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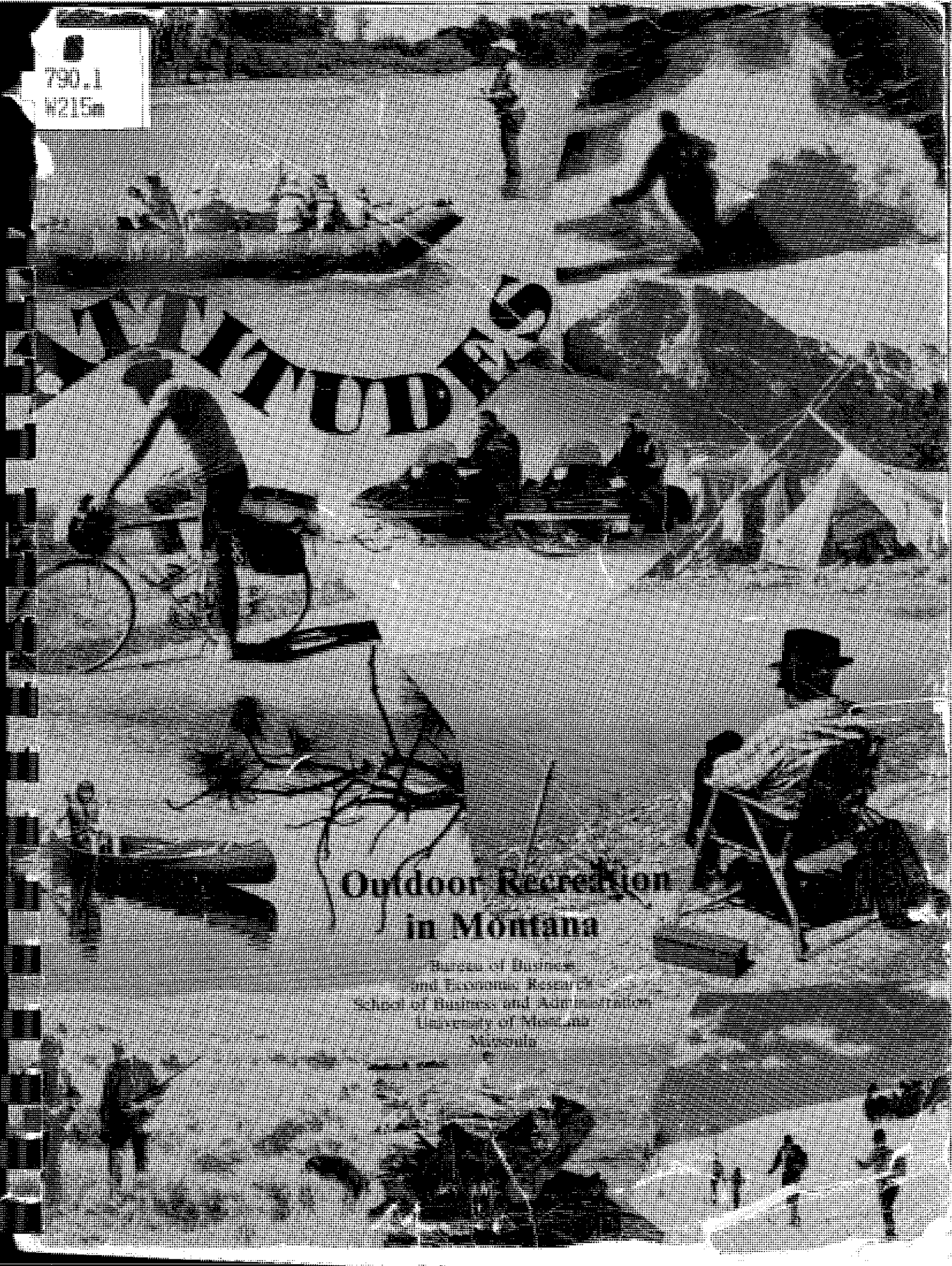

ATTITUDES

Outdoor Recreation in Montana

Bureau of Business
and Economic Research
School of Business and Administration
University of Montana
Missoula

