

RESEARCH PROJECT COMPLETION REPORT
OWRR PROJECT NO. B-020-OKLA.

AN ANALYSIS OF LATENT DEMAND FOR WATER-BASED
OUTDOOR RECREATION FACILITIES

Submitted to

The Oklahoma Water Resources Research Institute
Oklahoma State University
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CHAPTER I

A COMMENTARY ON RECREATION DEMAND

The pursuit of recreation is becoming an increasingly important aspect of life in the United States. More people with greater affluence, mobility and disposable leisure time have raised use levels of our recreation facilities to unprecedented heights. And the end is not yet in sight. There is no reason to believe that there will be any slackening of the 10 percent average annual increase in visits to our major recreation areas; an increase which has been occurring consistently over the last ten years. It is likely that the pursuit of leisure will represent the largest sector of the United States economy by 1980.¹

Water-based recreation is very important within the overall recreation picture. Recreation activities such as swimming, fishing, and boating are the most popular of resource-oriented recreational activities. Visitations to the facilities of water-oriented recreation areas have increased at an extremely rapid pace, and in the future should increase even more rapidly than other types of recreational area visits.²

It is obvious that enlightened planning for the future of an America which requires increased recreation facilities (especially those for water based recreation) is essential. It is less obvious, but not less true, that planning for these expanded facilities requires a greater understanding of recreation demand--of the nature and extent of

participation, of participant behavior, desires, and levels of satisfaction. This greater understanding is prerequisite to planning the type, extent, and locations of new facilities, and modifications to existing ones.

To date, studies which attempt to predict demand for recreational facilities have been plagued by the problem of ignoring latent demand. This serious gap was one of several areas in recreational research recently identified by a National Academy of Science Conference. The N.A.S. Conference Report stated:

...it can be assumed, for example, that samples of customers using facilities at given times will necessarily indicate the behavioral coefficient that will govern future participation under changed circumstances. One must also have knowledge of the people who would potentially have chosen to participate in such activities, but for some reason did not.³

and later

...projections based on participation data are of limited value to the extent that they neglect non-users who, under conditions of better information, social and economic access, different types of opportunities, and the like, would become participants.⁴

That a significant part of our population does not participate in water-based recreation activities was made clear by the Outdoor Recreation Resources Review Commission Reports of 1962.⁵ Furthermore, it was specifically pointed out that certain segments of the population participate less than others.⁶

These reports suggested that many factors account for non-participation rates or low rates of engagement--lack of equipment, lack of time and money are among the most prominent. Of special importance is the effect of facility location upon low levels of participation; for the location of new facilities can clearly be influenced by

administrative policies and legislative acts. The significance of this factor was highlighted again in the National Academy of Science report: "remoteness of the facilities is a factor in keeping parts of the population from entering certain avocational careers or from pursuing them regularly."⁷

The Status of Research on Recreational Demand

The literature is relatively silent concerning the role that recreational resources opportunities have in influencing participation in recreation. This silence is difficult to explain, especially in light of the fact that many people who have been queried on the subject state that "lack of supply" and "lack of time" account for their non-participation. Furthermore, the frequency of occurrence of the "lack of supply" explanation for non-participation increased from 1960 to 1965 more rapidly than did any other citation.⁸

In ORRRC Study Report #20, recognition is given to the effects of accessibility upon unfulfilled demand. However, in "explaining" participation in outdoor recreation, a regression equation accounting for 30 percent of the variance in participation rates utilizes only socio-economic factors. In another ORRRC nationwide sample, similar results were obtained. Regression analysis utilizing fifteen socio-economic variables only provided explanation for 13 to 27 percent of the variance in water-oriented recreation participation, depending upon the region and sex of the respondent.⁹

The lack of emphasis on opportunities (by those attempting to understand recreational participation) is all the more surprising when consideration is given to attempts at predicting attendance or to

generating demand curves for individual parks, or park systems. Here, of course, the recreational resources themselves have been the focus of the analysis.

Various measures of the quality and the extent of recreational opportunities in conjunction with distance have been employed in an effort to explain attendance. In most cases some form of a gravity model has been utilized.¹⁰ Predictive abilities in these endeavors have characteristically been high, sometimes achieving 80 to 90 percent. Yet most of them have been either tested and adjusted, or derived using empirical data, and therefore cannot be expected to contribute much to the understanding of non-participation.

Two other recent research endeavors deserve attention. In a study of St. Louis residents, regression analysis was able to "explain" 62 percent of annual participation in water-oriented recreation utilizing sixteen socio-economic variables. The higher order level of statistical explanation achieved in the study, strongly suggests that discard of the regional variation has resulted in the elimination of differences in recreation opportunities, thereby enhancing the chances for prediction.¹¹

In a major conceptual advance, Cicchetti et al, recognized the importance of the "supply variables" in their treatment of the Bureau of Outdoor Recreation 1965 National Recreation Survey of 7200 individuals.¹² Using supply variables weighted by population (acres per capita) for clusters of counties around the respondent, they were able to explain only a disappointing 33 percent of participant behavior in swimming. It is noteworthy however, that the procedures used in this study are significantly different than other studies in two important

ways. First the probability to participate was assumed, and equations were used only to predict increases in participation probability. Secondly, almost half of the total variance accounted for in the equation was attributed to the so-called supply variables.

The Study Objectives

This study seeks to ascertain and thoroughly understand the spatial aspects of unfulfilled demand for water-based recreation facilities in Oklahoma. In particular, the investigation has been designed to accomplish the following objectives:

1. The identification of the extent and character of latent (unfulfilled) demand for water-based recreation.
2. The identification of the extent that the current locations of water-based recreation facilities are responsible for low participation or non-participation of some segments of the population.
3. The prediction of how changes in relative location (accessibility) characteristics of water resources will affect latent demand.

In order to accomplish these objectives, the next chapter describes the procedures and methodology of data acquisition. Chapter III deals with general patterns of non-participation and low participation in Oklahoma. It is also concerned with the socio-economic characteristics and proximity to recreational opportunities of a large sample of Oklahomans. The 4th chapter identifies and analyzes factors which may be responsible for non-participation or low participation. The final section summarizes the findings and describes their relevancy to water resources policy and planning.

FOOTNOTES

1. D. M. Bechter, "Outdoor Recreation," Monthly Review of the Federal Reserve Bank of Kansas City, (November, 1970), pp. 15-20.
2. U. S. Bureau of Outdoor Recreation, Outdoor Recreation Trends, (Washington: U. S. Government Printing Office, 1967), p. 26.
3. National Academy of Sciences, A Program for Outdoor Recreation Research, Report on a Study Conference conducted June 2-8, 1968, by the National Academy of Sciences and the Bureau of Outdoor Recreation (Washington: National Academy of Sciences, 1969), p. 26.
4. Ibid., p. 30.
5. Outdoor Recreation Resources Review Commission Study Report 19, National Recreation Survey, (Washington, U. S. Government Printing Office, 1962), p. 120.
6. Outdoor Recreation Resources Review Commission, Outdoor Recreation for America, (Washington: U. S. Government Printing Office, 1962), p. 21, 28.
7. National Academy of Sciences, loc. cit. p. 28.
8. Bureau of Outdoor Recreation and Outdoor Recreation Resources Review Commission unpublished data as quoted in A. L. Ferriss, "The Social and Personality Correlates of Outdoor Recreation," Annals of the American Association of Political and Social Science, Vol. 389 (May, 1970), p. 55.
9. Outdoor Recreation Resources Review Commission, Study Report 20, Participation in Outdoor Recreation: Factors Influencing Demand Among American Adults (Washington: U. S. Government Printing Office, 1962), p. 27, 28, 29.
10. W. E. Boyet, and G. S. Tolley, "Recreation Projection Based on Demand Analysis," American Journal of Farm Economics, Vol. 48 (Nov., 1966), pp. 984-1001; J. B. Ellis, and C. W. Van Doren, "A Comparative Evaluation of Gravity and System Theory Models for Statewide Recreational Traffic Flows," Journal of Regional Science, Vol. 6 (Winter, 1966) pp. 57-70. E. B. Wennergren and D. B. Nielsen, A Probabilistic Approach to Estimating Demand for Outdoor Recreation, Bulletin 478, (Logan, Utah State University, 1968) p. 9. E. L. Shafer, Jr., and R. C. Thompson, "Models that Describe Use of Adirondack Campgrounds," Forest Science, Vol. 14 (December 1968),

pp. 383-391; J. G. McNeely and D. Badger, "The Use of Markov Chains in Projecting Recreation Attendance Patterns," Oklahoma State University, Agricultural Economics Paper #671 (Stillwater, Department of Agricultural Economics, 1967).

11. G. A. Gillespie, and D. Brewer, An Econometric Model for Predicting Water-Oriented Outdoor Recreation Demand, Bulletin 402, Economic Research Service, (Washington: U. S. Department of Agriculture in cooperation with University of Missouri Extension Service, 1969), p. 7.
12. C. J. Cicchetti, J. J. Seneca, P. Davidson, The Demand and Supply of Outdoor Recreation, Bureau of Economic Research (New Brunswick, New Jersey: Rutgers, The State University, 1969), pp. 94-120.

CHAPTER II

THE STUDY DESIGN

The purpose of this section is to describe the general procedures and strategies employed in the study. Insofar as the sampling design derives principally from the 1970 Oklahoma Outdoor Recreation Demand Study, it is also necessary to explain the methodology of that survey.

To estimate recreation participation, facility use, and future demand, a household questionnaire was designed and administered to 4,000 households containing more than 12,000 Oklahoma citizens during the summer of 1969. Specifically, the research sought information from the respondents for the previous twelve month period. Data were gathered concerning trip expenditures, type and amount of participation in several related outdoor activities, important decision making parameters in the selection of facilities, personal characteristics of the respondent, and so on. (See Appendix A for the Household Questionnaire.) Furthermore, since the study concentrated on the general population, a major consideration in the sampling technique was the necessity for drawing responses from a cross-section of the population. Frequent users, low and non-users, the highly educated, those with low incomes, rural and urban residents, were all included. The Demand Survey also conducted a large number of interviews at specific recreation sites and used these responses to help predict future demand. These on-site queries were of little utility for latent demand research since their

inclusion would have biased the findings in favor of frequent users, the people in whom we are not greatly interested.

The eleven State Planning Regions established by the State of Oklahoma formed the basis of the sampling design for the Demand Study. With the exception of the two largest Standard Metropolitan statistical areas, Oklahoma City and Tulsa which were left intact as two separate regions, each region contains approximately seven counties. One central city in each planning region was selected in addition to an average of four small, rural communities. A total of forty-five towns and cities were identified as interview centers (Figure 2-1). The towns selected in each region were assumed to be representative of the entire region, in terms of socio-economic factors, geographical relationship to existing facilities, and location relative to other selected communities. The proportion of each region's population to the total state population was utilized in allocating the proportion of interviews for each region.

Socio-economic factors, as well as geographic balance, and proximity to a park or other recreation area were the major criteria in the selection of census tracts within Oklahoma City and Tulsa. Streets that were representative of the tract as a whole were selected. Following this an assigned point of origin on each street was selected. After the first questionnaire had been administered every third house was designated as an ~~inte~~ interview site. If a house yielded no response, each subsequent house ~~was~~ tried until an interview had been secured, after which the interviewer returned to the original plan. Multi-family dwellings were selected randomly; and a maximum of five usable interviews was permitted.

Census tracts were not available for the remaining forty-three

communities. Consequently, each town was divided into quadrants. Several streets representative of the community's socio-economic status were taken from within each quadrant. A specified number of completed questionnaires was predetermined for each community. Then one-fourth of these interviews were taken in each quadrant. Information was processed from a total of 4,088 useable questionnaires.

As stated previously the 1970 Demand Study made every effort to secure responses from a broad representation of the state's population. This was done primarily in order to project aggregate "demand" for some future period. In contradistinction to this, the objective of the Latent Demand Study was to measure, analyze, and report potential demand among that group of people who participated in recreation at infrequent intervals. Consequently, our sampling method takes advantage of the addresses of respondents surveyed in the 1970 Demand Study. Those who had taken five or fewer out-of-town trips to recreation areas in the previous twelve months were pin-pointed. By definition of the earlier study an out-of-town trip was ". . . a trip for purposes of outdoor recreation which takes the head, and household members to a recreation site more than ten miles beyond the city limits of his hometown, and returns to the point of origin." Approximately thirty percent of those interviewed in the original study fell into this broad and general category of low frequency users. Thus 1,200 addresses formed the basis from which the latent demand interviews were taken. Each address was identified on a map of the appropriate city, and a predetermined number of interviews for that city was established as a quota. Usually, the addresses of the potential respondents formed clusters in each community. Each interviewer was responsible for gathering as much information as possible in

TABLE 2-1

LIST OF CITIES AND TOWNS AND NUMBER OF INTERVIEWS IN THE
HOUSEHOLD SURVEY WITH THE PERCENT OF QUESTIONNAIRES
OBTAINED IN EACH REGION

<u>Region Number 1</u>	<u>Region Number 2</u>	<u>Region Number 3</u>
6.3%	8.5%	6.4%
1. Bartlesville	5. Muskogee	9. McAlester
2. Miami	6. Henryetta	10. Idabel
3. Jay	7. Muldrow	11. Antlers
4. Chouteau	8. Westville	12. Heavener
<u>Region Number 4</u>	<u>Region Number 5</u>	<u>Region Number 6</u>
7.6%	6.9%	15.9%
13. Ardmore	17. Shawnee	21. Tulsa
14. Wynnewood	18. Cushing	22. Bristow
15. Coalgate	19. Pawnee	23. Pawhuska
16. Caddo	20. Konawa	
<u>Region Number 7</u>	<u>Region Number 8</u>	<u>Region Number 9</u>
7.6%	19.2%	9.4%
24. Enid	29. Oklahoma City	34. Lawton
25. Ponca City	30. Midwest City	35. Chickasha
26. Watonga	31. Norman	36. Waurika
27. Cherokee	32. Moore	37. Grandfield
28. Crescent	33. El Reno	
<u>Region Number 10</u>	<u>Region Number 11</u>	
7.5%	4.7%	
38. Altus	42. Woodward	
39. Clinton	43. Guymon	
40. Cheyenne	44. Boise City	
41. Mountain View	45. Taloga	

his assigned cluster. With few exceptions, only those homes which had been placed in the low non-user category were considered. Medium and high participants of the 1970 Demand Study, as well as all other homes, were methodically excluded. A representative number of towns was identified using the eleven planning regions as a base (Table 2-1). Non-respondents were allocated as in Table 2-3.

