# Report On A Survey Of Rhode Island Households Concerning Their Outdoor Recreational Activities 

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# REPORT ON A SURVEY <br> OF <br> RHODE ISLAND HOUSEHOLDS CONCERNING THEIR OUTDOOR RECREATIONAL ACTIVITIES 

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This paper reports on a survey made of Rhode Island households on their summer outdoor recreational activities. The purpose of this report is to help describe the recreational behavior of Rhode Islanders. This information could be useful to public planners while making decisions concerning Rhode Island's natural resources. The data may also be useful to private marketing firms because they yield insights into the extent of outdoor recreation and intra-state tourist markets in Rhode Island.

## 1. BACKGROUND

The survey on which this report is based was sponsored in part by a grant from the Rhode Island Department of Natural Resources to the Department of Resource Economics at the University of Rhode Island. The purpose of the grant was to improve the data base on which the State Comprehensive Outdoor Recreation Plan (SCORP) is based. The Rhode Island SCORP, published in 1975, used some of the results from this survey extensively. This report makes use of data available at the time the SCORP was being written.

Because a substantial part of outdoor recreation takes place on open-access resources, there are few market transactions and very little market data for researchers to study. Researchers have therefore devoted a great deal of time and effort to designing survey techniques for outdoor recreation. Basically, all survey techniques are variants of one or more of the following: home interview: telephone interview: mail questionnaire: diary. Each approach has its particular advantages and drawbacks. The home interview greatly reduces the non-response rate of the mall questionnaire, and permits clarification of questions and responses. It relies on the recall ability of the respondent, however, which makes the figures somewhat suspect. Moreover, of the various approaches, the home interview has the highest average cost per completed questionnaire.

The telephone interview also reduces the non-response problem of mail questionnaires, and also permits clarification of questions and responses. In addition, telephone interviews tend to be relatively cheap. However, like the home interview and mall questionnaire, the telephone approach relies on the recall ability of the subject. Also, such an approach restricts the length of the interview and the complexity of the questions.

The mail survey is perhaps the most commonly used approach. It permits relatively complex questions to be asked. The average cost per completed questionnaire tends to be low. However, the mail questionnaire relles on the ability of the respondent to recall fnformation, and the proportion of households not responding can be as high as 80 percent.

For this study, the diary approach was chosen because it was a relatively new technique for gathering recreaitional data. The diary approach is most appealing because it does not require the respondent to remember the household's participation. Instead, it merely requires that some member of the household record the recreational activities on a regular basis.

This survey was contracted to Market Facts, a marketing and consulting firm with experience using the diary technique. The 2,500 households who agreed to keep the diary were selected randomly from a list composed of Rhode Island households with telephones.

The survey covered five separate one-month periods in 1974 and 1975. At the beginning of the first survey period, July,1974, each household completed a questionnaire dealing with socioeconomic characteristics of the household and with the household's ownership of goods used in various outdoor recreation activities. At the beginning of each period, including the first, households were sent a diary which requested information be kept on each outdoor recreational activity undertaken by any member of the household.

At the end of each survey period, the households returned their completed diaries to Market Facts to be coded and put on computer tapes. The five survey periods were July, 1974; August, 1974; October 15th to November 14 th, 1974; January 15th to February 14th, 1975; and April 15th to May 14 th, 1975. The current report covers only July and August of 1974. A copy of the questionnaire is presented in the appendix.
$\overline{I_{T h e ~}^{c}}$ survey covered 18 activities. In this report, only 13 activities are discussed. Snow skiing, ice skating, and hunting were obviously not appropriate for an analysis of summer activities. Horseback riding had too few responses from which to base inferences. Outdoor games was a category open to wide interpretation, which diminished its descriptive value.

The problem of non-response exists for the diary as well as for the mail questionnaires. In the current study, Market Facts rewarded households completing their monthly diaries with gifts of Green Stamps. The reward system gave a fairly high rate of return ( 1,492 in July and 1,267 in August, out of 2,500 mailinga, which resulted in 1,106 usable responses). Naturally, some blas exists becauge of non-response. However, to the extent that the bias depends on socio-economic characteristics, the direction and degree of bias can be determined by comparing socio-economic characteristics of the sample with the same characteristics gathered in the Census of Population.

## 2. SOCIO-ECONOMIC CHARACTERISTICS OF THE SAMPLE

In order to judge how representative the sample households were, the following section compares socio-economic characteristics of the sample with data gathered from the 1970 Census of Population for Rhode Island and the Rhode Island Department of Community Affairs. The characteristics compared are income, education, family size, home ownership, and age distribution.

Table I presents the basic data on family income, which is before-tax incoue from all sources. The income groupings differ slightly, but some comparison is still possible.

Table I shows that 63 percent of the sampled households had incomes of less than $\$ 15,000$ in 1974 , whereas 84 percent of Rhode Island households had incomes below $\$ 15,000$ in 1970. Part of the disparity is due to the increases in family incomes over the four-year period. The mean family income for the United States in 1970 was $\$ 11,106$ and rose to $\$ 14,502$ in 1974, a 31 percent increase. 2 Even with income increases over the four-year period accounted for, incomes of households in the sample may be somewhat higher than the incomes of Rhode Island households.

[^0]| Percent of Households in the Sample Having the Family Incomes Indicated, (1974) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | \$9,000 | \$15,000 |  | Not |
| Less than | to | to | Over | Elsewhere |
| \$9,000 | \$14,999 | \$21,000 | \$21,000 | Classified |
| 22\% | 41\% | 19\% | 12\% | 5\% |

Percent of Rhode Island Households
Having the Family Incomes Indicated (1970)*

| Less than <br> $\$ 10,000$ | $\$ 10,000$ <br> to | $\$ 15,000$ <br> to | Over <br> $\$ 5 \%$ |
| :---: | :---: | :---: | :---: | | $\$ 14,999$ |
| :---: |
| $25 \%$ |

*Source: Anthony Viccario, Housing Office of the Rhode Island Department of Community Affairs.

