
Virginia Beach City Beaches	10.75	8.42	3.53	32.8		
Washington						
Seattle City Beaches	27.40	26.70	3.15	91.0		
All Sites	13.72	11.39	2.85	52.8		

Table 12a. Ranking of the Top Ten Main Activities of Visitors Age 16 and Older.*

Activities	Sites (Rank and Percent)																								
	All Sites		Jones Beach		Hammonasset State Park		Virginia Beach		Daytona Beach		Clearwater Beach		San Diego Beaches		Pismo Beach		Patrick's Point SP		Half Moon Bay		Beverly Beach		Seattle Beach		
	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %		
Sunbathing	1	29.7	1	62.0	4	8.3	1	51.4	1	75.6	1	87.1	1	22.1	9	1.7	8	0.3	3	9.5	8	1.1	3	12.3	
Developed Camping	2	17.9	-	0.0	2	22.3	-	0.0	-	0.0	-	0.0	-	0.0	3	14.3	1	75.7	1	21.8	1	62.0	-	0.0	
Other Swimming	3	8.2	2	12.6	3	8.9	2	31.4	2	14.3	4	0.6	4	10.8	10	1.1	8	0.3	6	4.2	4	5.0	12	0.9	
Relaxing	4	7.6	4	3.7	2	22.3	3	7.1	6	1.6	2	7.2	5	9.6	2	17.5	4	1.8	14	0.3	8	1.1	4	11.4	
Enjoying Outdoors	5	7.2	-	0.0	-	0.0	7	0.6 _s	-	0.0	-	0.0	2	18.1	1	34.7	2	8.9	-	0.0	-	0.0	-	1	16.6
No Main Activity	6	6.6	6	1.7	1	30.3	4	6.2	3	4.4	5	0.3	3	12.2	5	6.6	4	1.8	5	4.5	5	3.0	12	0.9	
Family Gathering	7	4.6	8	0.9	5	4.9	5	1.4	7	0.3	3	3.4	10	2.8	6	4.9	3	2.7	4	7.3	2	10.5	5	11.1	
Picnicking	8	3.9	9	1.6	6	2.6	-	0.0	7	0.3	-	0.0	11	2.3	-	0.0	4	1.8	1	21.8	3	6.6	6	6.6	
Walking	9	2.5	3	5.7	-	0.0	8	0.3	4	1.6	-	0.0	-	0.0	10	1.1	6	0.9	7	3.9	7	1.4	2	12.9	
Sightseeing	10	2.4	7	1.1	7	0.3	6	0.8	5	1.3	5	0.3	14	1.1	8	2.0	6	0.9	2	11.2	6	1.9	7	5.4	

*After the person interviewed indicated all the activities for which they participated, they were asked which if any, was their main activity.

Table 12b. Ranking of the Top 15 Activities of Visitors of all Ages.

Activities	Sites (Rank and Percent)																							
	All Sites		Jones Beach		Hammonasset State Park		Virginia Beach		Daytona Beach		Clearwater Beach		San Diego Beaches		Pismo Beach		Patrick's Point SP		Half Moon Bay		Beverly Beach		Seattle Beach	
	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	Rank %	
Sunbathing	1	60.2	1	79.4	4	77.8	1	88.4	1	86.7	1	90.8	1	67.5	2	60.8	14	25.9	4	39.8	11	23.9	4	39.9
Walking for Pleasure	2	59.1	3	47.0	1	80.3	3	60.3	3	27.0	3	62.2	4	29.4	1	70.8	2	83.4	3	50.3	2	76.7	3	49.4
Other Outdoor Swimming	3	47.3	2	54.8	5	70.9	2	84.1	2	84.8	2	71.1	2	48.5	8	33.0	18	14.0	7	25.6	5	35.1	10	17.0
Sightseeing	4	45.6	7	12.3	6	46.7	4	36.0	4	19.9	4	53.6	7	16.8	5	48.0	1	86.8	2	54.0	3	59.3	2	52.8
Picnicking	5	45.2	4	30.5	2	78.8	5	16.1	13	7.3	8	11.0	3	35.0	4	52.7	3	77.7	1	77.1	4	40.5	1	59.7
Developed Camping	6	32.8	-	0.0	3	78.6	-	0.0	-	0.0	19	0.4	-	0.0	3	55.2	2	83.4	5	35.2	1	87.6	-	0.0
Collecting Seashells	7	22.9	9	9.6	12	29.5	9	10.0	6	4.6	5	29.0	11	5.6	6	54.5	7	45.8	11	9.0	6	32.6	8	20.0
Attend Family Gathering	8	22.4	8	11.8	9	35.2	6	15.1	15	0.5	7	16.9	5	18.8	9	30.0	13	27.7	6	28.3	10	25.1	6	27.4
Driving for Pleasure	9	17.7	14	4.5	7	39.1	18	2.2	7	2.9	16	0.8	17	1.4	10	24.4	5	54.2	8	13.6	9	30.3	12	13.9
Observing/Photographing Wildlife	10	16.1	6	13.5	8	35.7	12	5.2	15	0.5	13	3.4	14	3.0	11	22.2	6	46.2	10	9.6	13	20.6	13	12.6
Day Hiking	11	15.5	21	1.6	23	4.9	20	1.1	-	0.0	14	3.0	13	3.3	14	17.9	4	74.8	12	7.9	8	31.9	9	17.1
Photography	12	15.2	22	1.5	11	31.5	7	13.1	5	9.8	6	24.6	12	4.6	13	18.5	12	27.9	9	11.7	17	16.6	7	5.2
Other Outdoor Sports	13	11.1	13	5.1	13	22.5	17	3.4	11	1.1	9	10.6	9	6.2	12	21.2	21	7.7	10	9.6	19	14.5	11	14.4
Bicycling	14	10.5	20	1.9	10	32.6	8	12.5	9	1.6	21	0.2	16	2.5	15	15.4	17	14.5	14	5.2	12	21.1	20	2.7
Enjoying Outdoors	15	10.3	28	0.1	-	0.0	20	0.7	-	0.0	-	0.0	6	18.3	7	44.0	19	12.7	-	0.0	34	0.2	5	28.8