The questionnaire was designed: (1) to measure the extent of participation among low and non-users for water-based and other recreational pursuits in terms of the respondent, the family as a group, and other family members; (2) to determine recreational behavior relative to several key factors, including proximity to facilities, time, income, knowledge, and perception of facilities, recreational desires and interests; and (3) to gauge the socio-economic characteristics of the respondent and his family. (See Appendix A for Interview Schedule.)

Information was gleaned from a total of 319 questionnaires. These data were recorded and processed on the OSU IBM 360-65 computer.

TABLE 2-2

<u>Towns Surveyed</u>	<u>Number of Usable Interviews</u>
Altus	20
Ardmore	17
Bartlesville	18
Chickasha	10
Clinton	10
Coalgate	2
Enid	19
Lawton	32
McAlester	18
Muskogee	25
Oklahoma City	67
Ponca City	16
Tulsa	62
Waurika	<u>3</u>
Total	319

TABLE 2-3

ALLOCATION OF NON-RESPONDENTS

Successful interviews	36%
Not at Home	35%
Rejections	23%
Locational Problems	<u>6%</u>
	100%

CHAPTER III

OKLAHOMANS AND WATER-BASED RECREATION

Water exerts an imposing influence on the recreational activities of the land-locked Oklahoma population. It is estimated that there were over 100 million water-based recreational occasions in the state during 1970. Of these approximately one half involved swimming occasions, in reservoirs, rivers, and swimming pools. Eighteen percent of the water-based occasions centered on fishing, while ten percent involved boating (non-fishing) activities (Table 3-1). The remainder included activities such as water skiing and scuba diving.

These statistics suggest that the average Oklahoman participates in water-based recreation on more than forty separate occasions each year. But based on our large sample population, we know that nearly one-third of the state residents did not engage in any of these water-based recreational activities during a 12-month period ending the summer of 1969. And of those who did participate in some water-based activity, fifteen percent did so less than six times (Table 3-1).

For specific water-based activities the non-participation and low participation rates are much higher (Table 3-2). In addition, among those who did, one-quarter to one-third did so on less than a bi-monthly basis, and approximately one-third or less did so at approximately a once per month rate. These figures vary substantially with the activity involved.

TABLE 3-1
 PARTICIPATION IN WATER-BASED RECREATION BY OKLAHOMANS DURING
 12 MONTHS ENDING JULY-AUGUST, 1969

	Sample = 100%	Participants = 100%			Estimated Statewide Total 1970 All Oklahomans Millions of Occasions
	No Occasions	1-5 Occasions	6-25 Occasions	Over 25 Occasions	
Swimming	45%	29%	49%	22% = 100%	49.4
Boating	73%	36%	45%	19% = 100%	10.1
Fishing	57%	28%	50%	22% = 100%	18.4
Water-Based Activities	32%	15%	27%	58% = 100%	99.2
Number of Recreational Trips	19%	47%	42%	11 = 100%	

Source: Unpublished data
 Oklahoma Outdoor Recreation Demand Study

TABLE 3-2
 OKLAHOMANS WHO ARE NON-PARTICIPANTS AND LOW PARTICIPANTS
 IN SELECTED WATER-BASED RECREATION ACTIVITIES
 12 MONTHS ENDING JULY-AUGUST, 1969

	Swimming	Boating	Fishing	All Water Based Activities
Percentage Not Participating	45	73	57	32
Low Participants Percentage having five or less occasions	28	36	28	15
Participants Percentage having fifteen or less occasions	50	68	62	32

N= 12,436

Water-Based Recreation as a Function of the Socio-
Economic Characteristics of the Population

The relationships between the socio-economic character of the population and participation in selected water-based forms of recreation are generally predictable in light of the current state of knowledge on the subject. However, there are several significant departures from normal expectations.

Incomes: As the income of the household increases, non-participation rates decline significantly for all of the activities considered here (Table 3-3). In general there is a relationship between low levels of participation and income for boating and swimming. Among higher income participants, there are fewer low participants, and conversely among lower income participants there are more who participate at low rates. This relationship does not hold for fishing however.

Race: Whites have a higher rate of non-participation and a lower rate of high participation for swimming than do non-whites. On the other hand, blacks and other non-whites have higher rates of non-participation and lower rates of high participation for boating and fishing. For example, seventy-three percent of the whites did not engage in boating activities, while the non-white non-participation level was an even higher eighty-six percent (Table 3-4). There is a much weaker relationship between participation level and race. A larger proportion of whites participate at lower levels than do non-whites for both boating and swimming. For fishing there are no differences between the racial groups.

TABLE 3-3
 PARTICIPATION IN WATER-BASED RECREATION ACTIVITIES
 AS A FUNCTION OF INCOME*

	No Participation 100% = Sample At That Income	Participation 100% = Participants at That Income Level	
		1-5 occasions	More than 5 occasions
SWIMMING			
Household Income			
Under 3000	79	20	80
3000-4999	64	31	69
5000-6999	48	20	80
7000-9999	41	15	85
Over 10,000	38	14	86
All Incomes	45	20	80
BOATING			
Under 3000	90	70	30
3000-4999	88	33	67
5000-6999	82	31	69
7000-9999	72	40	60
Over 10,000	66	29	71
All Incomes	74	40	60
FISHING			
Under 3000	63	31	69
3000-4999	62	20	80
5000-6999	57	32	68
7000-9999	55	21	69
Over 10,000	57	31	69
All Incomes	57	29	71

N= 11,764**

* There are statistical differences, significant at the .001 level of the Chi square distribution, between income and non-participation for all activities. There are statistical differences using the Chi square distribution between income and level of participation as follows: swimming (.001), boating (.05), fishing (not significant).

** See Appendix A

TABLE 3-4
 PARTICIPATION IN SELECTED WATER-BASED RECREATION
 ACTIVITIES AS A FUNCTION OF RACE*

	No Participation 100% = Sample	Participation 100% = Participants of Race	
		1 to 5 occasions	Over 5 occasions
SWIMMING			
White	58	29	71
Non-White	53	26	74
All Races	47	28	72
BOATING			
White	73	40	60
Non-White	86	35	65
All Races	75	39	61
FISHING			
White	44	20	80
Non-White	49	22	78
All Races	44	21	79

N= 11,764**

* There are statistical differences, significant at the .01 level of the Chi square distribution, between race and non-participation for all activities. There are statistical differences using the Chi square distribution between race and level of participation as follows: swimming (.05), boating (.05), fishing (not significant).

** See Appendix A.

Education: Poorly educated people have higher rates of non-participation than those with more schooling. There is a sharp break in rates between the high school graduates and those without a diploma, for all water-based activities. (Table 3-5). There are more complex (and less significant) relationships between low participation and education level. The proportion of swimmers who engage at low rates decreases with increasing educational level. Among boaters there are differences with educational level but they are not consistent. For fishermen, there is no relationship at all.

Occupation: Professional, managerial, clerical-sales, and craftsmen have somewhat lower rates of non-participation in swimming and boating than do laborers, and service workers. Farm workers have markedly lower rates of non-participation in fishing and higher rates of non-participation in boating and swimming than does any other group. (Table 3-6). Participants who belong to professional and managerial occupation groups are prone to participate at low rates in fishing and average or higher rates in swimming and boating. Clerical sales are not as likely to participate at low rates in any activity. Craftsmen, laborers, and farm workers are more likely to engage at low rates in swimming and boating but are average in terms of fishing.

Socio-Economic Characteristics of Non-Participants

If non-participants are considered separately, their socio-economic character begins to emerge. (Table 3-7).

Income: The bulk of the non-participants in this sample have high incomes which is in accord with the skewed distribution of incomes for the sample. It is reasonable to assume, then, that non-participants

TABLE 3-5

PARTICIPATION IN SELECTED WATER-BASED RECREATION ACTIVITIES
BY EDUCATION OF HEAD OF HOUSEHOLD*

	<u>NO PARTICIPATION</u>	<u>PARTICIPATION</u>		<u>SAMPLE SIZE</u>
		<u>1 TO 5 OCCASIONS</u>	<u>OVER 5 OCCASIONS</u>	
	100%=Sample at Given Education Level	100%=Participants at Given Education Level		
<u>SWIMMING</u>				
Highest Grade Completed by Head of Household				
none	78%	33%	67%	27
1-6 years	79	40	60	184
7-11 years	67	24	75	1448
12 years	46	23	77	3859
13-15 years	40	16	84	2966
16 and more	35	14	86	3280
All Education Levels	45	20	80	11,764
<u>BOATING</u>				
Highest Grade Completed by Head of Household				
none	85	10	90	27
1-6 years	95	40	60	184
7-11 years	85	40	60	1448
12 years	79	33	67	3859
13-15 years	70	52	48	2966
16 and over	65	37	63	3280
All Education Levels	73	39	61	1,764
<u>FISHING</u>				
Highest Grade Completed by Head of Household				
none	63	21	79	27
1-6 years	70	20	80	184
7-11 years	64	30	70	1448
12 years	54	30	70	3859

Table 3-5 (Continued)

	<u>NO PARTICIPATION</u>	<u>1 TO 5 OCCASIONS</u>	<u>OVER 5 OCCASIONS</u>	<u>SAMPLE SIZE</u>
13-15 years	55	28	72	2966
16 and over	19	31	69	3280
All Education Levels	57	31	69	11,764

N=11,764#

*There are statistical differences significant at the .001 level of the Chi square distribution between education level and non-participation for all activities. There are statistical differences (using the chi square distribution) between education and participation level as follows: Swimming (.05), Boating (.05), and Fishing (not significant).

#See Appendix A

TABLE 3-6
 PARTICIPATION IN SELECTED WATER-BASED RECREATION FACILITIES
 BY OCCUPATION OF HEAD OF HOUSEHOLD*

	NO PARTICIPATION 100%=Total Sample for Given Occupation	PARTICIPANTS		SAMPLE SIZE
		1-5 OCCASIONS 100%= Total Participants for Given Occupation	OVER 5 OCCASIONS 100%= Total Participants for Given Occupation	
<u>SWIMMING</u>				
Occupations				
Professional	35%	20%	80%	2028
Manager	39	16	84	1926
Clerical-Sales	37	15	85	1603
Craftsman	37	23	77	1473
Laborer	43	26	74	1261
Service	44	14	86	970
Farmers and Farm Workers	53	25	75	173
All Occupations	38	20	80	953
<u>BOATING</u>				
Occupations				
Professional	67	35	65	2028
Manager	66	34	66	1926
Clerical-Sales	67	34	66	1603
Craftsman	72	40	60	1473
Laborer	84	45	55	1261
Service	76	40	60	970
Farmers and Farm Workers	82	70	30	173
All Occupations	74	36	64	5534
<u>FISHING</u>				
Occupations				
Professional	59	34	66	2028
Manager	56	40	60	1926
Clerical-Sales	54	25	75	1603
Craftsman	52	28	72	1473
Laborer	52	28	72	1261
Service	59	30	70	970
Farmers and Farm Workers	49	32	68	173
All Occupations	57	30	70	9534

N=11,764#

*There are statistical differences, significant at the .01 level of the chi-square distribution between both occupation and non-participation rates and occupation and participation levels for all activities.

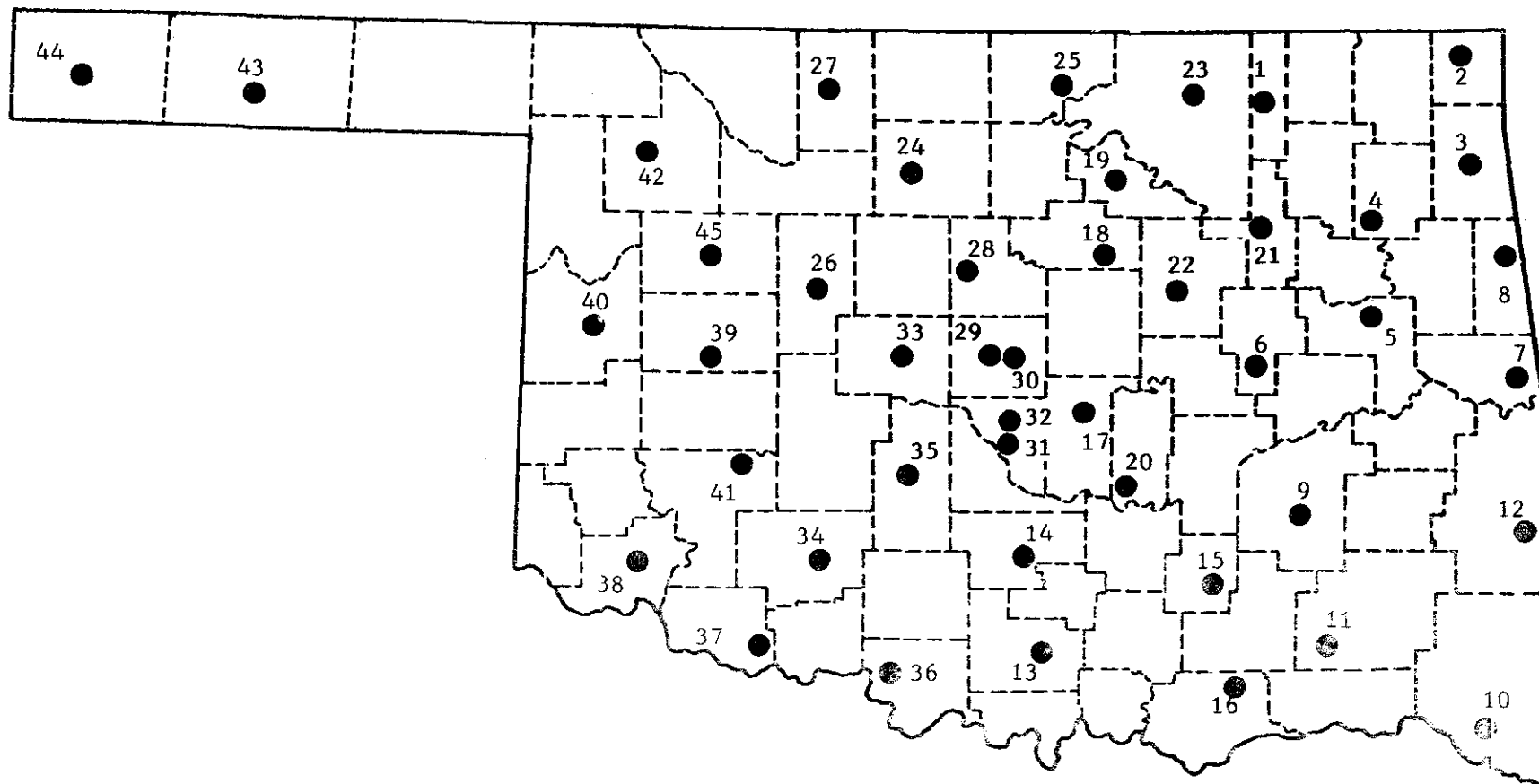
#See Appendix A.