The second comparison concerns education levels. Table II shows the educational attainments of the heads of households. Although the data are from different years, they are reasonably comparable because the educational attainments of a population change quite slowly. This table clearly shows the bias that is created by a complicated diary. Those households having leas developed educational skills would easily be discouraged by the complexity of the questionnaire. As a survey technique, the diary is too cumbersome to warrant repeated use. To the extent that participation in recreation changes with the level of education, inferences about the total participation will be biased.
table II
educational attainment of the head of household

| Years of Schooling Sample (1974) RI (1970)* |
| :--- |
| Elementary ( 8 ) |
| Secondary (9-12) |
| College or more |

TABLE III
FAMILY SIZE

| Family Size | Sample House- <br> holds (1974) | RI House- <br> holds (1970)* |
| :--- | :---: | :---: |
| 1 or 2 members | $34 \%$ | $47 \%$ |
| 3 or 4 members | 42 | 33 |
| 5 or more members | 23 | 20 |
| Not elsewhere classified | 1 | -- |

[^1]The fourth table compares the proportion of sample families who own their own home with the proportion of Rhode Island families living in a home they own. The sample proportion is higher because a family thay live in a rented dwelling but own a aecond home, and because home ownership increased over the four-year period from 1970 to 1974; the unknown remainder may be attributed to the non-representative nature of the sample.

TABLE IV
MEASURES OF HOME OWNERSHIP

> Proportion of Sample Families Who Own Their Own Home (1974) $$
77 \%
$$ Proportion of Rhode Island Families Living in a Home They Own (1970) *

58\%

## *Source: Rhode Island Basic Statistics, Department of Economic Development, p. 48.

Table V compares the age distribution of the sample in 1974 with the age distribution of the Rhode Island population in 1970. It is clear from this table that the age group proportions of the sample are quite close to the age-group proportions of the state as a whole. There is a slight discrepancy in the over-60 age group. The proportion of the population over 60 was 16 percent In 1970, whereas the proportion of people in the sample over 60 is 11 percent. Although this difference is not great, it heips to allay the auspicion that many households agreeing to participate in the diary study contained a disproportionately large number of retired persons.

TABLE V
AGE DISTRIBUTION

| Age | Sample (1974) | RI Population (1970)* |
| :---: | :---: | :---: |
| 14 and under | $27 \%$ | $26 \%$ |
| $15-24$ | 18 | 18 |
| $25-44$ | 26 | 22 |
| $45-59$ | 18 | 17 |
| 60 and over | 11 | 16 |

*Source: United States Census of Population. 1970. Book 41. p. 37.

Tables I through $V$ tend to give the impression that the sample households are better educated and have slightly higher incomes than the Rhode Island population in general. This blas comes from two sources. First, better educated households are more able to complete the rather complex questionnaire. Second, higher income households may be more willing to respond to mail questionnaires.

Because the sample is in some ways not representative of the Rhode Island population, one must be cautious when making inferences from the sample about aggregate recreational participation in Rhode Island. However, the participation data are quite valuable in describing the summer activities in which the typical Rhode Island household engages.

## 3. RECREATIONAL PARTICIPATION BY RHODE ISLAND HOUSEHOLDS

In the remainder of this paper, the focus will be on participation by Rhode Island households in 13 recreational activities. The participation data will be presented in tabular form by socioeconomic characteristics and without regard to whether participation is within or outside of Rhode Island. The reader should remember that this survey covers the two-month period from July 1st to August 31st, 1974. Activities such as camping, freshwater fishing, and bird-and-wildife watching may also be popular during other seasons, although nearly all the swimuing done that year may be included in the two months surveyed. Hence, for annual data, the participation rate for activities popular in the fall or spring might be higher.

The basic participation rates for each of the 13 activities are presented in Table VI. These percentages represent the proportion of households which had at least one member engaging in the activity at least once during the two-month period. The figures say nothing about the magnitude of participation. Thus, our proportions indicate that more households participated in sightseeing than in any other mentioned activity. The figures do not imply that more time was spent sightseeing, because we have not indicated how much time (how many trips per household, how many hours per trip) each household spent. However, the figures on participation by household, because they tend to be more accurate than figures on the level or magnitude of participation, are useful for assessing the nature of recreational activity by Rhode Island householda.

TABLE VI
basic Participation rates for rhode island households


For example, Table VI shows that 53 percent of the households had at least one person engaged in salt water swimming. This proportion is larger than similar proportions found in other parts of the United States, but it does not imply that people like salt water better in Rhode Island (though they may); rather, we infer that people participate more because the cost of participating is lower. Hence, in examining the following tables, we must guard against the conclusion that we need to increase the capacity of more popular activiedes. Instead, we might conclude that such popular activities are the ones where substantial capacity already exists.

The remainder of the report deals with the effects of socioeconomic variables on recreational participation. The data are further broken down to separate participation within and outside of Rhode Island. This was done to aid planners in assessing the effects of recreational patterns.

## A. Family Income

Table VII presents the basic participation rates by the level of family income, when participation may be within or outside of Rhode Island. In general, income has an effect on a household's activities because increases in income enlarge the range of opportunities. The numbers indicate what proportion of each income group in the sample participated in each activity. For example, Table VII shows that 27 percent of the sample households with family incomes less than $\$ 9,000$ went picnicking in Rhode Island at least once, but only 13 percent of the same group went picnicking outside of the state.

The income figures reveal that the activities likely to expand significantly as family income grows are tennis, golf, and boating. All other activities, except camping in Rhode Island, tend to show a more gradual positive response to increases in income, Participation outside the state tends to be less than within, with camping again the exception. The desire to go camping in Rhode Island appears to decline somewhat as family incomes grow. Not only is participation in camping greater outside of Rhode Island, but that participation responds positively to income. It should not be inferred from these figures that wore camping should be provided for Rhode Island families. In fact, it is likely that camping farther away from home, because of novelty and the greater sense of eacape, is more desirable than camping close to home. Hence, the higher participation rates for outside of Rhode Island.