Table 13. Average Daily On-site Fees and Trip Expenditures Per Person.

State/Site	On-site Fees (\$)	% Interviewed that Paid Fees	Average Trip Expenditures Per Person
California			
Half Moon Bay State Beach	10.90	73.6	170
Pismo State Beach	6.04	64.3	264
Patrick's Point State Park	8.77	96.1	303
San Diego County Beaches	0.00	0.0	296
Connecticut			
Hammonasset Beach State Park	31.70	97.4	192
Florida			
Clearwater Beach City Beaches	10.16	86.3	668
Daytona Beach City Beaches	1.46	43.5	436
New York			
Jones Beach State Park	3.26	59.8	53
Oregon			
Beverly Beach State Park	7.89	75.9	318
Virginia			
Virginia Beach City Beaches	0.83	11.0	372
Washington			
Seattle City Beaches	0.02	0.3	131
All Sites	7.37	55.0	274

24 Table 14. Maximum Willingness-to-Pay for an Annual Vehicle Pass for the Interview Site Versus any Site the Agency Manages.

State/Site	Interview Site* (\$)			Any Site Agency Manages (\$)***		
	Mean	Std. Error	N	Mean	Std. Error	N
California						
Half Moon Bay State Beach	6.64	1.05	118	19.21	2.46	118
Pismo State Beach	13.63	3.27	136	20.73	3.19	131
Patrick's Point State Park	8.24	1.20	188	18.84	1.80	189
San Diego County Beaches	8.64	1.89	77	12.38	2.11	78
Connecticut						
Hammonasset Beach State Park	17.22	3.12	149	18.54	2.93	135
Florida						
Clearwater Beach City Beaches	5.85	1.47	91	8.38	1.96	88
Daytona Beach City Beaches	9.25	2.26	59	9.05	2.24	60
New York						
Jones Beach State Park	22.94	1.65	134	28.75	2.05	130
Oregon						
Beverly Beach State Park	4.78	1.18	150	7.88	1.34	145
Virginia						
Virginia Beach City Beaches	6.31	0.94	122	10.03	1.16	120
Washington						
Seattle City Beaches	5.70	0.91	128	7.98	1.89	121
All Sites	10.18	0.61	1352	15.47	0.69	1315

*Pass would admit all persons in the vehicle at the interview site only and is good for one year.

***Pass would admit all persons in the vehicle at any site agency manages and is good for one year.

Table 15. Willingness-to-Pay Randomly Assigned Dollar Amounts - On-site Survey.

State/Site	Dollars Per Person Per Day (Percent Yes)*									
	1.00	2.00	5.00	7.50	10.00	12.50	15.00	25.00	50.00	75.00
California										
Half Moon Bay State Beach	80.0	62.9	16.7	0.0	15.2	11.8	5.7	0.0	0.0	0.0
Pismo State Beach	82.4	72.2	42.4	20.0	8.6	2.9	11.8	0.0	0.0	0.0
Patrick's Point State Park	79.4	53.1	22.6	14.8	8.6	6.5	0.0	0.0	0.0	0.0
San Diego County Beaches	50.0	34.3	25.0	10.8	8.1	3.0	9.4	3.2	0.0	0.0
Connecticut										
Hammonasset Beach State Park	88.2	79.4	60.0	39.4	35.3	23.5	13.5	0.0	0.0	2.9
Florida										
Clearwater Beach City Beaches	74.3	54.8	17.1	31.3	12.1	6.0	2.9	5.7	0.0	0.0
Daytona Beach City Beaches	67.7	46.9	15.6	12.9	0.0	3.1	6.7	0.0	0.0	0.0
New York										
Jones Beach State Park	94.3	97.2	60.0	25.0	9.1	17.7	12.1	0.0	5.6	3.1
Oregon										
Beverly Beach State Park	58.3	25.0	11.4	8.8	0.0	2.8	3.0	0.0	0.0	0.0
Virginia										
Virginia Beach City Beaches	81.3	87.9	36.4	19.4	11.1	9.4	3.0	2.7	0.0	2.9
Washington										
Seattle City Beaches	58.8	41.2	3.1	0.0	2.8	3.0	0.0	0.0	0.0	3.1
All Sites	73.9	59.6	28.4	16.5	10.1	8.2	6.3	1.1	0.5	1.1

*Toned areas show dollar amount for which a majority (i.e., 50% or more) of those interviewed responded that they would pay the fee.