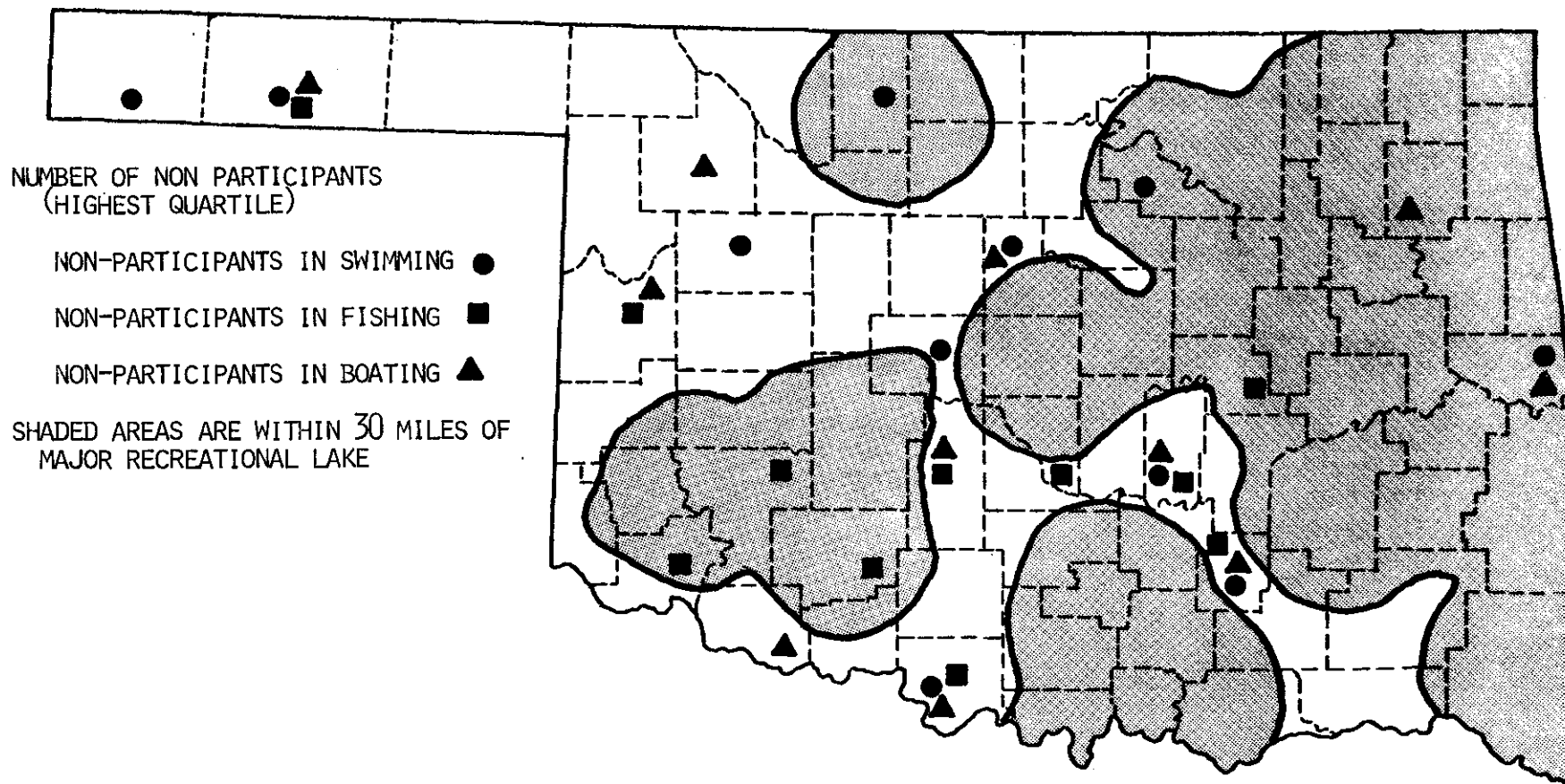
TABLE 3-7

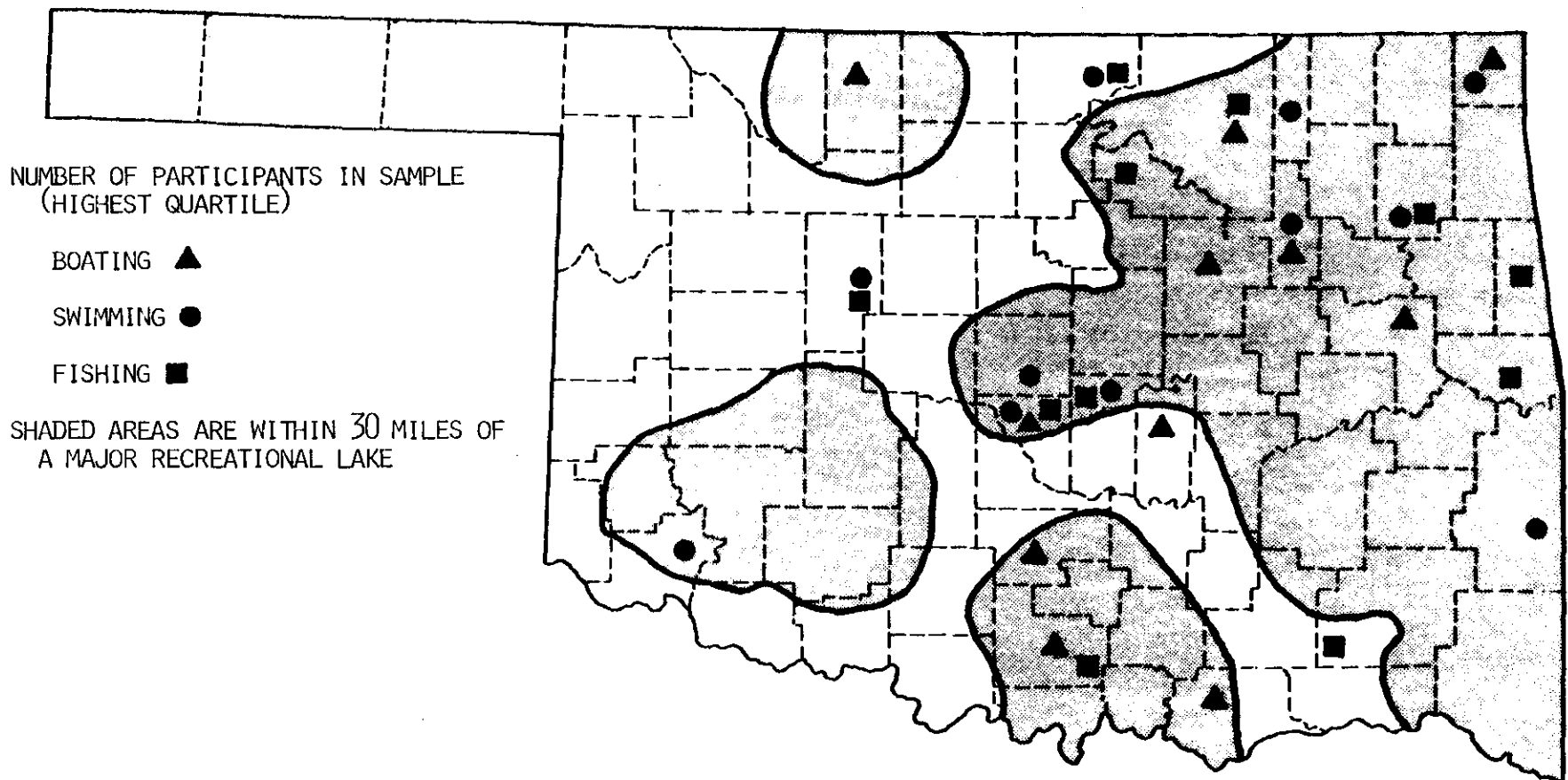
PERCENTAGE OF NON-PARTICIPANTS IN SELECTED WATER-BASED
RECREATION ACTIVITIES BY SOCIO-ECONOMIC CHARACTERISTICS*

	NON-PARTICIPATION			SAMPLE POP	OKLA POP
	SWIMMING	BOATING	FISHING		
<u>Household Income</u>					
Under \$3000	8%	6	5	5	31
3000-4999	10	8	8	8	23
5000-6999	19	20	18	19	21
7000-9999	30	32	32	32	10
10,000 and Over	32	33	37	36	10
<u>Race</u>					
White	91	91	93	92	91
Non-White	9	9	7	8	9
<u>Education of Head of Household</u>					
none	1	--	--	1	2
1-6 years	3	2	2	2	15
7-11 years	18	14	14	15	43
12 years	34	35	31	32	23
13-15 years	22	24	24	25	10
16 and over	22	25	29	26	8
<u>Occupation of Head of Household</u>					
Professional	14	16	18	17	11
Manager	14	15	16	16	9
Clerical-Sales	11	12	13	14	21
Craftsman	10	12	11	13	14
Laborer	11	12	10	11	18
Service	8	8	9	8	11
Farmers and Farm Workers	2	2	1	1	9
	5240	8708	6728	11,764	2.3 million

There are no statistically significant differences between socio-economic characteristics of non-participants in any activity and the sample as a whole.







have income distributions which closely approximate those of the Oklahoma population. This is consistent for all activities.

Race: The vast majority of non-participants are white. There is no reason to suspect that non-participants are more or less likely to be white, than is the Oklahoma population.

Education: Given the educational profile of the sample population the rates of non-participation among the three water-based activities in relation to educational level are as expected. If these findings are adjusted to conform to the educational characteristics of State residents it can be concluded that approximately one-half of the non-participants are from families where the head of the household has not completed high school.

Occupation: Nearly one-third of all sample non-participants come from professional or managerial occupations. These figures are remarkable consistent with the distribution of occupations in the sample at large. It logically follows that non-participants are likely to be drawn from different occupations in approximately the same proportions that occupations are distributed in the population at large. Thus approximately twenty-percent of the non-participants would be professionals or managers, approximately twenty-percent would be clerical or sales personnel, twenty-percent service or farm workers, and one-third craftsmen or laborers.

Non-Participation Consistency: It is also interesting to note that non-participants in one-water-based recreation activity are likely to be non-participants in other water-based recreation activities, (Table 3-8). It appears that swimming is the key activity. Therefore, if one does not swim he is not as likely to participate in boating and fishing.

TABLE 3-8

INTER-ACTIVITY RELATIONSHIPS AND NON-PARTICIPATION

<u>NON-PARTICIPANTS</u>	<u>WHO ARE ALSO NON-PARTICIPANTS</u>			
	<u>SWIMMING</u>	<u>BOATING</u>	<u>FISHING</u>	<u>HUNTING</u>
Swimming (N=5240)	-	88%	54%	79%
Boating (N=8658)	32%	-	62%	72%
Fishing (N=6728)	38%	82%	-	85%

The converse is not the case however, for non-participants in boating and fishing may swim. There is some information to suggest that non-participants in water-based activities are also likely to be non-participants in other recreational activities. (See Table 3-8).

Socio-Economic Characteristics of Low-Participants

Unlike the non-participants there appear to be significant tendencies for some socio-economic groups to be over- or under represented in the group designated as low participators (Table 3-9). Low participants in boating for example, are more likely to have high incomes, to be white, and to come from professional or managerial occupational groups, than is the sample population. There is a slight tendency for low participants in swimming and boating to have somewhat greater representation in the most skilled occupational categories than might be expected, given the distribution of occupations in the sample population. On the other hand, low participants in fishing appear to possess characteristics which are very similar to those of the sample population, and it may be concluded that these low participants reflect the distribution of the socio-economic characteristics of the State population.

Unlike non-participants, low participants in one activity tend to participate at moderate or high levels in other water-based activities (Table 3-10).

Recreational Opportunity, Proximity, and Participation Levels

There are wide variations in the extent of participation and non-participation from place to place (Figures 3-1 and 3-2). Broadly

TABLE 3-9
 LOW PARTICIPATION (ONE TO FIVE OCCASIONS)
 IN WATER-BASED ACTIVITIES
 AS A FUNCTION OF SOCIO-ECONOMIC CHARACTERISTICS

Years completed by Head of Household	<u>LEVEL OF EDUCATION (HOUSEHOLD HEAD)</u>			TOTAL IN	TOTAL IN
	SWIMMING	BOATING	FISHING	SAMPLE	OKLAHOMA POPULATION
None	-	-	-	-	2%
1-6	1%	-	-	2%	15
7-11	10	11	7	12	43
12	36	34	26	33	23
13-15	25	26	29	25	10
16+	28	28	38	28	8
<u>HOUSEHOLD INCOME</u>					
Household Income (\$)					
Under 3000	2	4	4	5	31
3000-4999	6	3	5	7	23
5000-6999	22	12	20	18	21
7000-9999	34	38	34	33	15
10,000 and over	36	42	37	37	10
<u>RACE</u>					
Race of Head of Household					
White	91	96	93	92	91
Non-White	9	4	7	8	9
<u>OCCUPATION</u>					
Professional	21	23	19	17	11
Manager	16	19	17	16	9
Clerical-Sales	14	14	13	14	21
Craftsman	17	14	14	13	14
Laborer	13	7	12	11	18
Service	7	9	8	8	11
Farmers and Farm Workers	2	2	2	1	9
N=	1252	1163	1500	11,764	2.3 million

TABLE 3-10

LOW PARTICIPANTS IN SELECTED ACTIVITIES AS RELATED TO
LEVELS OF PARTICIPATION IN OTHER WATER-BASED ACTIVITIES

<u>LOW PARTICIPANTS IN</u>	<u>WHO ALSO PARTICIPATE</u>	<u>NO PARTICIPATION</u>	<u>1-5 OCCASIONS</u>	<u>6 or MORE</u>
Swimming N=1252	Fishing Boating	21 29	61 35	18 100% 26 100%
Boating N=1163	Swimming Fishing	1 15	16 21	83 100% 64 100%
Fishing N=1500	Swimming Boating	18 25	44 38	18 100% 27 100%

speaking there is greater participation in the Eastern half of the State than in the Western part. It seems likely that these differences are associated with differences in the availability of water-based recreational facilities. For closer scrutiny four variables were used to examine the relationship between proximity to water recreation resources and recreation participation. One of these variables relates specifically to the accessibility to parks with specialized water-oriented recreational facilities, while the other two are gross measures of availability of regional water resources (Tables 3-11, 12, 13).