## TABLE VII

PERCENT OF HOUSEHOLDS PARTICIPATING IN RECREATION ACTIVITIES BY FAMILY INCOME

| Activity <br> In Rhode Island | $\begin{gathered} \text { Less } \\ \text { Than } \\ \$ 9,000 \\ \hline \end{gathered}$ | $\begin{array}{r} \$ 9,000- \\ \$ 14,999 \\ \hline \end{array}$ | $\begin{aligned} & \$ 15,000- \\ & \$ 20, \$ 99 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { More } \\ & \text { Than } \\ & \$ 21,000 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| Bicycle Trip | 4\% | 8\% | 7\% | 4\% |
| Bird \& Wildiffe Watching | 4 | 2 | 2 | 2 |
| Boating | 9 | 17 | 16 | 21 |
| Camping | 7 | 4 | 6 | 3 |
| Fishing, Fresh Water | 4 | 9 | 4 | 4 |
| Fishing, Salt Water | 7 | 14 | 11 | 10 |
| Golf | 3 | 7 | 11 | 21 |
| Hiking | 2 | 3 | 4 | 5 |
| Picnicking | 27 | 35 | 32 | 30 |
| Sightseeing | 19 | 28 | 29 | 38 |
| Swimaing, Salt Water | 31 | 49 | 49 | 53 |
| Swimming, Fresh Water | 23 | 27 | 24 | 27 |
| Tenuls | 4 | 10 | 11 | 18 |

Out of Rhode Island

| Bicycle Trip | $2 \%$ | $5 \%$ | $2 \%$ | $2 \%$ |
| :--- | :---: | :---: | :---: | ---: |
| Bird $\boldsymbol{2}$ Wildife Watching | 3 | 6 | 3 | 3 |
| Boating | 7 | 8 | 11 | 10 |
| Camping | 5 | 9 | 8 | 12 |
| Fishing, Fresh Water | 2 | 3 | 1 | 3 |
| Fishing, Salt Water | 3 | 2 | 2 | 3 |
| Golf | 3 | 7 | 10 | 10 |
| Hiking | 3 | 4 | 6 | 5 |
| Picnicking | 13 | 19 | 17 | 27 |
| Sightseeing | 32 | 42 | 53 | 56 |
| Swimming, Sait Water | 13 | 13 | 18 | 26 |
| Swimming, Fresh Water | 15 | 24 | 22 | 31 |
| Tennis | 2 | 3 | 3 | 7 |

## B. Home Ownership

Table VIII presents participation rates by home ownership. For example, 7 percent of the homeowning families in the survey participated in bicycling. This table reveals that home ownership is not a strong determinant of participation in any activity, within or outside of Rhode Island. The only apparently substantial differences in participation rates appear for freshwater swinming, sightseeing, and boating within Rhode Island. Participation in boating and gightseeing appears to be higher for home owners, while the freshwater swimning participation rate appears somewhat lower.
C. Education

The level of education of the head of the household affects primarily the tastes of individuals and secondarily the household's ability to learn about recreational opportunities. Table IX gives participation rates by the level of education of the head of household for each activity. For example, the results show that 19 percent of the households with a head of household who attended college participate in boating in Rhode Island. Table IX shows that participation increases rather uniformly as educational attainments rise. However, in a tabular setting such as Table IX, it is difficult to remove the effect of income from the effect of education; increased education tends to increase income. Hence, for Table IX, it is not possible to assert that education causes increased participation, as one might infer from an initial glance at the data. This difficulty can be confirmed by comparing Table IX with Table VII, which gives information on income, These tables indicate that the general tendency is for participation rates to increase as income and education rise; and if these tables are compared activity by activity, the rates increase similarly.

## PERCENT OF HOUSEHOLDS PARTICIPATING IN RECREATION ACTIVITY BY HOME OWNERSHIP

| Activity | Home/Owner | Non Home/Owner |
| :---: | :---: | :---: |
| In Rhode Island |  |  |
| Bicycle Trip | 7\% | 6\% |
| Bird \& Wildiife Watching | 3 | 2 |
| Boating | 17 | 13 |
| Camping | 4 | 6 |
| Fishing, Fresh Water | 7 | 4 |
| Fishing, Salt Water | 11 | 12 |
| Goif | 10 | 6 |
| Hiking | 4 | 2 |
| Picnicking | 31 | 34 |
| Sightseeing | 29 | 23 |
| Swinming, Salt Water | 45 | 43 |
| Swinming, Fresh Water | 23 | 30 |
| Tennis | 10 | 10 |
| Out of Rhode Island |  |  |
| Bicycle Trip | 3\% | 4\% |
| Bird \& Wildilfe Watching | 4 | 5 |
| Boating | 8 | 10 |
| Camping | 9 | 6 |
| Fishing, Fresh Water | 3 | 2 |
| Fishing, Salt Water | 2 | 4 |
| Golf | 8 | 5 |
| Hiking | 4 | 5 |
| Picnicking | 19 | 15 |
| Sightseeing | 44 | 43 |
| Swimming, Salt Water | 15 | 17 |
| Swimming, Fresh Water | 22 | 22 |
| Tennis | 4 | 6 |

TABLE IX
PERCENT OF SAMPLE HOUSEHOLDS PARTICIPATING IN EACH ACTIVITY bY EDUCATION OF hEAD OF HOUSEHOLD

| Activity | $\underline{1-8}$ | $\underline{9-12}$ |  | College | Post <br> Graduate |
| :--- | :---: | :---: | :---: | :---: | :---: |
| In Rhode Island |  |  | $\ddots$ |  |  |
| Bicycle Trip | $1 \%$ | $7 \%$ | $8 \%$ | $6 \%$ |  |
| Bird \& Wildife Watching | 0 | 2 | 4 | 3 |  |
| Boating | 5 | 15 | 19 | 17 |  |
| Camping | 3 | 5 | 6 | 4 |  |
| Fishing, Fresh Water | 1 | 7 | 6 | 4 |  |
| Fishing, Salt Water | 12 | 11 | 10 | 10 |  |
| Golf | 5 | 7 | 12 | 11 |  |
| Hiking | 1 | 3 | 3 | 6 |  |
| Picnicking | 30 | 31 | 33 | 30 |  |
| Sightseeing | 17 | 25 | 30 | 39 |  |
| Swinming, Salt Water | 20 | 44 | 48 | 52 |  |
| Swimming, Fresh Water | 15 | 26 | 28 | 18 |  |
| Tennis | 1 | 8 | 14 | 12 |  |