Table 16. Willingness-to-Pay for an Annual Vehicle Pass to Site: Randomly Assigned Dollar Amounts - Mailback Survey.

State/Site	Dollars Per Year Per Vehicle Pass (Percent Yes)*										Number of Responses
	1.00	5.00	10.00	15.00	25.00	50.00	100.00				
California											
Half Moon Bay State Beach	85.0	56.3	45.0	26.7	43.8	8.7	0.0				120
Pismo State Beaches	91.7	50.0	57.1	31.3	42.9	8.7	5.0				130
Patrick's Point State Park	75.9	79.3	55.1	34.8	14.8	17.9	7.4				192
San Diego County Beaches	66.7	66.7	75.0	18.2	0.0	30.0	6.3				76
Connecticut											
Hammonasset Beach State Park	90.9	66.7	65.0	72.2	14.3	16.7	10.0				143
Florida											
Clearwater Beach City Beaches	85.7	64.3	22.2	27.3	6.7	30.0	5.6				91
Daytona Beach City Beaches	85.7	75.0	50.0	50.0	22.2	7.7	12.5				59
New York											
Jones Beach State Park	85.7	95.0	95.6	83.3	81.2	47.0	33.3				133
Oregon											
Beverly Beach State Park	62.5	52.2	28.6	19.0	10.0	0.0	11.5				149
Virginia											
Virginia Beach City Beaches	88.2	50.0	50.0	45.4	25.0	20.0	16.7				125
Washington											
Seattle City Beaches	85.0	83.3	44.4	23.0	16.7	0.0	6.3				117
All Sites	81.0	66.3	54.8	40.3	26.7	14.8	10.7				1335

*Toned areas show dollar amount for which a majority (i.e., 50% or more) of those interviewed responded that they would buy the pass.

Table 17. Satisfaction Ratings for Recreation Experience at the Site.

State/Site	Mean	Standard Error	N	Rating (Percent)																
				0	1	2	3	4	5	6	7	8	9	10						
California																				
Half Moon Bay State Beach	6.66	.19	119	1.7	1.7	0.8	1.7	1.7	1.7	26.9	6.7	19.3	21.0	11.8	6.7					
Pismo State Beach	7.35	.18	131	0.8	0.0	0.8	3.8	0.8	16.0	9.2	16.8	22.1	8.4	21.4						
Patrick's Point State Park	8.45	.11	190	0.5	0.0	0.0	0.5	0.5	2.6	4.7	13.2	26.8	17.4	33.7						
San Diego County Beaches	7.65	.20	78	1.2	0.0	0.0	1.2	0.0	10.3	6.4	16.7	37.2	11.5	15.4						
Connecticut																				
Hammonasset Beach State Park	7.39	.18	138	0.7	1.5	1.5	1.5	2.9	10.1	11.6	11.6	29.0	11.6	18.1						
Florida																				
Clearwater Beach City Beaches	7.30	.20	92	0.0	1.0	0.0	2.2	6.5	7.6	13.0	20.7	19.6	14.1	15.2						
Daytona Beach City Beaches	8.09	.22	61	0.0	0.0	0.0	0.0	3.3	9.8	3.3	13.1	27.9	13.1	29.5						
New York																				
Jones Beach State Park	8.03	.16	133	0.0	0.8	1.5	1.5	0.8	7.5	3.0	12.8	32.3	10.5	29.3						
Oregon																				
Beverly Beach State Park	7.74	.14	150	0.0	0.0	0.7	0.7	2.0	10.0	6.7	20.0	28.7	9.3	22.0						
Virginia																				
Virginia Beach City Beaches	7.75	.17	124	0.8	0.0	0.8	1.6	1.6	9.7	6.5	18.6	22.6	13.7	24.2						
Washington																				
Seattle City Beaches	7.47	.18	121	0.0	0.8	0.8	1.7	1.7	12.4	9.1	14.9	22.3	9.1	24.0						

Table 18. Satisfaction Ratings - Number of Other Visitors at the Site.