MONTANA OUTDOOR RECREATION SURVEY

Prepared for
Montana Department of Fish, Wildlife, and Parks
Helena, Montana

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TABLE OF CONTENTS

	Page
INTRODUCTION	1
CHAPTER 1: OUTDOOR RECREATION ACTIVITIES AND PROGRAMS	5
Participation Rates for Selected Outdoor Recreation Activities	6
Back-Country Touring	11
Bicycling	11
Bird Watching	11
Boating	12
Camping	12
Cross-Country Skiing	13
Driving for Pleasure	13
Fishing	14
Hiking	14
Horseback Riding	15
Hunting	15
Motorbike Riding	16
Outdoor Swimming	16
Picnicking	17
Playing Outdoor Games	17
River Floating or Canoeing	18
Snowmobiling	18

Page

Walking for Pleasure 18

Downhill Skiing 19

Other Activities 19

Preferences for Additional Activity Participation 19

The Fuel Situation 22

General Program Funding and Revision 24

CHAPTER 2: PARK AND RECREATION SITES PROGRAM 29

State Park and Recreation Area Visitation and Awareness 29

Visits to Park and Recreation Sites in 1979 30

Awareness of State Site Ownership 33

Proximity to State Recreation Areas 33

Program Revision 37

New Site Location 37

Types of Sites Preferred 39

Funding Awareness 43

Respondents' Overall Rating of the Park and Sites Program 46

CHAPTER 3: FISHING AND THE FISHERIES PROGRAM 49

Preferences regarding Sites and Limits 49

Fishing Access Sites 51

Warm Water Fisheries Program 53

Issues Related to Fish Habitat 55

Funding of the Fisheries Program 58

Page

CHAPTER 4: HUNTING AND WILDLIFE MANAGEMENT PROGRAMS 61

Limits on the Number of Hunters Allowed 61

Resident Hunters 61

Nonresident Hunters 63

Other Options to Increase Hunting Opportunities 64

Paid Hunting and Fishing on Private Land 64

Private Game Farms 66

Nongame Wildlife and Endangered Species 66

Small Game Animals 66

Nongame Wildlife 69

Endangered Species 70

Land Acquisition for Wildlife Management 70

Funding Hunting and Wildlife Management Programs 72

CHAPTER 5: RELATED ISSUES PERTAINING IN GENERAL TO OUTDOOR RECREATION AND THE MONTANA DEPARTMENT OF FISH, WILDLIFE, AND PARKS 75

Relations between Landowners and Recreationists 75

The Recreationist Perspective 77

The Landowner Perpsective 78

Efforts to Improve Landowner-Recreationist Relations 80

Water Use and Energy Decision Issues 84

Enforcement of Fish, Game, and Park Regulations 86

Current Enforcement Program 87

Funding for Increased Enforcement 89

Page

Alternatives to Increased Enforcement Personnel 89

Ex-Officio Enforcement Activity 90

Toll-Free "Report Line" 92

Awareness of Local Game Warden 94

Required Conservation Education Course 96

Sources of Information on Outdoor Recreation and Recreation Issues 96

Montana Outdoors Magazine 101

Overall Performance of the Montana Department of Fish, Wildlife, and Parks 104

CHAPTER 6: CHARACTERISTICS OF MONTANANS AND THEIR HOUSEHOLDS AS REVEALED BY THE SURVEY 107

Household Size 107

Type of Household 110

Characteristics of Householders 111

Incomes of Montana Households in 1979 116

Length of Residence in Current Place 119

License Holders and Nonholders 124

Characteristics of License Holders and Nonholders 127

Household Characteristics of License Holders and Nonholders 132

Relating Characteristics of Montanans and Their Households to Outdoor Recreation 135

HIGHLIGHTS OF THE SURVEY 137

APPENDIX A: METHODOLOGY 147

APPENDIX B: THE SAMPLE 151

APPENDIX C: COVER SHEET AND QUESTIONNAIRE 157

LIST OF TABLES

Table		Page
1.1	Participation Rates for Selected Outdoor Recreation Activities, 1979	7-9
1.2	Extent of Participation in Selected Outdoor Recreation Activities, 1979	10
1.3	Responses Concerning Limits on Outdoor Recreation Activity of Respondents, by Residence and License Status	21
1.4	Effect of Fuel Costs and Availability on Recreation Activity, by Residence and License Status	23
1.5	Preferences for Funding Outdoor Recreation Services and Programs, by Residence and License Status	25
1.6	Attitudes toward Revision of Recreation Services and Programs, by Residence and License Status	27
2.1	Visits to State or Federal Recreation Sites in Montana, by Residence and License Status	31
2.2	Visits to State Recreation Sites in Montana, 1979, by Residence and License Status	32
2.3	Awareness of State Operation of Parks and Recreation Sites, by Residence and License Status	34
2.4	Proximity to State Park or Recreation Sites and Accuracy of Response, by Residence and License Status	35
2.5	Opinions regarding New or Expanded State Recreation Sites within Next Five to Ten Years, by Residence and License Status	38