Out of Rhode Island

| Bicycle Trip | $3 \%$ | $3 \%$ | $4 \%$ | $4 \%$ |
| :--- | :---: | :---: | :---: | ---: |
| Bird \& Wildife Watching | 1 | 5 | 3 | 7 |
| Boating | 8 | 7 | 11 | 10 |
| Camping | 3 | 8 | 10 | 8 |
| Fishing, Fresh Water | 4 | 3 | 2 | 0 |
| Fishing, Salt Water | 3 | 2 | 3 | 2 |
| Golf | 1 | 8 | 8 | 6 |
| Hiking | 5 | 4 | 5 | 8 |
| Picnicking | 15 | 16 | 20 | 23 |
| Sightseeing | 30 | 41 | 46 | 58 |
| Swiming, Salt Water | 15 | 10 | 22 | 22 |
| Swiming, Fresh Water | 8 | 22 | 24 | 25 |
| Tennis | 1 | 2 | 6 | 6 |

Tablea VII, VIII, and IX show in general that participation in most recreation activities increases as socio-economic status (measured by incove, education, and home ownership) increases. Several types of activities respond to changes in income: capital intensive activities like boating and golf, and out-of-state activities.

## 4. ACTIVITY DAYS BY RHODE ISLAND HOUSEHOLDS

The previous section dealt at length with the relationship between the socto-economic characteristics of Rhode Island households and their participation in recreational activities. In this section, the focus of the analysis is shifted from mere participation to the extent of that participation. The extent or degree is measured by activity days, which are defined as one person engaging in the mentioned activity for any part of one day. The activity days are quite variable, and the relationships between activity days and socio-economic characteristics are statistically more difficult to establish than those between participation and socio-economic characteristics. Hence, the analysis of activity days is quite limited.

The most basic information describing activity days is the average number of days per household. This figure is given for days spent within Rhode Island, days outside of Rhode Island, and their sum for each of the thirteen activities in Table X. These figures show, for example, that the typical sample household engaged in 5.2 days at Rhode Island saltwater beaches during July and August of 1974. The figures demonstrate that recreational activity by Rhode Island households tends to be greater within Rhode Island than outside of the state.

TABLE X
average nimber of activity days per sample household FOR JULY AND AUGUST

| Activity | $\begin{aligned} & \text { Total } \\ & \text { Days } \end{aligned}$ | Days Outside <br> Rhode Island | Days Within Rhode Island |
| :---: | :---: | :---: | :---: |
| Bicycle Trip | . 30 | . 08 | . 22 |
| Bird \& Wildlife Watching | . 35 | . 27 | . 08 |
| Boating | 1.50 | . 46 | 1.04 |
| Camping | . 99 | . 70 | 29 |
| Fishing, Fresh Water | . 34 | . 12 | . 22 |
| Fishing, Salt Water | . 54 | . 06 | . 48 |
| Golf | . 78 | 29 | . 49 |
| Hiking | . 32 | . 18 | . 14 |
| Picnicking | 3.42 | 1.29 | 2.13 |
| Sightseeing | 4.85 | 3.36 | 1.49 |
| Swimming, Salt Water | 5.20 | . 96 | 4.24 |
| Swimming, Fresh Water | 3.90 | 1.61 | 2.29 |
| Tennis | . 61 | . 14 | . 47 |

Not surprisingly, Table $X$ shows that the average household spends more days engaged in saltwater swimming than in any other activity. Sightseeing is the second most prevalent activity, and picnicking is third. Almost $70 \%$ of the aightseeing activity occurs outside of Rhode Island. This result should not be surprising. By its nature, sightseeing is an activity which requires a variety of scenes.

By combining the information provided in Tables $V I$ and $X$, and with information on the total number of households in Rhode Island, one can make a crude estimate of the total level of participation in each activity. For example, in 1974 there were approximately 300,000 households in Rhode Island. Table VI indicates that 24 percent, or 72,000 households, engaged in boating. From Table X, we see that the average household had 1.5 days of boating during July and August. Hence, the total number of boating days during that period can be roughly estimated at ( 72,000 ) ( 1.5 ) $=108,000$. Because the sample is not entirely representative, it is possible to improve on this estimate using multivariate statistical methods.

Once again, it must be emphasized that this report includes only the survey period of July and August. The extent of yearly participation cannot be extrapolated from these figures. Hiking may serve as a substitute for swimming for many Rhode Islanders in spring and fall, but would not be represented in this report.

Although the figures in Table $X$ are descriptive of recreational behavior of Rhode Island households, they do not, by themselves, indicate direction for future policy. The fact that participation in any activity is high does not necessarily mean that there are preferences for that activity over others of equal accessibility, nor that more capacity should be provided. A high level of activity days per household is the result of two sets of forces. On one side operates the forces which provide the capacity; for example, the natural setting of the area or the state government policy providing picnic sites. On the other side, people exercise their preference within constraints of time, income, and resource accessibility. No policy decision can be judiciously made without accounting for both sets of forces.

One question frequently arising in the analysis of recreational activity concerns the age of the participants. In order to deal with the age, it is necessary to examine the activity days. Table XI gives basic information on the distribution of activity days among different age groups for different activities. The figures are percentages, and they sum to one hundred for each activity (except for possible rounding error). These figures show, for example, that 34 percent of all bicycle trips within Rhode Island were made by children under 15 years of age. Thus, each proportion gives that age group's share of the number of outings for that activity.