State/Site	Mean	Standard Error	N	Rating (Percent)																
				0	1	2	3	4	5	6	7	8	9	10						
California																				
Half Moon Bay State Beach	5.89	.24	110	1.8	3.6	8.2	4.6	10.0	16.4	10.9	11.8	15.5	10.9	6.4						
Pismo State Beach	5.84	.23	122	0.8	4.1	6.6	8.2	9.8	20.5	7.4	13.1	12.3	5.7	11.5						
Patrick's Point State Park	6.60	.20	175	2.3	3.4	4.0	5.7	5.1	14.3	8.0	11.4	17.7	10.3	17.7						
San Diego County Beaches	6.23	.29	73	4.1	0.0	2.7	6.9	6.9	20.6	11.0	12.3	17.8	5.5	12.3						
Connecticut																				
Hammonasset Beach State Park	6.14	.25	125	4.8	5.6	4.8	2.4	8.0	13.6	7.2	12.8	20.8	7.2	12.8						
Florida																				
Clearwater Beach City Beaches	6.62	.25	86	0.0	2.3	2.3	9.3	5.8	11.6	9.3	19.8	16.3	10.5	12.8						
Daytona Beach City Beaches	6.01	.41	59	3.4	8.5	5.0	6.8	8.5	18.6	0.0	10.2	8.5	8.5	22.0						
New York																				
Jones Beach State Park	6.20	.25	120	0.8	3.3	11.7	2.5	10.8	14.2	7.5	10.8	12.5	6.7	19.2						
Oregon																				
Beverly Beach State Park	5.83	.23	131	2.3	1.5	5.3	13.0	9.2	22.2	7.6	8.4	10.7	3.8	16.0						
Virginia																				
Virginia Beach City Beaches	5.72	.26	118	3.4	5.9	7.6	5.9	8.5	17.8	8.5	11.0	13.6	3.4	14.1						
Washington																				
Seattle City Beaches	6.28	.26	113	3.5	3.5	3.5	8.0	5.3	15.0	8.0	13.3	17.7	6.2	16.0						

Table 20. Satisfaction Ratings on Parking.

State/Site	Mean	Standard Error	N	Rating (Percent)																
				0	1	2	3	4	5	6	7	8	9	10						
California																				
Half Moon Bay State Beach	7.78	.21	120	2.5	0.8	0.8	1.7	0.0	10.8	5.8	10.0	23.3	16.7	27.5						
Pismo State Beach	7.65	.19	133	1.5	0.0	0.0	3.8	4.5	10.5	9.8	6.8	19.6	15.0	28.6						
Patrick's Point State Park	8.11	.16	188	0.0	2.1	2.7	2.1	1.0	4.3	3.2	12.2	20.2	16.0	36.2						
San Diego County Beaches	6.10	.32	77	2.6	3.9	7.8	6.5	10.4	9.0	6.5	13.0	19.5	9.0	11.7						
Connecticut																				
Hammonasset Beach State Park	8.39	.17	140	2.1	0.0	0.7	0.7	0.7	5.0	5.0	9.3	17.9	15.7	42.9						
Florida																				
Clearwater Beach City Beaches	6.88	.25	88	1.1	2.3	3.4	3.4	3.4	13.6	9.0	19.3	19.3	6.8	18.2						
Daytona Beach City Beaches	7.26	.36	60	3.3	0.0	3.3	5.0	5.0	11.7	5.0	13.3	11.7	6.7	35.0						
New York																				
Jones Beach State Park	7.59	.21	133	1.5	0.8	3.8	3.0	3.8	7.5	7.5	6.8	21.8	13.5	30.0						
Oregon																				
Beverly Beach State Park	7.79	.17	148	1.3	0.0	2.7	0.6	2.0	7.4	7.4	13.5	21.6	17.6	25.7						
Virginia																				
Virginia Beach City Beaches	5.34	.29	123	11.4	7.3	8.9	3.3	3.3	17.9	4.9	11.4	11.4	6.5	13.8						
Washington																				
Seattle City Beaches	6.38	.28	124	5.7	4.8	6.5	3.2	6.5	12.9	4.8	11.3	10.5	9.7	24.2						

Table 22. Satisfaction Ratings on Overall Conditions of the Site.

State/Site	Mean	Standard Error	N	Rating (Percent)																
				0	1	2	3	4	5	6	7	8	9	10						
California																				
Half Moon Bay State Beach	6.35	.22	119	4.2	2.5	0.8	4.2	5.0	16.0	11.0	11.0	18.5	21.0	12.6	4.2					
Pismo State Beach	7.13	.18	133	0.8	0.0	1.6	2.3	9.0	11.3	11.3	18.1	11.3	11.3	18.8	15.8					
Patrick's Point State Park	9.02	.48	192	0.5	0.0	0.5	0.5	0.0	3.7	3.1	9.4	24.0	24.5	33.9						
San Diego County Beaches	7.24	.17	79	0.0	0.0	0.0	1.3	2.5	15.2	10.1	19.0	32.9	12.7	6.3						
Connecticut																				
Hammonasset Beach State Park	7.97	.14	140	0.0	0.0	0.0	2.1	0.7	10.0	3.6	17.1	25.0	17.1	24.3						
Florida																				
Clearwater Beach City Beaches	7.73	.16	92	0.0	0.0	1.1	0.0	3.3	4.4	9.8	22.8	22.8	22.8	13.0						
Daytona Beach City Beaches	7.81	.28	61	1.6	0.0	3.3	0.0	1.6	8.2	6.6	8.2	27.9	18.0	24.6						
New York																				
Jones Beach State Park	7.84	.15	135	0.0	0.0	0.7	1.5	2.2	7.4	8.9	15.6	24.4	17.8	21.5						
Oregon																				
Beverly Beach State Park	8.13	.14	151	1.3	0.0	0.0	0.0	2.0	4.6	6.0	15.2	23.2	21.9	25.8						
Virginia																				
Virginia Beach City Beaches	8.42	.60	124	0.8	0.0	0.8	0.8	1.6	8.1	4.0	20.2	25.0	18.6	20.2						
Washington																				
Seattle City Beaches	6.73	.20	124	0.8	1.6	2.4	3.2	8.1	13.7	12.1	13.7	21.8	12.1	10.5						