Table		Page
2.6	Type of Additional State Recreation Sites Preferred, by Residence and License Status	40-41
2.7	Respondents' Opinions and Awareness regarding Sources of Funding for State Recreation Sites, by Residence and License Status	44
2.8	Evaluation of State Operation of Parks and Recreation Sites, by Residence and License Status	47
3.1	Preferences regarding Fishing Location and Fishing Limits, by Residence and Fishing Participation	50
3.2	Opinions regarding the Need for More State Fishing Access Sites in the Next Five to Ten Years, by Residence and Fishing Participation	52
3.3	Preferences of Montana Fishermen regarding the Warm Water Fisheries Program, by Residence and Fishing Participation	54
3.4	Opinions regarding Selected Activities by the State to Manage Montana Waters, by Residence and Fishing Participation	56
3.5	Opinions regarding Selected Fishing License Fee Changes, by Residence, Fishing Participation, and Income	59
4.1	Opinions regarding Limiting Resident and Nonresident Hunters, by Residence and Hunting Participation	62
4.2	Opinions regarding Game Farms and Paid Hunting and Fishing on Private Land, by Residence and Hunting Participation	65
4.3	Opinions regarding Licensing and Funding of Nongame Wildlife Programs, by Residence and Hunting Participation	67
4.4	Respondents Favoring Use of Hunting and Fishing License Fees to Protect Endangered Species, by Residence and Hunting Participation	68
4.5	Opinions regarding Continued State Purchases of Land for Wildlife Management Purchases Only, by Residence and Hunting Participation	71

Table		Page
4.6	Opinions regarding Selected Hunting License Fee Increases, by Residence, Hunting Participation, and Income	73
5.1	Landowner-Recreationist Friction and Related Experience of Recreationists, by Residence and Fishing and Hunting Participation	76
5.2	Land Ownership and Landowner Friction with Recreationists, by Residence	79
5.3	Opinions regarding Selected State Actions to Facilitate Access to Public Lands and Wildlife, by Residence, Fishing and Hunting Participation, and Landowner Status	81
5.4	Preferences regarding Water Use and Departmental Involvement in State Energy Decisions, by Residence and Fishing and Hunting Participation	85
5.5	Opinions regarding Departmental Enforcement Efforts and Funding, by Residence and Fishing and Hunting Participation	88
5.6	Preferences regarding Selected Enforcement Activities, by Residence and Fishing and Hunting Participation	91
5.7	Responses regarding a Toll-Free Telephone Number for Reporting Violations, by Residence, Fishing and Hunting Participation, and Landowner Status	93
5.8	Awareness of Local Game Warden, by Residence and Fishing and Hunting Participation	95
5.9	Opinions regarding a Required Conservation Education Course, by Residence and License Status	97
5.10	Sources of Information about Outdoor Recreation Subjects and Issues, by Residence and License Status	99
5.11	Sources of Recreation Information in which Respondents Place Most Confidence, by Residence and License Status	100
5.12	Awareness of Montana Outdoors Magazine and Subscription Status, by Residence and License Status	102

Table		Page

5.13 Opinions regarding the Overall Performance of the Montana Department of Fish, Wildlife, and Parks, by Residence, License Status, and Fishing and Hunting Participation 105