As proximity to opportunities increases, the proportion of the sample who are non-participants decreases, while participants and to some extent participation level increases. Thus, there is a 25 percent higher rate of non-participation in swimming at locations where there are no facilities within 30 miles than when there are three facilities featuring water-based recreation facilities within 30 miles. The same general pattern persists with regard to the other proximity variables and with other activities as well.

When resources are abundant low rates of participation in general decline. Thus low participation levels are 25-50% higher at those locations where there is a paucity of recreational resources. When there is a major reservoir within ten miles, only 22 percent of all participants have less than six occasions, but when the nearest major reservoir is thirty miles or more, 35 percent of all participants do so at low rates.

When the different participation levels are held constant, the proximity to recreational resources continues to be significant.

TABLE 3-11

PARTICIPATION LEVELS FOR SELECTED WATER-BASED RECREATION ACTIVITIES
BY PROXIMITY TO RECREATIONAL FACILITIES*

	<u>NUMBER OF FACILITIES HAVING WATER-BASED RECREATION</u>			
	<u>WITHIN 30 MILES</u>			
	<u>zero</u>	<u>one or two</u>	<u>three or more</u>	<u>total sample</u>
<u>SWIMMING</u>				
No Participation	52%	45%	41%	45%
Participation				
1-5 Occasions	21	18	18	18
6 and More Occasions	79	82	82	82
<hr/>				
<u>BOATING</u>				
No Participation	78	75	68	74
Participation				
1-5 Occasions	45	36	34	36
6 and More Occasions	55	64	66	64
<hr/>				
<u>FISHING</u>				
No Participation	55	59	53	57
Participation				
1-5 Occasions	24	27	33	28
6 and More Occasions	75	73	67	72
N =	2014	7286	3158	12,458

*There is a statistical relationship, significant at the .01 level of the Chi Square distribution, between non-participation in swimming, boating and fishing and proximity to parks featuring water-based recreation facilities.

There is a statistical relationship, significant at the .01 level of the Chi Square distribution and between participation level in boating, and fishing and proximity.

TABLE 3-12

PERCENTAGE AT VARIOUS PARTICIPATION LEVELS FOR SELECTED WATER-BASED
RECREATION ACTIVITIES BY PROXIMITY TO RECREATIONAL FACILITIES

Surface Acreage, 500 Acre Reservoirs or Larger

	No 500 Acre Reservoir	500-10,000 Acres	Over 10,000 Acres	
SWIMMING OCCASIONS				
No Participation	45	47	41	45
Participation				
1-5 Occasions	16	21	19	18
6 and More	84	79	81	82
BOATING OCCASIONS				
No Participation	78	74	69	74
Participation				
1-5 Occasions	41	38	32	36
6 and More	59	62	68	64
FISHING OCCASIONS				
No Participation	59	57	56	57
Participation				
1-5 Occasions	26	30	34	28
6 and More	74	70	66	72
100%	2367	6681	3410	12,458

There are statistical relationships significant at the .01 level of the Chi-Square Distribution, between fishing, boating and swimming non-participation and nearby water acreage.

There are statistical relationships (using the Chi Square Distribution) between participation levels and nearby water acreage as follows: swimming .05, boating .01, and fishing .01.

TABLE 3-13

PERCENTAGE AT VARIOUS PARTICIPATION LEVELS FOR SELECTED WATER-BASED
RECREATION ACTIVITIES BY PROXIMITY TO RECREATIONAL FACILITIES

	<u>DISTANCE TO NEAREST MAJOR RESERVOIR</u> (500 Acres or Larger)			
<u>SWIMMING OCCASIONS</u>	<u>TEN MILES OR LESS</u>	<u>11 TO 30 MILES</u>	<u>OVER 30 MILES</u>	<u>TOTAL SAMPLE</u>
Non-Participants	45	44	51	45
Participants				
1-5 Occasions	22	18	35	18
6 and More Occasions	78	87	65	82
<u>BOATING OCCASIONS</u>				
Non-Participants	73	73	80	74
Participants				
1-5 Occasions	37	37	50	36
6 and More Occasions	63	63	50	64
<u>FISHING OCCASIONS</u>				
Non-Participants	54	59	60	57
Participants				
1-5 Occasions	28	27	33	28
6 and More Occasions	72	73	67	72
100% =	4619	7545	1334	12,498

There are statistical relationships, significant at the .01 level of the Chi Square distribution between non-participation and participation levels for swimming, boating and fishing and distance to nearest major water resources.

Non-Participants: At low proximity locations relative to water-based recreational resources, there is a significantly greater number of non-participants in boating than would be expected given the locational characteristics of distribution of the total sample (Table 3-14) that is non-participation in swimming and boating is significantly related to the number of park facilities available and the distance to the nearest reservoir. However, there is no such relationship in the case of fishing participation.

When non-participants as a percentage of the total sample are examined the impact of proximity is even more obvious (Table 3-15). There is a consistent relationship between availability of county reservoir acreage and distance to nearest major reservoir and non-participation in all three activities. The absence of parks with water-oriented recreational facilities seems to induce higher levels of non-participation in swimming and boating, but has little bearing on fishing.

Low-Participants: Low participants differ markedly from the sample population in several important ways (Table 3-14). Low participation in swimming and boating is significantly related to the availability of reservoirs or parks. Proximity is a major factor in the frequency of participation where these activities are concerned. However proximity does not appear to have an effect on level of participation in fishing.

Inter-relationships Between Proximity and Socio-Economic Characteristics of the Sample Population

There is a set of complex inter-relationships between socio-economic characteristics, proximity to recreational resources, and the

TABLE 3-14

LEVELS OF PARTICIPATION, PERCENTAGE AT DIFFERENT LOCATIONS
RELATIVE TO AVAILABILITY OF RECREATIONAL RESOURCES*

Participation Levels	No Parks Within 30 Miles A	Nearest Reservoir in Over 30 Miles B	County Reservoir Acreage Less than 500 C	100%=
<u>Swimming</u>				
Non-Participants	19	13	20	5600
Low Participants	16	18	17	1450
All Participants	14	11	19	7001
<u>Boating</u>				
Non-Participants	17	12	20	9165
Low Participants	17	11	18	1213
All Participants	13	18	12	3683
<u>Fishing</u>				
Non-Participants	16	12	20	7114
Low Participants	16	11	17	1582
All Participants	16	10	18	5384
All Respondents	16	14	19	12,848
All Oklahoman	10	24	16	2.3 mil

*There are statistical relationships, significant at the .01 level of the Chi Square distribution, between boating and swimming participation and opportunity variables A and B.

TABLE 3-15

NON-PARTICIPANTS AS A PERCENTAGE OF TOTAL SAMPLE BY PROXIMITY SITUATIONS*

Non-Participants As a % of Total Respondents	County Reservoir Acreage		
	500 or Less than 500	500 to 10,000 Acres	Over 10,000 Acres
Swimming	47	45	41
Boating	78	74	69
Fishing	59	57	56
100% =	2365	6681	3410

Featuring Water-Based Recreation Facilities
Number of Parks within 30 Miles

Non-Participants As a % of Total Respondents	None	One or Two	Three or More
Swimming	52	45	41
Boating	78	75	68
Fishing	55	54	53
100% =	2014	7286	3158

Distance to Nearest Major (over 500 a.) Reservoir

Non-Participants As a % of Total Respondents	Over 30 Miles	11 to 30 Miles	10 Miles or Under
Swimming	49	45	44
Boating	80	73	73
Fishing	60	59	54
100% =	4622	6502	1460

*There are statistical relationships, significant at the .01 level of the Chi Square distribution, between proportions of non-participants in swimming and boating and all three proximity variables in non-participation. Fishing is significantly related to County Reservoir acreage and distance to nearest major reservoir.

TABLE 3-16

PROXIMITY TO RESERVOIR BY INCOME LEVELS FOR NON-PARTICIPANTS
IN SELECTED WATER-BASED ACTIVITIES

	Distance to Nearest Major Reservoir			100%#
	Less than ten miles	Ten to 30 Miles	Over 30 Miles	
SWIMMING				
NON-PARTICIPANTS				
Low Incomes (Under \$7000)	43	38	25	
High Incomes (Over \$10,000)	30	32	38	
All Income Levels				5290
BOATING				
NON-PARTICIPANTS				
Low Incomes (Under \$7000)	40	54	6	3007
High Incomes (Over \$10,000)	31	52	14	2885
All Income Levels	37	52	11	8658
FISHING				
NON-PARTICIPANTS				
Low Incomes (Under \$7000)	39	56	5	2105
High Incomes (Over \$10,000)	33	54	12	2480
All Income Levels	35	55	19	6728

There is evidence of statistical significance at the .001 level between non-participation by income level and proximity for all three activities.

frequency of participation in water-based recreation. Since income is highly correlated with occupation and education, we will focus here on the inter-relationship between income, proximity, and participation.

There are significant differences between the distribution of incomes at locations with different proximity characteristics (Table 3-16). Higher income people appear more reluctant to travel over 30 miles to participate in water-based activities than do the lower income groups. In this case the function of distance is not being overcome by monetary investments alone. This is in accord with findings concerning the value of the recreational trip in comparison to the on-site experience itself. Low income groups may be according a greater utility to the trip than to the recreational activity which necessitates the journey. Swimming, boating, and fishing all conform to this pattern.

CHAPTER IV

FACTORS INFLUENCING LATENT DEMAND

What is responsible for the behavior of the non-recreationalists? Why do some people participate at such low levels? What can be done to increase their recreational involvement? In order to answer these and other pertinent questions a small part of the original sample was intensively resurveyed. By doing this we were able to assess and better understand the extent to which certain factors relate to low participation and non-participation in water-based recreation. Specifically it was hypothesized that such things as skill level, availability of recreational equipment, availability of leisure time and money, knowledge of alternatives and the nature of available facilities might be important.

Outdoor Recreation Behavior of the Small Sample

Among those interviewed in the intensive sample, over half had not participated in swimming as a family group (Table 4-1). Similar low levels of participation were also true for other water-based activities both in terms of the family as the participating unit, and for the

TABLE 4-1

PARTICIPATION CHARACTERISTICS OF THE LOW DEMAND SAMPLE

	Number of Family Occasions*			
	0 (none)	1-5 (low)	6-15 (moderate)	15+ (high)
Swimming	56%	21%	13%	10%
Boating	56	19	13	12
Fishing	45	23	16	15
All Water-based Activities	24	15	20	41

*Family occasion is defined as an outing in which the majority of family members participate. A single person participating by himself is classified here as one family occasion.

individuals within the family unit.¹ From the total sample, thirty-five percent had not participated in any water-oriented recreational activity.

Race, Occupation, and Life-Cycle Characteristics of the Sample

The sample appears to be fairly representative (Table 4-2). Approximately 92 percent of the sample is white. Approximately 40 percent live in family groups which contain some children under ten years of age, and another one-third are in family groups where all the children living at home are over ten years. An inordinately high percentage of the sample are older couples, while only a very small portion of the sample are young singles or college students. The occupational structure of the sample is slightly biased in favor of the professional-technical occupations. This is possibly the result of a bias in recording or reporting occupations.

Non-Participants: There are no significant differences between non-participants in any activity and the total sample insofar as race and occupation are concerned (Table 4-3). Those who are non-participants in all water-based activities and those who are non-participants in swimming are not so likely to come from families with small children, and are somewhat more likely to be older couples without children.

¹The differences between participation levels of the individuals and the living group as a whole were not significantly different. It can be concluded that most water-based recreational activity is carried on in groups, particularly in family groups. For the purposes of this study, the intensive analysis was performed on living groups, and the level of generalization that is used is the family occasion.

TABLE 4-2
SOCIO-ECONOMIC CHARACTERISTICS OF THE 319 RESPONDENTS

<u>Life Cycle Stage</u>	<u>Number</u>
Teenager, college student, or young Single	4
Young family without children	20
Family with small children all under 5	27
Family with children, at least one under 10, but not all under 5	99
Family with older children, (all over 10)	93
Older family, adults only, (all over 40)	70
Single person over 40	<u>6</u>
	319
 <u>Race</u>	
White	285
Non-White	<u>34</u>
	319

OCCUPATIONS OF HEADS OF HOUSEHOLD

Prof. Tech.	74
Managers & Tech.	32
Clerical - Sales	32
Craftsman, Service & Laborers	116
No Occupation, Students, Armed Services.	<u>65</u>
	319

TABLE 4-3
 SELECTED SOCIO-ECONOMIC CHARACTERISTICS OF NON-PARTICIPANTS
 BY ACTIVITY TYPE

<u>Race:</u>			
Non-Participants in,	<u>Percentage White</u>		
Any Water-Based Activity	87%		
Swimming	91		
Boating	88		
Fishing	92		
All Respondents	92%		

<u>Life Cycle Stage:</u>	<u>% Family, Some Children Under 10 yrs.</u>	<u>% Family, All Children Over 10 Years</u>	<u>Couple, Both Over 40 Years</u>
Non-Participants in,			
Any Water-Based Activity	24%	27%	40%
Swimming	32	29	31
Boating	39	28	26
Fishing	37	28	28
All Respondents	41%	30%	21%

<u>Occupation of Head of Household:</u>		
Non-Participants in,	<u>% Professional-Technical</u>	<u>% Laborers or Operatives</u>
Any Water-Based Activity	32%	28%
Swimming	27	30
Boating	27	25
Fishing	28	24
All Respondents	29%	27%

There are statistical relationships, significant at the .01 level of the Chi Square distribution, between life cycle stage and non-participation for all activities.