APPENDIX

A. Site Profiles - NOAA Inventory of Public Recreation Areas and Facilities in Coastal Areas.

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: HALF MOON BAY STATE BEACH
 MANAGING AGENCY: CA PARKS & RECREATION

1984 ACREAGE BY COASTAL COUNTY *

COUNTY: SAN MATEO ACRES: 380

LATITUDE - LONGITUDE: 3727N12226W

TYPE OF AREA

ACREAGE

ADJACENT TO OR INCLUDING A BODY OF WATER	LAND	WATER	TOTAL
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	380	0	380
ADJACENT TO OPEN OCEAN WATERS	380	0	380
OFFSHORE	380	0	380
ON BARRIER ISLAND	B	B	B
ON OPEN OCEAN ISLAND			
ON ESTUARY/EMBAYMENT ISLAND			
ON UNCLASSIFIED ISLAND			

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

BUDGET & PERSONNEL

FACILITY	1984	1982	1977	1972	CAPITAL (\$)	OPERATING (\$)	REVENUE	PERSONNEL (FTE)
ARTIFICIAL REEFS	0	0	0	0	0	578094	254693	21.5
FISHING PIERS	0	0	0	0	0	53321	108648	19.8
BOAT RAMPS	0	0	0	0	0	542991	B	B
BOAT SLIPS	0	0	0	0	0	250229	B	B
BOAT DOCKS (WITHOUT SLIPS)	0	0	0	0	0			
CAMPsites (RV AND TENT)	75							
RECREATIONAL SHELLFISH BEDS	0	0	0	0	0			
HUNTING/GAME MANAGEMENT AREA	0	0	0	0	0			
CONSERVATION/SCENIC AREA	0	0	0	0	0			
BEACH	4418							
TRAILS	3							
OUTDOOR SWIMMING POOLS	0	0	0	0				
PICNIC TABLES	62							
GOLF COURSES	0	0	0	0				
DRIVING RANGES	0	0	0	0				
OUTDOOR COURTS	0	0	0	0				
FIELD SPORT AREAS	0	0	0	0				
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0	0	0	0				
PARKING SPACES AT ALL OTHER SITES	440							

USER DAYS - ATTENDANCE

1984	995821
1982	760220
1977	945627
1972	B

MISSING INFORMATION CODES

- A = SITE DID NOT EXIST
- B = RECORDS NOT KEPT ON THIS DATA ELEMENT
- C = RECORDS TOO COSTLY TO RETRIEVE
- D = AGENCY DID NOT RESPOND TO SURVEY
- E = AGENCY LOST RECORDS
- F = SATELLITE PARK - DATA IN OTHER PARK
- G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
 OCEAN ASSESSMENTS DIVISION
 OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
 NATIONAL OCEANIC SERVICE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 U.S. DEPARTMENT OF COMMERCE
 PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: PISMO STATE BEACH
 MANAGING AGENCY: CA PARKS & RECREATION
 COUNTY: SAN LUIS OBISPO
 ACRES: 1331
 1984 ACREAGE BY COASTAL COUNTY *
 LATITUDE - LONGITUDE: 3506N12037W

TYPE OF AREA		ACREAGE		TOTAL
ADJACENT TO OR INCLUDING A BODY OF WATER	YES	LAND	WATER	
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	YES	1984	B	1331
ADJACENT TO OPEN OCEAN WATERS	YES	1982	B	1331
OFFSHORE	NO	1977	B	1331
ON BARRIER ISLAND	NO	1972	B	2065
ON OPEN OCEAN ISLAND	NO			
ON ESTUARY/EMBAYMENT ISLAND	NO			
ON UNCLASSIFIED ISLAND	NO			

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

FACILITY	#	BUDGET & PERSONNEL	
		EXPENDITURES	REVENUE PERSONNEL (FTE)
ARTIFICIAL REEFS	0	CAPITAL (\$)	\$
FISHING PIERS	1	1984	363717
BOAT RAMPS	0	1982	396427
BOAT SLIPS	0	1977	553032
BOAT DOCKS (WITHOUT SLIPS)	0	1972	247937
CAMPSITES (RV AND TENT)	505		880000
RECREATIONAL SHELLFISH BEDS	0		221861
HUNTING/GAME MANAGEMENT AREA	0		F
CONSERVATION/SCENIC AREA	0		F
BEACH	32370		115543
TRAILS	0		B
OUTDOOR SWIMMING POOLS	0		B
PICNIC TABLES	0		B
GOLF COURSES	1		B
DRIVING RANGES	0		B
OUTDOOR COURTS	0		B
FIELD SPORT AREAS	0		B
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0		B
PARKING SPACES AT ALL OTHER SITES	100		B