TABLE XI
PROPORTION OF ACTIVITY DAYS TAREN BY DIFPERENT AGE GROUPS

| Activity | $\leq 14$ | 15-24 | $\underline{25-44}$ | 45-59 | $\geq 60$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| In Rhode Island |  |  |  |  |  |
| Bicycle Trip | 34\% | 22\% | 327 | 97 | 2\% |
| Bird \& Wildlife Watching | 22 | 13 | 28 | 21 | 16 |
| Boating | 23 | 21 | 30 | 22 | 4 |
| Camping | 51 | 8 | 23 | 15 | 2 |
| Fishing, Fresh Water | 41 | 12 | 35 | 8 | 4 |
| Fishing, Salt Water | 24 | 13 | 32 | 24 | 7 |
| Golf | 4 | 11 | 30 | 36 | 19 |
| Hiking | 37 | 21 | 21 | 9 | 12 |
| Picnicking | 31 | 15 | 28 | 16 | 10 |
| Sightseeing | 32 | 12 | 28 | 15 | 13 |
| Swimming, Salt Water | 35 | 18 | 26 | 15 | 7 |
| Swimming, Fresh Water | 52 | 12 | 25 | 9 | 2 |
| Tennis | 16 | 33 | 42 | 7 | 3 |

Out of Rhode Island

| Bicycle Trip | $12 \%$ | $45 \%$ | $27 \%$ | $6 \%$ | $10 \%$ |
| :--- | :--- | :--- | :--- | ---: | ---: |
| Bird \& Wildife Watching | 22 | 11 | 28 | 23 | 15 |
| Boating | 25 | 16 | 33 | 17 | 8 |
| Camping | 29 | 14 | 40 | 13 | 4 |
| Fishing, Fresh Water | 33 | 12 | 30 | 9 | 16 |
| Fishing, Salt Water | 19 | 15 | 37 | 22 | 7 |
| Golf | 10 | 12 | 29 | 34 | 15 |
| Hiking | 25 | 12 | 37 | 15 | 10 |
| Picnicking | 30 | 13 | 31 | 16 | 9 |
| Sightseeing | 23 | 13 | 29 | 24 | 11 |
| Swiming, Salt Water | 26 | 15 | 29 | 19 | 10 |
| Swimming, Fresh Water | 36 | 15 | 28 | 15 | 6 |
| Tennis | 10 | 21 | 47 | 18 | 3 |
|  |  |  |  |  |  |

The figures on the age distribution of activities are interesting, but not surprising. By comparing the columns for the under-15 age group within and outside of Rhode Island, we see that this group accounts for a substantially larger proportion of the activity within the state. The youngest age group accounts for over 50 percent of the camping within the state.

The table identifies those activities in which people over 60 are most likely to engage. For this age group, bird watching, golf, and sightseeing are more attractive than fishing, swimming, ur camping. This information is important because of the growing proportion of elderly people in our population.

Another interesting phenomenon apparent in Table XI concerns the age group from 15 to 24 . Although people in this age group are in their prime and have few constraints on their time, our figures show that they account for a surprisingly small share of the total activity. Probably, this small proportion is due to the inability of the adults to keep track of what the teenagers in the household do, as well as the reluctance of many young people to engage in "family" outings, Thus, though the age composition of the sample is approximately that of the population (see Table V), it is likely that the level of activity days is biased downward due to the under-reporting of the activities engaged in by 15 to 24 year-olds.

## 5. CROWDING AND PARTICIPATION

The last tables deal with the perception of crowding at recreation facilities. Naturaliy, the perception of crowding varies . between individuals. However, it is interesting to observe how households might respond if crowded recreation sites were less frequently encountered.

Table XII presents the responses from all the sample households to the statement, "My family would participate in this activity more often if existing facilities were less crowded." Table XII includes those who participate as well as those who do not. It is striking that almost 60 percent of the households would participate more often in saltwater swimming if they thought that beaches would be less crowded. By comparison, less crowding would induce more participation in hiking and bird and wildife watching for less than 15 percent of the families.

TABLE XII

RESPONSE OF ALL SAMPLE HOUSEHOLDS TO THE STATEMENT:
"My family would participate in this activity more often if existing facilities were less crowded."

| Activity | Pexcent of Households |  |  |
| :---: | :---: | :---: | :---: |
|  | Yes | No | No Answer |
| Bicycle Trip | 22\% | 67\% | 11\% |
| Bird \& Wildlife Watching | 10 | 78 | 12 |
| Boating | 20 | 69 | 12 |
| Camping | 25 | 65 | 11 |
| Fishing, Fresh Water | 20 | 68 | 12 |
| Fishing, Salt Water | 18 | 69 | 13 |
| Golf | 19 | 69 | 12 |
| Hiking | 14 | 74 | 13 |
| Picnicking | 49 | 41 | 10 |
| Sightseeing | 52 | 39 | 9 |
| Swimming, Salt Water | 58 | 33 | 9 |
| Swimming, Fresh Water | 45 | 45 | 10 |
| Tennis | 33 | 56 | 11 |

Table XIII presents the regults for those families who actually participated in the activity. Many families who know nothing about the crowding or may have no interest in the activity under any conditions are also excluded from this table. Table XIII gives an indication of how participants feel about crowding. The figures show, for example, that 74 percent of those who play tennis would do so more if the courts were less crowded.