Low Participants: Low participants are also very similar to the sample as a whole insofar as race and occupation is concerned (Table 4-4). There are no significant relationships between these two socio-economic variables and low participants in any activity. However low participants are much more likely to be from families with small children, and less likely to be older couples than is the sample as a whole.

It is also interesting to note that at higher levels of participation the relationships with life-cycle stage persist (Table 4-5).

Satisfaction with Recreation Participation Levels

Of those interviewed nearly 61 percent expressed satisfaction with their current level of recreational activity. Contrary to what one might expect however, non-participants seem only slightly less satisfied than the total population (Table 4-6). Low participants vary somewhat depending upon the activity in question, but there is no strong tendency for this group to be significantly less satisfied regardless of activity. Indeed among low participants in swimming there is greater level of satisfaction than with the sample as a whole. Boaters are slightly less satisfied. Nevertheless, based upon these data, one would have to conclude that the substantial majority of the population is satisfied with their present level of participation regardless of what that level happens to be. Aspirations seem to be shaped by present behavior, and not by dreams of more leisure time, money, or facilities.

Swimming Skill

Non-participants in water-based recreational activities are much more likely to acknowledge the fact that they have no swimming skills

TABLE 4-4

SELECTED SOCIO-ECONOMIC CHARACTERISTICS
OF LOW PARTICIPANTS BY ACTIVITY TYPE

<u>Race:</u>			
Low Participants in,	<u>% White</u>		
Any Water-Based Activity	90		
Swimming	90		
Boating	91		
Fishing	92		
All Respondents	92		

<u>Life Cycle Stage:</u>	<u>% Family, Some Children Under 10 yrs.</u>	<u>% Family, All Children Over 10 yrs.</u>	<u>% Couples, Both Over 40 yrs.</u>
Low Participants in,			
Any Water-Based Activity	47	29	12
Swimming	50	30	14
Boating	47	33	13
Fishing	43	34	18
All Respondents	41	30	22

<u>Occupation of Head of Household:</u>	<u>% Professional Technical</u>	<u>% Laborers or Operatives</u>
Low Participants in,		
Any Water-Based Activity	27	27
Swimming	33	29
Boating	26	30
Fishing	33	30
All Respondents	29	27

Table 4-5

LIFE CYCLE STAGES AND LEVELS OF PARTICIPATION

<u>Low Participants</u>	<u>Family with Small Children</u>	<u>Family with Older Children</u>	<u>Older Family with no Children at Home</u>
All	47%	29%	12%
Swimming	50	30	14
Boating	46	33	13
Fishing	43	34	18
<u>Moderate</u>			
All	45%	31%	17%
Swimming	55	29	10
Boating	44	33	10
Fishing	47	29	18
<u>High Participants</u>			
All	43%	30%	20%
Swimming	37	35	14
Boating	40	37	13
Fishing	40	30	28
All Respondents	41%	30%	22%

There are statistical relationships, significant at the .01 level of the Chi Square distribution, between swimming, boating, and fishing participation levels and life cycle stages.

TABLE 4-6

Those Expressing Satisfaction with Current Levels of Participation
By Participation Level*

	<u>Percent Presently Satisfied</u>
Non-Participants in,	
Any Water-Based Recreation Activity	56%
Swimming	56
Boating	59
Fishing	57
Low Participants in,	
Any Water Recreation Activity	63%
Swimming	67
Boating	52
Fishing	57
All Respondents	61%

*There is a significant statistical relationship, as measured by the Chi Square distribution, between satisfaction with present level of participation and level of participation as follows:

Non-Participation in:

All Water-Based Recreation Activity (.05)

Swimming (.05)

Low Participation in:

Swimming (.05)

Boating (.01)

(Table 4-7). In contrast participants including those participating at low rates in swimming and boating are much less likely than the total sample to admit to no swimming skills. Swimming skill levels would seem to have great bearing on ones propensity to engage in water-based recreation, and the response of the non-participants to this query is not at all surprising.

Ownership of Recreational Equipment

Ownership of recreational equipment has a similar effect (Table 4-8). Among non-participants the percentage owning more than five kinds of recreation equipment is significantly lower than the ownership rate of the general population. However, among the low participants ownership levels leap substantially. Such a finding suggests that at the very least participants must own the basic equipment, and it may also indicate that participation is in fact restricted by the lack of proper equipment. However, there is no way of knowing why non-equipment owners choose this status. It may be a response based on a lack of desire for water-based recreation, and therefore not a cause for non-participation. Or, it may reflect an economic inability to purchase equipment and act as a barrier to participation.

Leisure Time and Levels of Participation

Over 30 percent of the interviewees said that they had sufficient free time to undertake the kinds of recreation activities in which they are interested. Forty percent responded that they did not have sufficient time to accomplish these recreational pursuits. But only a small portion of respondents indicated that they would invest more free time

TABLE 4-7

SWIMMING SKILL AND PARTICIPATION LEVELS*

	<u>% Acknowledging No Swimming Skill</u>
Non-Participants in,	
Any Water-Based Activities	25%
Swimming	28
Boating	33
Fishing	40
All Respondents	20%

*There is a statistical relationship, significant at the .01 level of the Chi Square distribution, between those acknowledging no swimming skill and non-participants in water based recreation activities.

TABLE 4-8

OWNERSHIP OF RECREATION EQUIPMENT & LEVEL OF PARTICIPATION*

	<u>% Owning More Than Five Kinds of Recreation Equipment</u>
<u>Non-Participants in,</u>	
Any Water-Based Activities	23
Swimming	42
Boating	38
Fishing	39
 <u>Low Participants in,</u>	
Any Water-Based Activity	61
Swimming	79
Boating	66
Fishing	65
All Respondents	54

*There are statistical relationships significant at the .01 level of the Chi Square distribution ownership and participation levels for all activities.

in the water-based activities if it were available.

Oddly enough, non-participants as a group were more satisfied with their leisure time sufficiency than was the sampled group as a whole (Table 4-9). And they were less likely to specify exclusive interest in additional water-based recreation given unlimited free time.

Respondents from the low participation sample indicated that they had lower demands for more recreation than did the larger statewide group. These findings are particularly interesting when coupled with the fact that a higher proportion of non-participants have more free time (work fewer hours and days per week) than the participants do!

Similar response patterns are also apparent for non-participants in specific water-based activities. Regardless of the activity, non-participants had greater-than-average amounts of free time, were more likely to indicate satisfaction with their leisure time availability, and were less inclined to use additional free-time for water-based recreation (or recreation of any sort) than were the participants, or the sample as a whole.

Low participants in water-based recreation are less likely to believe that they have sufficient free time (Table 4-10). This is especially true when the activities are examined separately. For example, 19 percent of the low participants in boating are satisfied, where 30 percent of the total sample and 28% of all participants are satisfied. In general as participation level increases, satisfaction with leisure time availability increases (Table 4-11).

Unlike non-participants, low participants have higher propensities to select more water-based activities than that of the sample population. Moreover, it appears that if additional free time comes regularly

TABLE 4-9

NON-PARTICIPANTS & LEISURE TIME

Do you have sufficient "free" time to do the kinds of recreation activities in which you are interested? If so, what would you like to do if time were not a factor?		
	<u>% Responding "Yes"*</u>	<u>% of those Resp. Insufficient L.T. Who Want More Water-Based Activities*</u>
Non-Participants in,		
Any Water-Based Activities	46	18
Swimming	37	17
Boating	38	19
Fishing	39	21
All Respondents	31	30
Those Responding Tomorrow Would Be Spent in Water-Based Activities*		
Those Indicating Shorter Work Week Would Produce More Water-Based Recreation*		
Non-Participants in,		
Any Water-Based Activities	0	3
Swimming	15	26
Boating	14	25
Fishing	16	27
All Respondents	25	32
<u>% Working Less than 35/Week*</u>		
<u>% Working Less Than 5-day Work Week*</u>		
Non-Participants in,		
Any Water-Based Activities	16	28
Swimming	13	26
Boating	19	25
Fishing	14	27
All Respondents	11	21

*There are statistical relationships, all significant at the .01 level of the Chi Square distribution, between non-participants in the several water-based activities and these variables.

TABLE 4-10

LOW PARTICIPANTS AND LEISURE TIME

Low Participants in,	<u>% Responding Sufficient Leisure Time*</u>	<u>% of Those Responding Insufficient L.T. Who Want more Water-Based Activities*</u>
All Water-Based Activities	30	26
Swimming	20	34
Boating	19	38
Fishing	18	39
All Respondents	31	30
Low Participants in,	<u>Those Responding Tomorrow Would Be Spent in W.-Based Recreation</u>	<u>Those Responding Shorter Work Week Would Produce More W.B. Recreation*</u>
All Water-Based Activities	22	38
Swimming	23	43
Boating	23	32
Fishing	26	39
All Respondents	25	32
Low Participants in,	<u>% Working Less Than 35 hours/wk.</u>	<u>% Working Less Than 5-day Work Week</u>
All Water-Based Activities	10	20
Swimming	12	19
Boating	9	17
Fishing	8	19
All Respondents	11	21

*There are statistical relationships, significant at the .05 level (or higher) of the Chi Square distribution, between participant level and these variables.

TABLE 4-11

PERCENT RESPONDING SUFFICIENT LEISURE TIME
BY PARTICIPATION LEVEL

<u>Family Activities Occasions</u>	<u>Swimming</u>	<u>Boating</u>	<u>Fishing</u>
None	37	38	39
1-5	20	19	18
6-14	29	27	16
15+	40	42	29
All Respondents	31	31	31

There is a statistical relationship significant at the .01 level of the Chi Square distribution between level of participation and those responding sufficiency in leisure time.

(e.g. an additional day each week) that this propensity increases.

Low participants in water-based activities are not significantly different from their fellow participants, or the total sample, in terms of the potential availability of free time.

Availability of Money and Levels of Participation

Slightly less than half (47%) of the respondents indicated that they did not have sufficient money to engage in the kinds of recreation activities which they desired (Table 4-13). Of those expressing this type of dissatisfaction, 36 percent indicated that they would like to participate more frequently in water-based recreation activities or activities which include water-based activities. Almost identical results were obtained when respondents were asked how they would spend an additional \$100. For a large part of the sample the lack of money does seem to be a restrictive influence as far as recreational pursuits are concerned.

Non-Participants: There is a lower degree of satisfaction concerning funds available for recreation among those not participating at all in water-based recreation (Table 4-13). There is a similar pattern for non-fishermen. Swimmers and boaters were generally satisfied with the amount of money they had available to invest in recreation, and they would not engage in more recreation if they had additional money. There is no indication that those non-participants in boating who wanted more money for recreation would differ from others regarding their propensity to spend additional money on water-based recreation pursuits, except in the case of non-participants in fishing who expressed slightly lower than average interest in water-based activities than did the sample population as a whole.

TABLE 4-12

RELATIONSHIPS BETWEEN WATER BASED RECREATION AND DISCRETIONARY FUNDS

Do you have sufficient money to do the kinds of recreation activities, or purchase the kind of recreation equipment in which you are interested? If no, what would you like to do if money were not a limiting factor?

	<u>Number Responding</u>
Don't Know	36
Yes	136
No, would like more water-based activities	43
No, would like more non-water based activities	78
No, would like more of many activities including water-based	11
No, don't know what I would do	14

What would you do if you had an extra \$100 per month in income (for the same working period)? How would that affect your recreation activities?

	<u>Number Responding</u>
Don't Know	35
There would be no difference	138
I would have more water-based activities	54
I would have more non-water based activities	75
I would have more of several activities, including more water-based activities	17

TABLE 4-13

NON-PARTICIPANTS AND MONEY FOR RECREATION

<u>Non-Participants in,</u>	<u>% Responding Sufficient Money</u>	<u>% Responding No Different Behavior With Extra \$100</u>	<u>100%=</u>
Any Water-Based Activity*	32	31	75
Swimming	40	42	176
Boating	42	43	176
Fishing*	34	32	144
All Respondents	43	44	319

<u>Non-Participants in,</u>	<u>Of Those Who Feel More Money Needed For Outdoor Recreation, % Responding They Would Increase Participation in Water-Based Activities</u>	<u>100%=</u>
Any Water-Based Activity	37	75
Swimming	34	176
Boating	38	176
Fishing*	30	140
All Respondents	36	319

*There are statistical relationships significant at the .05 level or higher between these groups and the variables indicated.

TABLE 4-14

LOW PARTICIPANTS AND MONEY FOR RECREATION

	<u>% Responding Sufficient Money</u>	<u>% Responding Different Behavior With Extra \$100</u>
Low Participants in,		
Any Water-Based Activity*	35	34
Swimming	42	42
Boating	42	42
Fishing	43	39
All Respondents	43	44
	<u>Of Those Who Feel More Money Needed For Outdoor Recreation, % Responding They Would Increase Participation in Water-Based Activities</u>	
Low Participants in,		
Any Water-Based Activity*	48	
Swimming*	48	
Boating	35	
Fishing*	42	
All Respondents	36	

*There are statistical relationships significant at the .05 level or higher between these groups and the variables indicated.

Low Participants: Among those who had low participation rates, those who had few water-based recreation experiences of any kind departed from the sample population where monetary sufficiency is concerned. Low participants in specific activities exhibited rates of satisfaction consistent with the sample as a whole. Among those who felt insufficient funds were available, a somewhat higher percentage would use funds for increasing their participation in water-based activities.

Resource Characteristics and the Sample

Less than one-half of the sample population indicated that a change could be made that would elicit increased visitation to a regularly visited recreation area (Table 4-15). Generally the response to questions regarding admission or user fees, crowds, facilities, and proximity produced similar results. A total of 61 percent indicated that they might be prompted to attend another area under changed locational situations. Approximately two-thirds of these said they would select a water-based area.