USER DAYS - ATTENDANCE

1984	346307
1982	2086285
1977	3589311
1972	2114964

MISSING INFORMATION CODES

- A = SITE DID NOT EXIST
- B = RECORDS NOT KEPT ON THIS DATA ELEMENT
- C = RECORDS TOO COSTLY TO RETRIEVE
- D = AGENCY DID NOT RESPOND TO SURVEY
- E = AGENCY LOST RECORDS
- F = SATELLITE PARK - DATA IN OTHER PARK
- G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
 OCEAN ASSESSMENTS DIVISION
 OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 U.S. DEPARTMENT OF COMMERCE
 PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: PATRICKS POINT STATE PARK
 MANAGING AGENCY: CA PARKS & RECREATION

1984 ACREAGE BY COASTAL COUNTY *

COUNTY HUMBOLDT ACRES 632

LATITUDE - LONGITUDE: 4108N12409W

TYPE OF AREA

ACREAGE

TYPE OF AREA	1984	1982	1977	1972	LAND	WATER	TOTAL
ADJACENT TO OR INCLUDING A BODY OF WATER	632	632	462	425	0	0	632
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	632	632	462	425	0	0	632
ADJACENT TO OPEN OCEAN WATERS	0	0	0	0	0	0	0
OFFSHORE	0	0	0	0	0	0	0
ON BARRIER ISLAND	0	0	0	0	0	0	0
ON OPEN OCEAN ISLAND	0	0	0	0	0	0	0
ON ESTUARY/EMBAYMENT ISLAND	0	0	0	0	0	0	0
ON UNCLASSIFIED ISLAND	0	0	0	0	0	0	0

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES

INVENTORY OF FACILITIES

BUDGET & PERSONNEL

FACILITY	1984	1982	1977	1972	CAPITAL (\$)	OPERATING (\$)	REVENUE	PERSONNEL (FTE)
ARTIFICIAL REEFS	0	0	0	0	0	328224	146459	9.5
FISHING PIERS	0	0	0	0	36086	360415	105537	10.4
BOAT RAMPS	0	0	0	0	4072	F	95018	B
BOAT SLIPS	0	0	0	0	0	F	60924	B
BOAT DOCKS (WITHOUT SLIPS)	0	0	0	0	0	F		
CAMPSITES (RV AND TENT)	223	0	0	0	0			
RECREATIONAL SHELLFISH BEDS	0	0	0	0	0			
HUNTING/GAME MANAGEMENT AREA	0	0	0	0	0			
CONSERVATION/SCENIC AREA	0	0	0	0	0			
BEACH	176	10	0	0	0			
TRAILS	6	0	0	0	0			
OUTDOOR SWIMMING POOLS	0	0	0	0	0			
PICNIC TABLES	43	0	0	0	0			
GOLF COURSES	0	0	0	0	0			
DRIVING RANGES	0	0	0	0	0			
OUTDOOR COURTS	0	0	0	0	0			
FIELD SPORT AREAS	0	0	0	0	0			
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0	0	0	0	0			
PARKING SPACES AT ALL OTHER SITES	150	0	0	0	0			

USER DAYS - ATTENDANCE

YEAR	1984	1982	1977	1972
USER DAYS	120908	129808	119909	141238

MISSING INFORMATION CODES

- A = SITE DID NOT EXIST
- B = RECORDS NOT KEPT ON THIS DATA ELEMENT
- C = RECORDS TOO COSTLY TO RETRIEVE
- D = AGENCY DID NOT RESPOND TO SURVEY
- E = AGENCY LOST RECORDS
- F = SATELLITE PARK - DATA IN OTHER PARK
- G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
 OCEAN ASSESSMENTS DIVISION
 OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
 NATIONAL OCEAN SERVICE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 U.S. DEPARTMENT OF COMMERCE
 PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: HAMMONASSET BEACH STATE PARK
 MANAGING AGENCY: CT PARKS & RECREATION
 COUNTY: NEW HAVEN
 1984 ACREAGE BY COASTAL COUNTY *
 ACRES: 976
 LATITUDE - LONGITUDE: 4115N0723W

ADJACENT TO OR INCLUDING A BODY OF WATER	ACREAGE		TOTAL
	LAND	WATER	
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	1984	B	976
ADJACENT TO OPEN OCEAN WATERS	1982	B	923
OFFSHORE	1977	B	919
ON BARRIER ISLAND	1972	B	918

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

FACILITY TYPE	BUDGET & PERSONNEL		REVENUE	PERSONNEL (FTE)
	EXPENDITURES	REVENUE		
ARTIFICIAL REEFS	0 #			
FISHING PIERS	0 #			
BOAT RAMPS	1 #			
BOAT SLIPS	0 #			
BOAT DOCKS (WITHOUT SLIPS)	0 #			
CAMPSITES (RV AND TENT)	558 #			
RECREATIONAL SHELLFISH BEDS	B			
HUNTING/GAME MANAGEMENT AREA	0			
CONSERVATION/SCENIC AREA	605			
BEACH	10000			
TRAILS	D			
OUTDOOR SWIMMING POOLS	0 #			
PICNIC TABLES	D #			
GOLF COURSES	0 #			
DRIVING RANGES	0 #			
OUTDOOR COURTS	0 #			
FIELD SPORT AREAS	0 #			
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0 #			
PARKING SPACES AT ALL OTHER SITES	6000			