## TABLE XIII

RESPONSE OF SAMPLE HOUSEHOLDS WHO PARTICIPATED IN THE ACTIVITY TO THE FOLLOWING STATEMENT:
"My family would participate in this activity more often if existing facilities were less crowded."

| Activity | Percent of Households Participating |  |  |
| :---: | :---: | :---: | :---: |
|  | Yes | No | No Answer |
| Bicycle Trip | 47\% | 48\% | 5\% |
| Bird \& Wildlife Watching | 27 | 64 | 9 |
| Boating | 31 | 61 | 8 |
| Camping | 56 | 37 | 7 |
| Fishing, Fresh Water | 41 | 48 | 11 |
| Fishing, Salt Water | 42 | 51 | 7 |
| Golf | 56 | 41 | 3 |
| Hiking | 26 | 61 | 13 |
| Picnicking | 58 | 34 | 8 |
| Sightseeing | 56 | 38 | 6 |
| Swimming, Salt Water | 65 | 30 | 5 |
| Swimming, Fresh Water | 56 | 38 | 6 |
| Tennis | 74 | 25 | 1 |

The comparison between the two tables is quite revealing, From Table XII we find that for camping, crowding is a consideration of 20 percent of all of those in the survey. Table XIII, however, indicates that, of those households who camp, crowding is important for 56 percent. The difference between these proportions is substantial, indicating that an increase in camping capacity might increase participation among those already camping rather than increase the numbers who camp.

Similar observations can be made by comparing the first column of each of the two tables. Roughly, we can say that when the difference is relatively large, such as in tennis, crowding has a more significant effect on participants than on non-participants. However, when the difference is relatively small, such as in picnicking, crowding could be an important determinant in the decision not to participate.

## 6. CONCLUSION

This report has presented some descriptive data from a recreational survey conducted jointly by the University of Rhode Island's Department of Resource Economics and the Rhode Island Department of Natural Resources. We have attempted to describe the recreational behavior of Rhode Island households rather than to forecast behavior or make conciusions about the adequacy of current facilities or prices.

Although this report is primarily descriptive, it is possible to make some broad statements about recreational behavior patterns in Rhode Island. For example, if we are interested in future demand for recreational facilities by Rhode Island households, we can expect increases in activities such as golf, tennis, and boating, in which participation tends to increase as income grows. Similarly, camping in Rhode Island by Rhode Island families wili likely decline as income grows. Or as the population on the average grows older, we can expect more participation in leas strenuous activities such as sightseeing and golf. Although recreation by Rhode Island families in the past has been related primarily to the ocean or the coast, it is not unreasonable to expect some shift toward inland resources in the future. Such a shift might occur because, as Rhode Island household incomes grow, families will be willing to spend extra time and money for less congested facilities inland.

In addition to the descriptive work presented in this report, it is necessary to have analytical studies of demand forecasts, out-of-state use rates, estimates of current capacity, and individual benefit-cost analyses in order to make sound judgments about investment in Khode Island's recreational facilities. At the University of Rhode Island other studies on recreation, using the data from this survey as well as others, are currently being conducted. These studies include the development of a forecasting model, the investigation of pricing policies at Rhode Island state campgrounds, and continuing research into the determinants of recreational demand.

## APPENDIX

Activity Sheet
Activity Record
Inventory of Recreation Goods, Supplies and Facilities

ACTIVITY SHEET

## Code

Number
1 Bicycle Trip (Do not include just riding around the neighborhood.)
2 Bird and Wildlife Watching
3 Boating (Include canoeing, sailing, motor boating, yachting, and water skilng.)

4 Camping
5 Fishing, Fresh Water
6 Fishing, Salt Water, Deep Sea, etc.
7 Golf
8 Hiking
9 Horseback Riding
10 Hunting
11 Ice Skating
12 Outdoor Games (such es softball, volleyball, basketball, football, etc.)

13 Picknicking
14 Sightseeing (includes visits to historical places)
15 Snow Skiling
16 Swimming (salt water, going to the beach)
Swiming (fresh water, pools, rivers, lakes, ponds)
Tennis
gnvere day activities
For July 1 through July 31

|  |  | Aetivity 4 | Activity 9 | Activity | Aetirtic ${ }^{\text {a }}$ | Aetivity 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I． | Ploase record date of month． | （106）（12－13） | 07 （12．13） | Cb（12－13） | （1）（2－13） | 10）（12－13） |
| 2. | Record racteation activity <br> from bloce etivity mhert，．．．．．．．． |  |  | $1 4 \longdiv { i } 1 5$ | $1 4 \longdiv { i } 1 5$ | $145$ |
| 3. | Did thla aetivity take place in Rhode tulant＇（＂X＂Box）．． | $\begin{aligned} & Y \in 0 \square 1 \\ & \text { No } \square 2 \\ & \hline 16) \\ & \hline \end{aligned}$ | $\begin{aligned} & Y *=\square 186 \\ & \text { No } \square z^{11} \end{aligned}$ | $\begin{aligned} & Y \in=\square 1(16) \\ & \text { No } \square 2 \end{aligned}$ | $\begin{aligned} & Y+1 \unrhd_{2}^{1}(161 \\ & \text { No } \end{aligned}$ |  |
| 4. |  | （17）  <br> $\square$ $(18)$ <br> $\square$ $(19)$ <br> $\square$ $(20)$ <br> $\square$ $(21)$ | $\begin{array}{ll} {[ } & (17) \\ \square & (18) \\ \square & (19) \\ \square & (20) \\ \square & (21) \end{array}$ | $\square$ $(17)$ <br> $\sim$ $(18)$ <br> $\sim$ $(19)$ <br> $\sim$ $(20)$ <br> $\sim$ $(21)$ | $\square$ $(17)$ <br> $\square$ $(181$ <br> $\square$ $(19)$ <br> $\square$ $(201$ <br> $\square$ $(21)$ | $\begin{array}{ll} & (17) \\ \square & 110 \\ \square & (19) \\ \square & (20) \\ \square & 121\end{array}$ |
| 5. |  | （22） <br> 2 <br> 3 | $\begin{aligned} & \square t^{(22)} \\ & \square z^{2} \\ & \square s \end{aligned}$ | （22） <br> 2 <br> $\square 3$ | $\begin{aligned} & \square_{1}^{1(22)} \\ & \square_{2}^{2} \\ & \square^{3} \end{aligned}$ | （22） 2 <br> 3 |
| 4. | How much did you opend on： （Writi in． If sothing． ＊rite＂0＂， <br> Food ．．．＊＊＊＊．． <br> Parlint ，．，＇，：． <br> Trasesportation．．．． <br> Fown，\＃quipanent remel，other ox pasditurtes ralaked to setivity（timespt now equipmant）．． <br> Total．．．．．． |  |  |  |  |  |
| 7． | Did anyone give up waged or melary to participate in this activity？ <br> ［＂XX＂男奴）．．．．．．．．．．．．．．．．．． <br> If＂yes＂，how mueh in tatal eould have tren alarned？ |  | $\begin{aligned} & \text { Yee } \square 1 \\ & \text { No } \square_{2}(37) \\ & \\ & \$ \quad 38.40) \end{aligned}$ |  |  | $\begin{aligned} & \begin{array}{l} Y+4 \\ \mathrm{No} \\ \hline 1 \end{array} \\ & \$ \quad 138-401 \end{aligned}$ |
| 8． 8. | What wet the round trip milleage for this tripl（Write th）．．．．．．．． <br> What menne of <br> Automobite travel well ured？ <br> Bur ．．．．．．． <br> （＂X＂Bow <br> Other ．．．．．． |  |  |  |  |  |
| 9. | Where did Natre of tucility ，．． you to？ <br> Lecated in this <br> Town／City．．．．．．．． <br> Addrati of Clonent Interiection．．．．．． |  |  |  |  |  |
|  | fFOR ADDITIONAL SINGLE DA |  | $\begin{aligned} & \text { 146=78 Oponl } \\ & 79 \overline{1}(1) \text { so } \\ & \text { CONTINUE } \end{aligned}$ | $\begin{aligned} & \text { 146-78 Openi } \\ & 7961480 \\ & \text { on THE FOL } \end{aligned}$ | 16－78 Open <br> 79 IW 80 <br> OWING PACE | （16－78 Open） 79［1 80 ） |