Non-Participants: Among non-participants in water-based recreation the characteristics of the recreational resources appear to have about the same or even less importance than is the case with the sample as a whole. Distance and the availability of facilities are somewhat less important; whereas crowds and fees are about the same as the sample population responses (Table 4-16). Since many of the non-participants did not have a "most regularly visited area" it is interesting to examine their responses to the more general questions (Table 4-17). It appears that lower costs, fewer people, and increased accessibility

TABLE 4-15

SAMPLE RESPONSES ON CHARACTERISTICS OF FACILITIES

What single change could be made which would encourage you to go to your most regularly visited area more often?

N-319

<u>No Regularly Visited Area</u>	<u>Nothing</u>	<u>Better or More Facilities</u>	<u>Lower Fees</u>	<u>Closer</u>	<u>Less Crowded</u>
27	152	103	11	18	8

Do you feel that your most regularly visited area is too crowded?

<u>No</u>	<u>Yes</u>	<u>No Response*</u>
205	83	31

Are there any areas which you avoid because of the crowds?

<u>No</u>	<u>Yes</u>	<u>No Response</u>
210	104	5

How much is the admission fee at your most regularly visited area? Do you feel that this is too much?

<u>No Fee</u>	<u>A Fee, But Not Too Much</u>	<u>A Fee, Too Much</u>	<u>No Response*</u>
172	101	17	29

Are there any recreation areas that you avoid because they are too expensive?

<u>No</u>	<u>Yes</u>	<u>No Response</u>
209	75	25

Do you feel that your most regularly visited area has sufficient facilities?

<u>No</u>	<u>Yes</u>	<u>No Response*</u>
67	222	30

Would you go to your most regularly visited area more often if it were not so far away?

<u>No</u>	<u>Yes</u>	<u>No Response*</u>
188	94	37

What if your most regularly visited area were _____ miles closer?

TABLE 4-15 (Cont.)

Yes, it would make a difference if it were

<u>5 or 10 miles closer</u>	<u>15 or 20 miles closer</u>
54	40

Is there any recreation area you would visit if it were closer?

<u>No</u>	<u>Yes, by type</u>			<u>No Response*</u>
	<u>Water-Based</u>	<u>Non-Water Based</u>	<u>Combination, Including Water-Based</u>	
115	101	67	15	21

*Also those with no most-regularly-visited-area, and those who "don't know."

TABLE 4-16

NON-PARTICIPANTS AND MOST-REGULARLY-VISITED-AREAS

Would you go to your most regularly visited area more often if it were not so far away?

% Non-Participants Responding No

Non-Participants in any Water-Based Activities*	79%
Swimming*	74
Boating*	72
Fishing*	68

All Respondents	60%
-----------------	-----

What single change could be made which would encourage you to go to your most regularly visited area more often?

% Non-Participants responding nothing (No change could be made)

Non-Participants in,

Any water-based activities	52%
Swimming	47
Boating*	56
Fishing*	49

All Respondents	44%
-----------------	-----

Do you feel that your most regularly visited area is too crowded?

% Non-Participants responding No

Non-Participants in,

Any water-based Activities	68%
Swimming	71
Boating	68
Fishing	64

All Respondents	66%
-----------------	-----

TABLE 4-16 (Cont.)

Do you feel that this (fee) is too much?

% Non-Participants Responding No

Water-Based Activities	10%
Swimming	7
Boating	8
Fishing	5

% Total Sample 6%

Do you feel that your most regularly visited area has sufficient facilities?

% Non-Participants Responding Yes

Water-Based Activities*	89%
Swimming*	84
Boating	77
Fishing	74

% Total Sample Responding No 77%

*There are statistical relationships significant at the .05 level of the Chi Square distribution between this activity and the response to the question.

TABLE 4-17

Is there any recreation area you would visit if it were closer?

% Non-participants responding Yes	Types		100%
	W.B.	Non-W.B.	
Non-participants in,			
All water-based activities*	13	27	76
Swimming	36	22	169
Boating	30	21	177
Fishing	30	20	136
All Respondents	34	22	319

Are there any recreation areas which you avoid because of crowds?

% Non-participants responding Yes		
All water-based activities*	17	76
Swimming	31	174
Boating	30	174
Fishing	28	141
% Total Sample Resp. Yes	33	319

Are there any recreation areas which you avoid because they are too expensive?

% Non-participants responding Yes		
All water-based activities*	19	76
Swimming	23	174
Boating	22	174
Fishing	21	141
% Total Sample Resp. Yes	24	319

*There are statistical relationships significant at the .05 level of the Chi Square distribution between this activity and the response to the question.

would not have a dramatic impact on the non-participants. In fact it appears that in each case the non-participants are slightly less likely to be influenced by these characteristics of recreational resources than is the sample as a whole.

There is no evidence to suggest that changes in the characteristics of recreation resources would produce major changes in visitation to recreation resources in general, or water-based facilities in particular.

Low Participants: Like non-participants, the low participants do not depart significantly from the total sample insofar as attitudes towards fees or crowds at the most regularly visited areas are concerned (Table 4-18). However, as far as fees are concerned, low participants in all water-based activities and low participants in swimming exhibit avoidance behavior for other than the most regularly visited areas. Low participants in several activities do appear more conscious of crowdedness at other areas, but generally indicate a level of tolerance for crowds at their most regularly visited area which is consistent with that of the sample.

Low participants as a group are more concerned with the lack of facilities at their most regularly visited area. In addition low participants in swimming and boating, and those who participate at low rates in all water-based activities are moderately higher than the non-participants and the sample as a whole in responding that, they would attend their most regularly visited area more often if it were closer. Furthermore, there seems to be a greater propensity for low participants to select a water-based facility if it were closer than with other groups.

TABLE 4-18

LOW PARTICIPANTS AND RECREATIONAL RESOURCE CHARACTERISTICS

Low Participants in,	% Responding at <u>MRVA is too High</u>		% Indicating Avoidance <u>of More Expensive Areas</u>	
	All water-based activities	5		8*
Swimming	8		7*	
Boating	7		20	
Fishing	4		27	
All Respondents	6		24	

Low Participants in,	% Responding MRVA <u>is too crowded</u>		% Indicating Avoidance <u>of Crowded Areas</u>	
	All water-based activities	29		41*
Swimming	31		37	
Boating	25		34	
Fishing	26		37	
All Respondents	29		33	

Low Participants in,	% Responding More <u>Visitation to MRVA if Closer</u>		% Responding Would <u>Visit Other if Closer</u>	
			W.B.	Other Recreation
All water-based activities	36		38	22
Swimming*	41		46	22
Boating*	25		39	22
Fishing*	26		31	21
All Respondents	32		34	23

TABLE 4-18 (Cont.)

	<u>% Responding that MRVA Facilities are Sufficient</u>
Low Participants in,	
All water-based activities*	68
Swimming*	68
Boating*	61
Fishing	82
All Respondents	74

*Also those with no most-regularly-visited-area, and those who "don't know."

Facilities and Sufficiency and Level of Participation

It is likely that the relationships between the low participation group and availability of facilities at a given area, (here the most regularly visited area) are relevant to their decision-making as it concerns recreation participation. However, the relationship between levels of participation and perception of insufficient facilities is not clear (Table 4-19). In general participants are more critical of facility availability than non-participants, though in the case of boating and water-based activities as a whole, low participants stand out as being distinctly above the rest of the sample in terms of dissatisfaction. Among swimmers the peak level of dissatisfaction with facilities is at a moderate level of participation.

Distance and Participation Level

There appears to be a consistent relationship between level of participation and the extent to which respondents indicate they would go to a facility featuring water-based recreation (Table 4-20). In all activities there is a peak for this kind of response followed by a decline with increasing participation levels.

TABLE 4-19
 FACILITIES INSUFFICIENCY BY LEVEL OF PARTICIPATION
 AND TYPE OF ACTIVITY

Percentage Responding Insufficient Facilities

	<u>Swimming</u>	<u>Boating</u>	<u>Fishing</u>	<u>All Water-Based Activities</u>
No Occasions	17	23	26	11
1-5 Occasions	29	39	18	21
6-14 Occasions	27	42	20	27
15-24 Occasions	38	30	27	26
25 and More Occasions	25	16	23	25

TABLE 4-20

LEVEL OF PARTICIPATION AND PROXIMITY
TO WATER-ORIENTED FACILITIES

Percentage Responding They Would go to a Water-Oriented Facility if Closer

	<u>Swimming</u>	<u>Boating</u>	<u>Fishing</u>	<u>All Water-Based Activities</u>
No Occasions	26	30	30	13
1-5 Occasions	46	39	31	38
6-14 Occasions	46	44	40	48
15-24 Occasions	39	39	43	48
25 and Over	19	10	17	14

CHAPTER 5

Conclusions and Implications for Management

This study has not provided a complete explanation for latent demand as it pertains to water-based recreation. Yet the study has described the nature and extent of non-participation and various levels of participation and the levels of satisfaction associated with water-based recreational pursuits. In addition the study has offered at least a partial explanation of how unfulfilled demand is related to several factors.

Perhaps the most startling reality about potential participation in Oklahoma is its magnitude. One of three Oklahoma families participates in no water-based recreation whatsoever. Forty-five percent did no swimming during the study period, and nearly eighty percent failed to boat. Of great interest is the fact that among those that did participate in boating, 36 percent did so on fewer than six occasions, and as many as two-thirds did so on less than fifteen occasions. These figures varied slightly by activity. The non-participants and low participants are of special concern, for it is reasonable to conclude that if the forces which repress demand were modified, recreation activity among those who do not participate, and those who do so at low rates, could increase at a spectacular rate. Such forces appear to include satisfaction levels, life-cycle stage, time, money proximity to resources, and perception of water resource characteristics.

The majority of the people (sixty percent) claim satisfaction with their current involvement in water-oriented recreation. And levels of satisfaction have little relationship to the amount of participation. Satisfaction is a function of aspiration, with aspirations being shaped by a person's life style. Thus greater dissatisfaction levels and the resultant increases in demand have been and will continue to be a response to changes in life-style. Based on our research it would appear that family life cycles are related to such changes in life-style and concomitant changes in demand for recreational pursuits. Low participation is characteristic of families with small children. However, participation levels increase during succeeding life-cycle stages and only decreases with old age. There are significant statistical associations of this type between life cycle stage and all types of water-based activities.

Participation Levels and Satisfaction Levels are also associated with incomes and educational levels, and occupations, factors influencing life-style. The relevant question is then, what induces life-style changes, and to what extent are such changes apt to occur in Oklahoma and throughout the United States?

The significance of leisure time to latent demand is difficult to assess. In general the non-participants are satisfied with their leisure time supply. At most only one fourth of the non-participants would change their behavior if provided with increased leisure hours. However, those participating at low to moderate levels envision considerable increments to their water recreational behavior in response to an increased free time. Here again we can see the effect of life style and present behavior upon latent demand. Even a slight exposure

to, or experience with water based recreation promotes the desire for more. On the other hand complete abstinence from such activities does little to create further demand. The key then simply appears to be the start; the first few experiences.

Money is generally perceived as a somewhat greater constraint than time. Over forty percent of those queried say that they would increase their activities in response to increased earning power. This seems to reflect the prevailing American view of the dollar, that money is more vital than time. Perhaps the current national trends emphasizing the quality of life may in the long run reverse the money-time sequence where latent demand is concerned.

Distance is an extremely vital factor in the latent demand equation. As in the case of time and satisfaction it is the low to moderate recreationalist who were most effected. Nearly fifty percent of the moderate users say that they would participate more if they were closer to the facilities. The significance of proximity to the resource is further substantiated by the large sample. Non-participation among this representative group is 25 percent greater at locations of over 30 miles from suitable facilities. The evidence strongly suggests that increases in facilities would produce increases in demand. However, the likelihood of greater participation is highest among the current low and moderate users and not among the non-participants.

The nature of the water-based resources also has great bearing on the nature and extent of demand. In general a high degree of satisfaction with resource quality was exhibited by the sample group. Over 50 percent stated that no resource changes could be made that would result in their increased use of the area. The great majority were also

satisfied with the intensity at which "their" recreational areas were being used. Less than one-third of the group was troubled by crowded conditions at the recreational site.

Among non-participants, resource perception probably does not reflect the real situation. Thus, we are at somewhat of a loss to judge the impact of resource quality on latent demand. Non-users are making decisions primarily in response to a local water resource base with which they have had little or no experience, and low users are probably in a similar situation.

Management Implications

Our findings on latent demand contain numerous implications for the current and future management of water-based recreational resources. These implications center on resource location strategy, facility improvement and integration, and the diffusion of information regarding the facilities.

Findings pertaining to income, time, and life cycle have obvious and immediate applications for resource managers. Increased income and leisure time are likely to substantially increase demand from the low to moderate users, during the next decade. It is, therefore, important to predict the location and extent of income and leisure time growth, so that those resources which will be most affected can be properly altered to meet the growing demand. Regional population profiles will need careful examination, in order to evaluate income and life cycle characteristics. Life cycle analysis will also be important at the regional scale so that emerging trends (potentially explosive ones from a demand standpoint), can be pin pointed. For example knowledge

concerning a regional predominance of families with small children is vital to preparations for greatly increased demand over a ten year period and even greater increases over an extended time span during which the children with water-based experience become adults.

On a similar track, knowledge of swimming skill variance is also necessary. Given the relationship between participation in water-based activities and swimming skill, any abrupt changes in youth swimming skill levels are certain to have far reaching resource impacts. New swimming programs need careful monitoring if we are to correctly anticipate future water-oriented demand. Swimming programs for minority groups will probably produce even greater changes on the demand front, particularly from the group who are currently classified as non-participants.

Management must also keep in mind that satisfaction levels are constantly changing. Today's level of satisfaction with water based recreation is much different than it was ten, twenty, or thirty years ago. It must be remembered that satisfaction is a function of current behavior and outlook, and that this is subject to constant change. Today's low and non-participants may not be satisfied with that status tomorrow. Hence, the most logical management strategy should center on anticipated increases in demand; increases far in excess of anticipated population growth.

A full understanding of latent demand for water-based recreation cannot be achieved without an understanding of the unfulfilled demand for non-water activities. We need to know much more about the relationships between water and non-water recreational behavior. For example, how does a new water resource influence the behavior of the local population? What is the extent of "activity switching" in response to a

new resource? Is the behavior of the total population changed, or is the effect chiefly limited to those already engaging in water oriented activities?