CAPITAL (\$) OPERATING (\$) \$ (FTE)
 1984 988329 B 525010 B
 1982 786259 B 490028 B
 1977 44857 B 248257 B
 1972 151373 B 262827 B

USER DAYS - ATTENDANCE
 1984 871169
 1982 992825
 1977 1383535
 1972 1274755

MISSING INFORMATION CODES

- A = SITE DID NOT EXIST
- B = RECORDS NOT KEPT ON THIS DATA ELEMENT
- C = RECORDS TOO COSTLY TO RETRIEVE
- D = AGENCY DID NOT RESPOND TO SURVEY
- E = AGENCY LOST RECORDS
- F = SATELLITE PARK - DATA IN OTHER PARK
- G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
 OCEAN ASSESSMENT'S DIVISION
 OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
 NATIONAL OCEAN SERVICE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 U.S. DEPARTMENT OF COMMERCE
 PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: JONES BEACH STATE PARK

MANAGING AGENCY: NY PARKS, REC. & HIST. PRESERVATION

LATITUDE - LONGITUDE: 4035N07330W

1984 ACREAGE BY COASTAL COUNTY *

COUNTY ACRES
 NASSAU 2413

	TYPE OF AREA		ACREAGE		TOTAL
	ADJACENT TO OR INCLUDING A BODY OF WATER	ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	LAND	WATER	
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	YES	YES	1913	500	2413
ADJACENT TO OPEN OCEAN WATERS	YES	YES	1913	500	2413
OFFSHORE	NO	NO	1913	500	2413
ON BARRIER ISLAND	NO	NO	1913	500	2413
ON OPEN OCEAN ISLAND	NO	NO			
ON ESTUARY/EMBAYMENT ISLAND	NO	NO			
ON UNCLASSIFIED ISLAND	NO	NO			

* 0 PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

BUDGET & PERSONNEL

	EXPENDITURES	REVENUE	PERSONNEL
ARTIFICIAL REEFS	0 #		
FISHING PIERS	4 #		
BOAT RAMPS	0 #		
BOAT SLIPS	0 #		
BOAT DOCKS (WITHOUT SLIPS)	77 #		
CAMPsites (RV AND TENT)	0 #		
RECREATIONAL SHELLFISH BEDS	0 #		
HUNTING/GAME MANAGEMENT AREA	0 #		
CONSERVATION/SCENIC AREA	5 #		
BEACH	15000 LINEAR FT		
TRAILS	5 MILES		
OUTDOOR SWIMMING POOLS	0 #		
PICNIC TABLES	100 #		
GOLF COURSES	1 #		
DRIVING RANGES	0 #		
OUTDOOR COURTS	16 #		
FIELD SPORT AREAS	5 #		
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0 #		
PARKING SPACES AT ALL OTHER SITES	21591 #		

	CAPITAL (\$)	OPERATING (\$)	(FTE)
1984	2088000	5307132	1315863
1982	3465000	5515986	1394212
1977	200000	3980349	710566
1972	0	2388209	473711

	USER DAYS - ATTENDANCE
1984	6160000
1982	7573000
1977	8137000
1972	12049000

MISSING INFORMATION CODES

- A = SITE DID NOT EXIST
- B = RECORDS NOT KEPT ON THIS DATA ELEMENT
- C = RECORDS TOO COSTLY TO RETRIEVE
- D = AGENCY DID NOT RESPOND TO SURVEY
- E = AGENCY LOST RECORDS
- F = SATELLITE PARK - DATA IN OTHER PARK
- G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
 OCEAN ASSESSMENTS DIVISION
 OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
 NATIONAL OCEAN SERVICE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 U.S. DEPARTMENT OF COMMERCE
 PHONE (301) 443-8843/8921

NOAA INVENTORY OF PUBLIC OUTDOOR RECREATION AREAS AND FACILITIES IN COASTAL AREAS, FY 1984

SITE NAME: BEVERLY BEACH STATE PARK
 MANAGING AGENCY: OR PARKS & RECREATION
 1984 ACREAGE BY COASTAL COUNTY *
 COUNTY ACRES
 LINCOLN 130
 LATITUDE - LONGITUDE: 4443N12403W

TYPE OF AREA	ACREAGE				TOTAL
	1984	1982	1977	1972	
ADJACENT TO OR INCLUDING A BODY OF WATER	B	B	B	B	130
ADJACENT TO BODIES OF WATER UNDER TIDAL INFLUENCES	B	B	B	B	130
ADJACENT TO OPEN OCEAN WATERS	B	B	B	B	130
OFFSHORE	B	B	B	B	130
ON BARRIER ISLAND	B	B	B	B	130
ON OPEN OCEAN ISLAND	B	B	B	B	130
ON ESTUARY/EMBAYMENT ISLAND	B	B	B	B	130
ON UNCLASSIFIED ISLAND	B	B	B	B	130

* O PERCENT OF THE 1984 ACREAGE IS IN NONCOASTAL COUNTIES.