4. Thy quantion is about anyone in your family who migh be golag to pummer
camp thit yeer. Plense list the age of the person going. the number of wetke
they will by seying at the eamp, the total cost charged by the cemp and whether
or not the camp io located in Rhode lilemed.
'ri' this box - $\square$ if na one will be gaing to ammer camp thla yeter.

| Aft of Camper | Type of Camp |  | Duration of Camp (weaka) | F훈 Charted | Locetios |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Day | Overnicht |  |  |  | $\begin{gathered} \text { Outinide } \\ \text { R.I. } \\ \hline \end{gathered}$ |  |
|  | $\square 1$ | $\square 2$ (36) | (37) |  | $\square 1$ | $\square 2$ | (42) |
| (34-35) |  |  |  | (38-41) |  |  |  |
| (43-44) | $\square 1$ | $\square 2$ (43) |  |  | $\square \mathbf{\square}$ | $\square 2$ | (51) |
|  |  |  | (46) | (47-50) |  |  |  |
|  | $\square 1$ | $\square 2$ (54) |  |  | 01 | $\square 2$ | (60) |
| (52-53) |  |  | (53) | (56-59) |  |  |  |
|  | $\square 1$ | $\square 2633$ |  | 5 | $\square 1$ | $\square 2$ | (69) |
| (61-62) |  |  | (64) | (65-64) |  |  |  |

 Wheh pour tamily belonge. Pleane ladicate whether you bave a family or siagle mombership and the enaual or yefrly cest of that memberubip.

|  |  | ELOW) rahip Iodividual | Dos't Beloar | Ampal Cogt |
| :---: | :---: | :---: | :---: | :---: |
| Country elob | $\square 1$ | $\square 2$ | [3 (70) 5 | $(71-74)$ |
| Temale club | $\square 4$ | $\square 1$ | $\square 3(13) 9$ | (14-17) |
| Coll elub | $\square$ | $\square 2$ | $\square 3$ (18) 5 | (19.22) |
| Hutaies elub | $\square 1$ | $\square 2$ | $\square 3$ (23) | $(24-27)$ |
| Skl elub | $\square 1$ | $\square 2$ | $\square^{3}(26)$ | (39-32) |
| Fiohiat club | $\square 1$ | $\square 2$ | $\square 3(33)$ | (34-37) |
| Yacht \% Boat club | $\square 1$ | $\square 2$ | $\square 3$ (38) 3 |  |

Now me have petits of family-oriented quentiontr plasae anfwier all
 whea wer conlyze the whole study.

6a. Do you own your own houte?
$\mathbf{Y a}=\square \mathbf{\square}$
No $\square 1$

6b. How matery cirt do you have in your Immily? (CIRCLE NUMBER)
Number of ceng $123 \quad 43$ armore
44
6c. How many tamily members sincluding yourioll do you bave in each of theso age froupa:

| 1 | 2 | 3 | 4 | 5 | or mote | (45) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | Of mers | (46) |
| 1 | 2 | 3 | 4 | 5 |  | (47) |
| 1 | 2 | 3 | 4 | 5 |  | (4) ${ }^{\text {( }}$ ) |
| 1 | 2 | 3 | 4 | 5 |  | (49) |

6d. Plengecirele the higheit crate of achoat eompleted by the head of your boumbold. (CIRCLE NUMBER]

Coltage I $2 \quad 3 \quad 4 \quad 5 \quad 6$

7. Platef "X" the appropriata bō below to Indicate your texal yearly imemer for ill femily membert.

| Urder \$5000 $\square 1$ | \$13.000 = 14.999 [6 |  |
| :---: | :---: | :---: |
| 55000-6949 $\square 2$ | \$15,000 - 16.999 D7 |  |
| \$7000-8999 [] | \$17.000 = 18,999 $\square$ \% | 52 |
| \$7000 = 10, $999 \quad \square 4$ | \$19,000 - 20.999 $\square^{\text {a }}$ |  |
| \$12,000 - 12, $999 \square 5$ | Ower \$21,000 $\square_{0}$ |  |