In what ways can public agencies act to reduce unfulfilled demand? It would seem that a carefully planned advertising campaign could encourage some of the low and non-participants to alter their behavior. Many of the non-users were unaware of local recreational opportunities and it is likely that some of them would participate if they were made more knowledgeable of existing resources.

The responses to the questions regarding proximity and distance suggest that future water resource development needs to be carefully planned in light of present resource locations. Participation is highly influenced by accessibility, and new locations must be selected with this in mind. However, before enlightened planning can materialize, we must know more about individual locational decision-making as it pertains to the choice of a recreational visitation site. We need to know more concerning why people go where they go, and how decisions are made between competing recreational alternatives. It would appear from the data on facility proximity that reservoirs are like clothing stores or groceries. Two boutiques located next door to one another usually generate greater total sales than if they were at opposite ends of a central business district. Thus reservoir clusters may produce greater activity levels than if they were dispersed. Here again there is a great need for more information. Finally if we are really interested in improving the overall quality of life in America we have to find ways to get the non-participants who think they are satisfied, (but who really are not) involved. As it now stands the greatest amount of latent demand

exists among those who are already participating at moderate to high levels, and if this demand is fulfilled it will be tantamount to the rich getting richer and the poor staying the same, or in relative terms falling even further behind. Clearly, this is not consistent with the intention of the Land and Water Conservation Act; which contains the following message:

The law will provide federal assistance ". . . to assist in preserving, developing, and assuring accessibility to all citizens of the United States . . . to promote such quality and quantity of outdoor recreation resources as may be available, are necessary and desirable for individual active participation in such recreation and to strengthen the health and vitality of citizens of the United States . . ."

We cannot justify satisfying recreational desires and needs of only certain segments of the population, nor can we continue making assumptions of static location needs and criteria in locating recreation facilities. The challenge is great but a solution is not impossible. Like cancer there is much more to be learned before the cure is a reality.

APPENDIX A

1969 Outdoor Recreation Demand Survey - Oklahoma

RECREATIONIST'S HOUSEHOLD QUESTIONNAIRE

SECTION 0.0 (Office Codes)

Quest. (0.1 c)	Area (0.2 c)	Region (0.3 c)	Survey (0.4 c)	Type (0.5 c)	Date (0.6 c)	U-R (0.8 c)

SECTION 1.0 (General Information)

(1.1 c) MONTH 1 Ju 2 Jy 3 Au (1.2 c) 1 Weekday 2 Weekend 3 Holiday _____
Identify

(1.3) HOUR of INTERVIEW: Beginning _____ m Ending _____ m

(1.4) INTERVIEWED BY: No. _____ (1.5) VERIFIED BY (Supervisor) No. _____

SECTION 2.0 (Personal Data)

(2.1 c) SINGLE - MARRIED 1 2 (2.2) RELATION TO HEAD _____

(2.3 c) RACE: 1 Caucasian 2 Indian 3 Negro 4 Other

(2.4 c) Occupation 1 2 3 4 5 6 7 8 9 10	Designated Number For Occupation:
(2.5 c) Average Hours Worked Per Week For Pay	1 Professional 6 Service Worker
_____ Hours	2 Manager; Official 7 Farm Operator
	3 Sales; Clerical 8 Not Employed
	4 Craftsman 9 Retired
	5 Laborer 10 Student

1969 Outdoor Recreation Demand Survey - Oklahoma
RECREATIONIST'S HOUSEHOLD QUESTIONNAIRE

(2.6 c) CARD 1 Education 1 2 3 4 5 6

(2.7 c) CARD 1 TOTAL HOUSEHOLD INCOME 1 2 3 4 5

SECTION 3.0 (Trip Data)

(3.1 c) HOW MANY OUT-OF-TOWN RECREATION TRIPS DID YOU TAKE IN THE LAST TWELVE MONTHS?
 _____ Trips

	City or County	Name of Site	State	Driving Time
(3.2) ORIGIN - LAST TRIP	ci co			
(3.3 c) PRIMARY DESTINATION	ci co			Hrs

(3.4 c) TYPE OF TRIP 1 Major Annual Vacation 2 Overnight Trip 3 One-Day Outing

(3.5 c) MONTH TRIP STARTED: J F M A M J Jy A S O N D
 1 2 3 4 5 6 7 8 9 10 11 12

(3.6 c) TOTAL TRIP DAYS PLANNED _____ Days

(3.7 c) DAYS AT PRIMARY SITE _____ Days

(3.8 c) TRIP DAYS - OKLAHOMA _____ Days

(3.9 - 3.10 - 3.11 and 3.12 - On-Site Questionnaire Only)

1969 Outdoor Recreation Demand Survey - Oklahoma
RECREATIONIST'S HOUSEHOLD QUESTIONNAIRE

SECTION 5.0 (Leisure Time)

AVERAGE HOURS PER WEEK THE HEAD SPENDS ON:

(5.1 c) INDOOR RECREATION _____ Hours

(5.2 c) OUTDOOR RECREATION _____ Hours

(5.3 c) NUMBER OF VACATION DAYS THE HEAD TOOK IN LAST TWELVE MONTHS _____ Days
IF VACATION DAYS TAKEN:

(5.4 c) NUMBER OF THESE DAYS SPENT IN OUTDOOR RECREATION _____ Days

(5.5 c) CARD 6 LIMITING FACTORS FOR OUTDOOR RECREATION ACTIVITIES
1 2 3 4 5 _____ 6
Other

SECTION 6.0 (Health and Disability)

(6.1 c) DID A DISABILITY OR THE STATE OF HEALTH OF ANY MEMBER OF YOUR FAMILY PREVENT GENERAL PARTICIPATION IN OUTDOOR RECREATION FOR MOST OF LAST YEAR? 1 2

(6.2 c) (IF YES) THE MEMBER AND THE AFFLICTION

Member of Family		
Disability or Health Affliction		

1969 Outdoor Recreation Demand Survey - Oklahoma

RECREATIONIST'S HOUSEHOLD QUESTIONNAIRE

(6.3) WHAT IMPROVEMENTS DO YOU FEEL COULD MAKE RECREATION FACILITIES MORE ENJOYABLE FOR THE DISABLED?

1. _____ 2. _____ 3. _____ 4. _____

SECTION 7.0 (Opinion and Preference)

(7.1 c) CARD 4 SERVICE FACILITIES USED ON TRIP 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

(7.2 c) CARD 5 OVERNIGHT ACCOMMODATIONS PREFERRED 1 2 3 4 5 6 7 8 _____ 9
Other

(7.3 c) ROUTE PREFERENCE: SCENIC - EXPRESS - COMBINATION 1 2 3

(7.4 c) START OF TRIP PLANNING: J F M A M J Jy A S O N D
1 2 3 4 5 6 7 8 9 10 11 12

(7.5 c) CARD 5 MOST EFFECTIVE INFORMATION AREA 1 2 3 4 5 6 7 8 9 _____
Other

(7.6 c) CARD 6 PRIMARY CONSIDERATIONS IN SITE CHOICE 1 2 3 4 5 6 7 8 9 10 11 12 _____
Other

(7.7 c) VISITED OTHER STATES 1 2

(7.8 c) RECREATION AREA IN OKLAHOMA ATTRACTIVE 1 2 3

Why? _____

1969 Outdoor Recreation Demand Survey - Oklahoma
RECREATIONIST'S HOUSEHOLD QUESTIONNAIRE

(7.9) WHAT WOULD YOU DO TO IMPROVE AREAS IN OKLAHOMA?

1. _____ 2. _____ 3. _____ 4. _____

(7.10c) USER FEE (\$1.00 Max.) BENEFIT STATE RECREATION AREAS 1 2

(7.11) WHAT DOES NEIGHBORHOOD LACK?

(7.12 - 7.13 - 7.14 - ON-SITE QUESTIONNAIRE ONLY)

(7.15) MAILING ADDRESS: Name _____

No. and St. _____

City _____

(7.16 - ON-SITE QUESTIONNAIRE ONLY)

(7.17) THANK YOU!

APPENDIX B

OKLAHOMA 1970 RECREATION SURVEY

OKLAHOMA STATE UNIVERSITY

interview number _____

OKLAHOMA OFFICE OF WATER RESOURCES RESEARCH

~~interviewer~~ _____

How many times have you or other members of your family participated in these activities during the last twelve months?

	<u>Family as a Group</u>	<u>Respondent</u>	<u>Other Family Members</u> <u>(single or in groups)</u>	
Swimming	_____	_____	_____	
Fishing	_____	_____	_____	
Boating	_____	_____	_____	
Hunting	_____	_____	_____	
Picnicking	_____	_____	_____	
Camping	_____	_____	_____	
Golfing	_____	_____	_____	
Tennis	_____	_____	_____	
Bowling	_____	_____	_____	
Organized Team Sports (baseball, football)	_____	_____	_____	
Informal (sand lot Team games baseball, etc.)	_____	_____	_____	
Attend sporting events	_____	_____	_____	1
Attend Theatre	_____	_____	_____	

As a family, which recreation area have you visited most recently? (note either city, state, national park, stadium, bowling alley, etc.) When?

2

As a family, Which recreation area do you visit most regularly?

How often?

3

(As a family) What other recreation areas have you visited this year?

State or Regional

City or local

4

Do you regularly go to a recreation area without other members of your family?

Which one?

How Often?

5

How many hours do you work each week? Days per week? 6

"On the average" how many hours of T.V. do you watch per day? Does the rest of your family watch more or less than you do? More _____ Less _____ 7

Does your household contain any of the following types of recreation equipment?
firearms _____ fishing tackle _____ bowling equipment _____ archery gear _____
tennis racquets _____ boat _____ canoe _____ boat motor _____ sleeping bags _____ 8
water skis _____ camper _____ tent _____ golf equipment _____ bicycle _____
sports balls _____ picnic cooler _____ Other major items: _____

Are there any types of recreation equipment which you have specific plans for purchasing in the near future? What Kind (s)?
When? 9

Are you presently satisfied with the types and amounts of recreation in which you engage? If no, why not? 10
Insufficient: freetime _____ money _____ too far _____ lack of equipment _____ poor facilities _____

How far is (supply most regularly visited area)? 11
Would you go to MRVA if it was not so far away? What if it was 5 miles closer? _____
10? _____ 15? _____ 20? _____

Is there any recreation which you would visit if it was closer?
Which one? Why do you like this particular area? 12

Do you feel that MRVA is too crowded? How many people are usually there? _____ 13

Are there any recreation areas which you avoid because of crowds?
Which ones? 14

How much is the admission fee at MRVA? _____ Do you feel that this is too much _____
Are there any recreation areas which you avoid because they are too expensive? 15
How much do they charge? _____

What kinds of facilities does MRVA have?
Do you feel that MRVA has sufficient facilities 16
If not, which would you add?

Name _____
 Date _____ Day _____ Time _____

Respondent's Race W _____ B _____ I _____ Other (specify) _____

Respondent's Sex M _____ F _____

Dwelling Unit Evaluation:

Type: SFD _____ TFD _____ MFD _____

Size: (sq. feet of living space) under 1000 _____ 1000-1500 _____ 1500-2000 _____

Value: under 10,000 _____ 10,000-20,000 _____ 20,000-30,000 _____ Over 30,000 _____

Condition: Well kept _____ Deteriorated _____ Delapidated _____
 (deteriorated indicated by lack of care, but no structural damage)
 (delapidated indicated by lack of care, and structural damage)

Air Conditioning: yes _____ no _____ Check if centrally cooled _____

Yard size: Under 3,000 _____ 3,000-9,900 _____ 10,000-15,000 _____ over 15,000 _____

Yard Condition: well kept _____ well kept and garden _____ poorly kept _____

Other comments on house or yard:

Neighborhood Evaluation:

Value: MVTR _____ LVTR _____ SAR _____

more value than respondent's MVTR
 less value than respondent's LVTR
 about the same as respondent's SAR

Lot sizes: LTR _____ STR _____ SAR _____

Yard Condition: BTR _____ WTR _____ SAR _____

Number of vacant lots on block facings: 0 1 2 3 4 or more

Nearest recreation areas: 1 blk. 2 blk. 3 blk. 4 blk. 5 blk. 7 blk. 8 blk.
 9 blk. 10 blk. over 10 blk.

Check which: recreation park _____ ball field _____ playlot _____
 school yard _____ other _____

Respondent's Recreation Behavior, based upon interviewers own assessment a subjective assessment.

rank from 1 to 10 using two or three most important

- Poor knowledge of opportunities
- Lack of money
- Lack of skill in recreational pursuits
- Limited Leisure Time
- Lack of Proximity to Satisfactory Recreational Facilities
- Disinterest in Traditional Outdoor Recreational Pursuits
- Lack of Recreational Equipment
- Other Factors

APPENDIX C

INCOME BY PARTICIPATION CLASSIFICATION

	<u>Non-Participant</u>	<u>Participant</u>		<u>Totals</u>
		<u>1-5 Occasions</u>	<u>More than 5 occasions</u>	
Swim				
Head of Household				
under \$3000	455	25	99	579
3000-4999	532	81	322	835
5000-6999	1020	275	847	2142
7000-9999	1530	424	1852	3856
10,000+	1653	447	2252	4352
Total	5240	1252	5272	11,764
Boat				
Under \$3000	512	41	16	569
3000-4999	733	39	63	835
5000-6999	1762	145	235	2142
7000-9999	2766	444	646	3826
10,000+	2885	494	973	4352
Total	8658	1163	1933	11,754
Fish				
Under \$3000	363	62	154	579
3000-4999	521	72	242	835
5000-6999	1222	295	625	2142
7000-9999	2142	516	1198	3856
10,000+	2430	555	1317	4352
Total	6728	1500	3536	11,764

RACE BY PARTICIPATION CLASSIFICATION

	<u>Non-Participant</u>	<u>Participant</u>		<u>Totals</u>
		<u>1-5 Occasions</u>	<u>More than 5 occasions</u>	
Swim				
White	4788	1143	4910	10841
Non-White	452	109	362	923
Totals	5240	1252	5272	11,764
Boat				
White	7364	1120	1857	10841
Non-White	794	43	86	923
Totals	8658	1163	1943	11,764
Fish				
White	6243	1392	3206	10841
Non-White	485	108	330	923
Totals	6728	1500	3536	11,764