INVENTORY OF FACILITIES

FACILITY	#	BUDGET & PERSONNEL		REVENUE	PERSONNEL (FTE)
		EXPENDITURES	CAPITAL (\$)		
ARTIFICIAL REEFS	0		71351	281491	311489
FISHING PIERS	0		44	272474	269647
BOAT RAMPS	0		29828	191160	B
BOAT SLIPS	0		9592	119843	B
BOAT DOCKS (WITHOUT SLIPS)	0				B
CAMP SITES (RV AND TENT)	279				
RECREATIONAL SHELLFISH BEDS	0				
HUNTING/GAME MANAGEMENT AREA	0				
CONSERVATION/SCENIC AREA	0				
BEACH	2000				
TRAILS	0				
OUTDOOR SWIMMING POOLS	8				
PICNIC TABLES	0				
GOLF COURSES	45				
DRIVING RANGES	0				
OUTDOOR COURTS	0				
FIELD SPORT AREAS	0				
PARKING SPACES AT HISTORICAL/CULTURAL SITES	0				
PARKING SPACES AT ALL OTHER SITES	132				

USER DAYS - ATTENDANCE
 1984 277966
 1982 244495
 1977 315503
 1972 332112

MISSING INFORMATION CODES

A = SITE DID NOT EXIST
 B = RECORDS NOT KEPT ON THIS DATA ELEMENT
 C = RECORDS TOO COSTLY TO RETRIEVE
 D = AGENCY DID NOT RESPOND TO SURVEY
 E = AGENCY LOST RECORDS
 F = SATELLITE PARK - DATA IN OTHER PARK
 G = LATITUDE - LONGITUDE NOT FOUND

STRATEGIC ASSESSMENT BRANCH
 OCEAN ASSESSMENTS DIVISION
 OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 U.S. DEPARTMENT OF COMMERCE
 PHONE (301) 443-8843/8921

List of Publications

Leeworthy, Vernon R., Norman F. Meade, Paula M. deNobel, and Richard Sacchi, 1987: National inventory of public outdoor recreation facilities in coastal areas, South Carolina, Volume 1: Rockville, MD: National Oceanic and Atmospheric Administration, 8pp.

Leeworthy, Vernon R., Norman F. Meade, Paula M. deNobel, and Richard Sacchi, 1987: National inventory of public outdoor recreation facilities in coastal areas, South Carolina, Volume II: Appendices. Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Norman F. Meade, 1989: A socioeconomic profile of recreationists at public outdoor recreation sites in coastal areas, Volume 1: Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Norman F. Meade, Kathleen Drazek and Daniel S. Schroefer, 1989: A socioeconomic profile of recreationists at public outdoor recreation sites in coastal areas, Volume 2: Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Norman F. Meade, Kathleen Drazek and Daniel S. Schroefer, 1989: A socioeconomic profile of recreationists at public outdoor recreation sites in coastal areas, Volume 3: Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Daniel S. Schroefer, 1990: A socioeconomic profile of recreationists at public outdoor recreation sites in coastal areas, Volume 4: Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Daniel S. Schroefer, Peter C. Wiley, 1990: A socioeconomic profile of recreationists at public outdoor recreation sites in coastal areas, Volume 5: Rockville, MD: National Oceanic and Atmospheric Administration.

Leeworthy, Vernon R., Daniel S. Schroefer, Peter C. Wiley, 1990: Expenditure Profiles of Visitors to Southern California Coastal Areas: Rockville, MD: National Oceanic and Atmospheric Administration.

Meade, Norman F., Thomas LaPointe and Robert C. Anderson, 1983: Multivariate analysis of worldwide tanker casualties. In Proceedings: 1983 Oil Spill Conference, American Petroleum Institute, Washington, D.C., 6pp.

Meade, Norman F. and Vernon R. Leeworthy, 1986: Public expenditures on outdoor recreation in the coastal areas of the USA. Rockville, MD: National Oceanic and Atmospheric Administration, 18pp.

Ocean Assessments Division, 1983: Assessing the social costs of oil spills: The Amoco Cadiz case study. Washington, DC: U.S. Government Printing Office, 144pp.

Strategic Assessment Branch, 1984: Analysis of oil discharges from proposed tankering operation in eastern Gulf of Mexico. Rockville, MD: National Oceanic and Atmospheric Administration, 16pp.

Strategic Assessment Branch, 1988: National estuarine inventory: Data Atlas, Volume 4, public recreation facilities in coastal areas. Rockville, MD: National Oceanic and Atmospheric Administration, 156pp.

Strategic Assessment Branch, National Oceanic and Atmospheric Administration and the Division of Policy and Directives Management, U.S. Fish and Wildlife Service, 1991: Addendum to 1985 National Survey of Fishing, Hunting, and Wildlife Associated Recreation: Recreational Shellfishing in the United States: Rockville, MD: National Oceanic and Atmospheric Administration.

Yang, Edward J., Roger C. Dower, and Mark Menefee, 1984: The use of economic analysis in valuing natural resource damages, Washington, DC: U.S. Government Printing Office, 154pp.