7h. How much of ehia income was derived from non-work aburcet fuch tis interest. duidends, tocial security, unempioyment componiation. whifere paymonta, rtitrement or other ${ }^{\text {s }}$

| Under \$1000 | $\square 1$ | \$6000 = 6999 | $\square 7$ |
| :---: | :---: | :---: | :---: |
| \$1000 $=1999$ | $\square 2$ | \$7000 - 7999 | $\square 8$ |
| \$2000 - 2999 | $\square 3$ | 58000-8999 | $\square 9$ |
| \$3000 - 3999 | $\square 4$ | \$9000 = 9999 | $\square 0$ |
| \$4000-4999 | $\square 5$ | \$10,000 end over | ] |
| \$5000 = 5949 | $\square 6$ |  |  |

8a. For each working member of your household, please ligt their occupation, whether or not they were self employed, the number of hours worked per week and the number of vacation days they get per year.

| Head of household | Occupation | Self <br> Employed | Not Self Employed | Hour: Worked/ Week | Number of Vacation Days |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\square 1$ | $\square 2$ (55) | $\checkmark$ |  |
|  |  |  |  | (56-57) | (58-59) |


$\square 2(61)$
(62-63) (64-65)
$\square 2$
(67)
(68-69) $(70-71)$

1(73) $\underset{(74-75)}{(76-77)}$ (78Open) $79 \square$ 80[9]
8b. Have any working members of your housthold been unable to work since Dup.
January. 1974 because of geasonal ronditions or other reasons? Please 1-11
circle below and indicate the number of months they have been unable to work. "X" this box $-\square$ if no members of your household have been unable to work.

Head of household
Have been
Number
unable to work
of months
1 (13)
(14-15)

Other workers
1 (16)
(17-18)

1 (19)
(20-21)

[^2]|  | Yes | No |
| :---: | :---: | :---: |
| Bieycle Trip (Do not include just riding a round the neighborhood.) | $\square 1$ |  |
| Bird and Wildife Watching. | $\square 1$ |  |
| Boating (Include canoeing, sailing, motor boating. yachting, and water sking.) | $\square 1$ |  |
| Camping | $\square 1$ |  |
| Fiahing, Fresh Wate | $\square 1$ |  |
| Fishing, Salt Water, Deep Sea, | $\square 1$ |  |
| Golf | $\square 1$ |  |
| Hiking | $\square 1$ |  |
| Horseback Riding | $\square 1$ |  |
| Hunting. | $\square 1$ |  |
| Ice Skating | $\square 1$ |  |
| Outdoor Garnes (such as softball, volleyball, basketbalt, football, etc.) . . . . . . . . . . . . . . . . . . . . . . . | $\square 1$ |  |
| Picknicking | $\square 1$ |  |
| Sightseeing (includes visita to historical places). | $\square 1$ |  |
| Snow Skiing | $\square 1$ |  |
| Swimming (alt water, going to the beach) | $\square 1$ |  |
| Swimming (fresh water, pools, rivers, lakes, ponds). . | $\square 1$ | $\square$ |
| Tennis | $\square 1$ |  |
|  |  |  |

## CONSUMER MAIL PANELS


(4-9192)

## INVENTORY OF RECREATION GOODS, SUPPLIES AND FACILITIES

1a. Do you own or have part ownership in a second home (cottage or cabin or house trailer parked in a permanent location) which you use at any time during the year for recreational purposes?

Yea $\square 1$
No $\square 2 \rightarrow$ (SKIP TO QUESTION 2)
1b. Please indicate year in which purchased $\qquad$

le. Please indicate approximate present value including lot
$\$$ $\qquad$
1d. Where ia it located? (" $X^{\prime}$ ONE BOX) (15-19)
Within two miles of Rhode Island coast . . . . . $\square 1$
On a lakefront in Rhode Island . . . . . . . . . . . . 2
Elgewhere in the state . . . . . . . . . . . . . . . . $\square^{3}$
20.
le. How many week is it used by any member of your family in each of these seasons?

No. of week

March, April, May
June, July, Auguat (23-24)

September, October, Novernber (25-26)

December, January, February (27-28)
2. Thef questions are concerged with larger itmme and we would hike bo know the fote when they Fer: purchaned, the total purehest price and your anmual or yearly operating and malatenance coate. If yeu have more than one boet, pletot liat them on meparate linty.

 by all fomily members. the aptsl pushente price and the amount apent for there liems th the past 12 montha - lor example, your family may own ifix tenat: racketa whith cout stotal of 5100.00. Howaver. If cwo of thent were purchased th the putyeter for a cont of $\$ 40.00$, this if that amount you antar in the ehird column.

| Nunber Ownad | "X" Bax <br> IF None Owned | Total Purchase Price | Arnouat ipent on these Iteme in pest 12 month |
| :---: | :---: | :---: | :---: |

Cd. 3

Bonting Item:

| Electronic equipment | (12) | $\square$ | (3)-27) | (18-22) |
| :---: | :---: | :---: | :---: | :---: |
| Outbeard motori | (23) | $\square$ | (24-28) | (29-33) |
| Beat trailere | 134 | $\square$ | (35-39) | (40-44) |
| Weter akip | (45) | $\square$ | (46-49) | (50.53) |

## Winter Sporth



Other Llem:

| Bicycta | (37) | $\square$ | (38.41) | (42-45) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Golf elube (eet) | (46) | $\square$ | (47-50) | (51-54) |  |
| Binoculara | (55) | $\square$ | (56-58) | (59-6.1) |  |
| Tennie racket | (62) | $\square$ | (63-65) | (66-68) |  |
| Tratl mind blkes | (69) | $\square$ | (70-74) | (75-78) | $\frac{7 9 \longdiv { - 1 4 9 0 }}{\text { Cd. } 5}$ |
| Bike trailer | (12) | [] | (1) 3-16) | (17-20) | Dup. 1-11 |




[^0]:    ${ }^{\text {Bureau }}$ of the Census Current Population Reports, Series P-60, No. 80 \& No. 101.

[^1]:    *Source: Anthony Viccario, Housing Office of the Rhode Island Department of Community Affairs.

[^2]:    9. Please answer the following questions regarding each of the activities My family would participate in this activity more often if existing facilities were less crawded. ('X'ONE BOX FOR EACH)