EDUCATION BY PARTICIPATION CLASSIFICATION

	<u>Non-Participant</u>	<u>Participant</u>		<u>Totals</u>
		<u>1-5 Occasions</u>	<u>More than 5 occasions</u>	
Swim				
Years completed by Head of Household				
none	21	2	4	27
1-6 years	146	14	24	184
7-11 years	963	122	363	1448
12 years	1775	455	1629	3859
13-15 years	1172	807	1785	2966
16 and over	1163	852	1765	3280
Total	5240	1252	5270	11,764
Fish				
none	17	2	8	27
1-6 years	129	10	45	184
7-11 years	924	162	362	1448
12 years	2098	517	1244	3859
13-15 years	1629	389	948	2966
16 and over	1931	420	929	3280
Total	6728	1500	3536	11,764
Boat				
none	23	0	15	27
1-6 years	174	4	6	184
7-11 years	1231	83	134	1448
12 years	3033	303	523	3859
13-15 years	2063	3367	566	2966
16 and over	2134	436	710	3280
Total	8658	1163	1942	11,764

OCCUPATION BY PARTICIPATION CLASSIFICATION

	<u>Non-Participants</u>	<u>Participant</u>		<u>Totals</u>
		<u>1-5 Occasions</u>	<u>More than 5 occasions</u>	
Swim				
Head of Household				
Professional				
Technical	708	259	1061	2028
Managerial	742	204	980	1926
Clerical-Sales	595	175	833	1603
Craftsman	547	214	712	1473
Laborer	564	164	533	1261
Service	426	82	462	970
Farmers & Farm Workers	93	23	57	173
Not elsewhere Classified	1565	131	534	2230
Totals	5240	1252	5272	11,763
Boat				
Professional				
Technical	1362	264	402	2028
Managerial	1271	222	433	1926
Clerical-Sales	1073	166	364	1603
Craftsman	1055	157	261	1473
Laborer	1056	85	120	1261
Service	733	100	137	970
Farmers & Farm Workers	142	23	8	173
Not elsewhere Classified	1966	146	318	2230
Totals	5708	1163	1893	11,764
Fish				
Professional	1193	286	549	2028
Managerial	1085	250	591	1926
Clerical-Sales	871	194	538	1603
Craftsman	768	203	502	1473
Laborer	654	175	432	1261
Service	576	118	276	
Farmers & Farm Workers	85	25	60	173
Not elsewhere Classified	1742	246	388	2230
Total	6725	1500	3536	11,764

APPENDIX D

PARKS FEATURING WATER-ORIENTED FACILITIES WITHIN 30 MILES

<u>Swimming Participation</u>	<u>None</u>	<u>One or Two</u>	<u>Three or More</u>	<u>Total</u>
None	1049	3259	1292	5600
1-5 Occasions	206	697	421	1324
6-15 Occasions	260	1272	622	2154
16-25 Occasions	134	694	260	1088
More than 25 Occasions	365	1364	563	2292
Total	2014	7286	3158	12458

PARKS FEATURING WATER-ORIENTED FACILITIES WITHIN 30 MILES

<u>Boating Participation</u>	<u>None</u>	<u>One or Two</u>	<u>Three or More</u>	<u>Total</u>
None	1571	5450	2144	9165
1-5 Occasions	200	635	378	1213
6-15 Occasions	112	662	303	1077
16-25 Occasions	64	252	132	448
More than 25 Occasions	68	287	201	556
Total	2015	7286	3158	12459

PARKS FEATURING WATER-ORIENTED FACILITIES WITHIN 30 MILES

<u>Fishing Participation</u>	<u>None</u>	<u>One or Two</u>	<u>Three or More</u>	<u>Total</u>
None	1117	4333	1664	7114
1-5 Occasions	260	883	439	1582
6-15 Occasions	319	1062	567	1948
16-25 Occasions	123	430	204	757
More than 25 Occasions	195	578	284	1057
Total	2014	7286	3158	12458

COUNTY RESERVOIR ACREAGE

<u>Swimming Participation</u>	<u>Less than 500 acres</u>	<u>500-10,000 acres</u>	<u>over 10,000 acres</u>	<u>Total</u>
None	1097	3105	1398	5600
1-5 Occasions	228	713	383	1324
6-15 Occasions	379	1134	641	2154
16-25 Occasions	247	560	335	1142
More than 25 Occasions	470	1169	653	2292
Total	2421	6681	3410	12512

COUNTY RESERVOIR ACREAGE

<u>Boating Participation</u>	<u>Less than 500 acres</u>	<u>500-10,000 acres</u>	<u>over 10,000 acres</u>	<u>Total</u>
None	1837	4978	2350	9165
1-5 Occasions	218	643	352	1213
6-15 Occasions	162	576	339	1077
16-25 Occasions	89	207	152	448
More than 25 Occasions	61	277	217	555
Total	2367	6681	3410	12458

COUNTY RESERVOIR ACREAGE

<u>Fishing Participation</u>	<u>Less than 500 acres</u>	<u>500-10,000 acres</u>	<u>over 10,000 acres</u>	<u>Total</u>
None	1402	3805	1907	7114
1-5 Occasions	276	883	423	1582
6-15 Occasions	365	1020	563	1948
16-25 Occasions	135	396	226	757
More than 25 Occasions	187	577	291	1055
Total	2365	6681	3410	12456

DISTANCE TO NEAREST MAJOR RESERVOIR

<u>Swimming Participation</u>	<u>Less than 10 miles</u>	<u>11-30 miles</u>	<u>More than 30 miles</u>	<u>Total</u>
None	2062	2831	707	5600
1-5 Occasions	573	622	255	1450
6-15 Occasions	793	1190	171	2154
16-25 Occasions	436	566	86	1088
More than 25 Occasions	758	1293	241	2292
Total	4622	6502	1460	12584

DISTANCE TO NEAREST MAJOR RESERVOIR

<u>Boating Participation</u>	<u>Less than 10 miles</u>	<u>11-30 miles</u>	<u>More than 30 miles</u>	<u>Total</u>
None	3377	4724	1064	9165
1-5 Occasions	439	637	137	1213
6-15 Occasions	435	575	67	1077
16-25 Occasions	166	244	38	448
More than 25 Occasions	205	322	28	555
Total	4622	6502	1334	12458

DISTANCE TO NEAREST MAJOR RESERVOIR

<u>Fishing Participation</u>	<u>Less than 10 miles</u>	<u>11-30 miles</u>	<u>More than 30 miles</u>	<u>Total</u>
None	2473	3839	802	7114
1-5 Occasions	675	734	173	1582
6-15 Occasions	764	983	201	1948
16-25 Occasions	282	413	62	757
More than 25 Occasions	425	576	96	1097
Total	4619	6545	1334	12498

APPENDIX E

FREQUENCY OF RESPONSE TO SELECTED QUESTIONS
BY LEVEL OF PARTICIPATION IN WATER-BASED
RECREATION ACTIVITIES

LIFE CYCLE STAGE

	Young Couples (both under 40 years)	Families, (Children all under 5)	Families, (At least 1 child under 10)	Families, (All children over 10)	Older Couples (Both over 40)	Other
Swim						
none	10	13	45	51	55	3
1-5	3	6	27	20	9	1
6-14	3	5	18	12	4	0
15+	3	3	9	9	1	1
Boat						
none	9	14	53	45	50	4
1-5	4	7	22	20	8	1
6-14	3	5	13	14	7	0
15+	3	1	11	11	4	0
Fish						
none	11	17	36	40	36	4
1-5	4	6	26	25	13	0
6-14	3	2	22	15	9	0
15+	1	2	14	12	11	0
All Water Based						
none	4	2	16	20	30	3
1-5	6	4	19	14	6	0
6-14	2	13	16	20	11	2
15+	8	8	48	39	23	5

IF YOU HAD TOMORROW OFF (OR SOME OTHER DAY THIS WEEK) WHAT WOULD YOU DO? IF YOU HAD AN ADDITIONAL DAY OFF EACH WEEK, WHAT WOULD YOU DO?

<u>Family Occasions</u>	<u>TOMORROW</u>		<u>EVERY WEEK</u>	
	<u>Water Oriented Recreation</u>	<u>Non-Recreation Activities</u>	<u>Water Oriented Recreation</u>	<u>Non-Recreation Activities</u>
Swimming				
None	21	78	27	49
1-5	12	31	20	9
6-14	11	15	12	6
15 and over	7	10	7	6
Boating				
None	19	82	27	50
1-5	11	27	14	14
6-14	10	17	15	4
15 and over	11	8	10	2
Fishing				
None	15	72	16	71
1-5	12	29	15	34
6-14	12	13	18	14
15 and over	11	7	13	9

ARE THERE ANY RECREATION AREAS YOU AVOID BECAUSE OF CROWDS?

<u>Family Occasions</u>	<u>No</u>	<u>Yes</u>
All water-based activities		
None	44	14
1-5	24	17
6-14	41	18
15 and over	96	34
Swimming		
None	115	39
1-5	43	19
6-14	26	15
15 and over	17	9
Boating		
None	102	49
1-5	45	15
6-14	32	10
15 and over	22	8
Fishing		
None	86	36
1-5	51	18
6-14	39	13
15 and over	26	15

IS THERE A FEE AT YOUR MOST REGULARLY VISITED AREA? IF SO,
DO YOU FEEL THAT THIS IS TOO MUCH?

<u>Family Occasions</u>	<u>No Fee</u>	<u>YES, A FEE</u>	
		<u>Not Too Much</u>	<u>Too Much</u>
All Water-Based Activities			
None	36	17	6
1-5	24	14	2
6-14	33	24	4
15 and over	79	46	5
Swimming			
None	96	52	8
1-5	35	20	5
6-14	20	18	4
15 and over	18	8	-
Boating			
None	95	45	13
1-5	28	28	4
6-14	23	13	-
15 and over	18	12	-
Fishing			
None	75	38	8
1-5	36	32	3
6-14	24	15	2
15 and over	24	13	4

DO YOU FEEL THAT YOUR MOST REGULARLY VISITED AREA HAS SUFFICIENT FACILITIES?

<u>Family Occasions</u>	<u>Yes</u>	<u>No</u>
All Water-Based Activities		
None	51	6
1-5	28	13
6-14	48	13
15 and more	95	35
Swimming		
None	126	29
1-5	44	18
6-14	32	9
15 and more	16	10
Boating		
None	117	34
1-5	43	28
6-14	37	5
15 and more	21	9
Fishing		
None	90	32
1-5	58	13
6-14	40	10
15 and more	30	11

WHAT SINGLE CHANGE COULD BE MADE WHICH WOULD ENCOURAGE YOU
TO GO TO YOUR MOST REGULARLY VISITED AREA MORE OFTEN?

<u>Family Occasions</u>	<u>Yes, a change could be made to encourage more visitation</u>	<u>No change could be made to encourage more visitation</u>
<u>All water-based Activities</u>		
None	18	39
1-5	15	27
6-14	34	25
15 and more	73	51
<u>Swimming</u>		
None	67	83
1-5	33	28
6-14	22	20
15 and more	14	10
<u>Boating</u>		
None	54	96
1-5	38	20
6-14	27	15
15 and more	17	10
<u>Fishing</u>		
None	69	71
1-5	33	34
6-14	34	17
15 and more	20	19

WOULD YOU GO TO YOUR MOST REGULARLY VISITED AREA MORE OFTEN IT IF WERE NOT SO FAR AWAY? IS THERE ANY RECREATION AREA WHICH YOU WOULD VISIT IF IT WERE CLOSER? WHICH ONE?

<u>Family Occasions</u>	<u>No</u>	<u>Yes</u>	<u>Yes, Water-Based</u>	<u>Yes, Other Recreation Facilities</u>
All water-based Activities				
None	44	12	10	19
1-5	27	15	14	14
6-14	43	16	22	14
15 and over	77	31	57	38
Swimming				
None	113	40	44	46
1-5	37	25	29	16
6-14	24	17	18	13
15 and over	14	12	9	7
Boating				
None	109	43	49	42
1-5	44	15	23	15
6-14	21	20	18	12
15 and over	14	16	10	13
Fishing				
None	83	39	41	32
1-5	52	18	22	19
6-14	31	10	20	18
15 and over	22	19	17	13

DO YOU HAVE SUFFICIENT MONEY TO DO THE KINDS OF RECREATION ACTIVITIES OR PURCHASE THE RECREATION EQUIPMENT IN WHICH YOU ARE INTERESTED? WHAT WOULD YOU DO IF YOU HAD AN ADDITIONAL \$100 PER MONTH IN INCOME? HOW WOULD THAT AFFECT YOUR RECREATIONAL ACTIVITIES?

<u>Family Occasions</u>	<u>SUFFICIENT MONEY</u>		<u>IF HAD \$100 MORE, WOULD...</u>	
	<u>Yes</u>	<u>No</u>	<u>Not Participate More</u>	<u>Participate in Water-Based Recreation</u>
Water-based Activities				
None	24	38	38	3
1-5	15	25	27	8
6-14	27	28	25	11
15 and over	20	55	48	32
Swimming				
None	71	84	74	27
1-5	28	32	32	15
6-14	21	24	13	8
15 and over	13	11	16	3
Boating				
None	65	85	94	21
1-5	26	30	20	16
6-14	24	17	10	12
15 and over	18	11	11	4
Fishing				
None	49	72	78	10
1-5	32	34	26	19
6-14	31	19	13	15
15 and over	21	18	18	9

DO YOU FEEL THAT YOU HAVE SUFFICIENT FREE TIME TO DO THE KINDS OF RECREATION IN WHICH YOU ARE INTERESTED? WHAT WOULD YOU LIKE TO DO IF THIS WERE NOT A FACTOR?

<u>Family Occasions</u>	<u>Yes, Sufficient Free Time</u>	<u>Don't Know</u>	<u>No, would have more water-oriented recreation</u>	<u>No, would have more non-water recreation</u>	<u>No, would have more of all types of recreation</u>
Swimming					
None	65	10	14	40	17
1-5	13	4	12	11	11
6-14	8	3	10	3	4
15 and over	8	3	3	1	5
Boating					
None	68	13	19	32	25
1-5	12	2	9	15	8
6-14	6	3	7	6	1
15 and over	8	2	4	2	3
Fishing					
None	54	10	11	12	14
1-5	8	4	7	10	5
6-14	8	4	9	11	7
15 and over	6	2	5	2	3