6.1 Household Size, by Residence 108

6.2 Type of Household, by Residence 112

6.3 Sex of Householder (Household Head), by Residence 114

6.4 Age of Householder (Household Head), by Residence 115

6.5 Incomes of Montana Households in 1979, by Residence 117

6.6 Estimated Median Incomes of Montana Households in 1979, by Residence 120

6.7 Length of Residence in Current Place, by Residence 122

6.8 Residence of Montanans Five Years Ago (in 1975), by Size of County 125

6.9 Residence of Montanans Five Years Ago (in 1975), by DFWP Administrative Region 126

6.10 DFWP License Holder Status in 1979, by Residence 128

6.11 Residence of License Holders and Nonholders 129

6.12 Characteristics of License Holders and Nonholders 131

6.13 Household Characteristics of License Holders and Nonholders 133

B.1 Distribution of Survey Sample, by Residence 152

B.2 Characteristics of the Survey Sample 154

B.3 Comparison of Survey Sample and the Montana Population 156

INTRODUCTION

This report presents the results of an extensive survey of Montana residents regarding outdoor recreation (in the broadest sense) -- their activity, their preferences, and their opinions regarding numerous issues involved in outdoor recreation in Montana. The project was funded by the Montana Department of Fish, Wildlife, and Parks to obtain the kinds of information that would assist it in its planning for the 1981-1983 biennium; it has generated considerable information of interest not only to the Department but also to others concerned about outdoor recreation in Montana.

The report has been divided into several chapters, covering such topics as the extent of the respondents' involvement in outdoor recreation activity, their preferences in terms of activities and services, and their opinions and preferences regarding several outdoor recreation issues (such as funding, control or regulation of land or water use, revisions of programs or services, and so on), as well as some of the demographic characteristics of the respondents and their households and of those who hold Departmental licenses. Discussions of the methodology and the survey sample are included in the appendixes, along with copies of the survey instruments.

Because of sample size limitations, which are discussed in Appendix A, geographic breakdowns of the survey results, for the most part, have

been restricted to multicounty groupings -- the seven largest counties and the remaining forty-nine counties, each taken as a whole, and seven broad multicounty regions. The seven largest counties are those that had populations over 30,000 in 1980: Butte-Silver Bow (formerly Silver Bow), Cascade, Flathead, Gallatin, Lewis and Clark, Missoula, and Yellowstone counties. These are also the predominantly urban counties in the state and contain the cities of Butte, Great Falls, Kalispell, Bozeman, Helena, Missoula, and Billings within their borders. The remaining forty-nine counties all had populations under 25,000 in 1980. The counties have also been grouped into seven broad regions, detailed in figure B.1 in Appendix B, which are the districts established by the Department for the administration of its programs.

A couple of other points are worth noting for the reader's information. Some of the analyses focus on the "license status" of the respondents and refer to them as "license holders" or "nonholders." "License holders" are those who reported purchasing a license from the Department of Fish, Wildlife, and Parks (DFWP) in 1979; those who did not purchase a DFWP license of any kind are referred to as "nonholders." Also, because the Department is referred to frequently, and for the sake of brevity, references in the text or tables will cite the "Department" or "DFWP" unless otherwise warranted.

The Bureau of Business and Economic Research would like to extend special thanks to the Montana Fish and Game Commission and the Department of Fish, Wildlife, and Parks for its funding and sponsorship of this

project and would also like to thank members of the staff -- Steve Bayless, Administrator, Conservation Education Division; and Ann Miller, Chief, Information Services Bureau -- for their assistance during the conduct of the project.

CHAPTER 1

OUTDOOR RECREATION ACTIVITIES AND PROGRAMS

One of the purposes of the survey was to determine the extent to which Montanans participate in outdoor recreation activities, and the activities that are the most popular. The results show that most Montanans devote some of their leisure time to outdoor recreation activity. Survey respondents were asked to name the two or three things they do most often during their leisure time, including both indoor and outdoor hobby and recreation activities. Ninety-eight percent of the survey participants responded to this question, and 75 percent of those responding cited one or more outdoor recreation activities.

This was followed by a series of questions designed to measure not only the overall rates of participation for selected outdoor recreation activities, but also what factors may affect people's participation. Since the fuel situation in particular might significantly affect the ability of recreation enthusiasts to pursue their activities, a couple of questions were directed specifically at this issue.

Respondents were also asked a series of general questions designed to ascertain whether they wish to see revisions in the outdoor recreation services and programs currently offered.

Participation Rates for Selected Outdoor Recreation Activities

Respondents were read a list of selected outdoor recreation activities and asked how many days they participated in each activity during 1979. Table 1.1 (three pages) shows the percentage of total respondents who indicated that they had participated in the activity at least one day in 1979. Table 1.2 shows the median number of participation days for each activity. For example, almost 59 percent of the respondents reported fishing in Montana at least one day in 1979 (table 1.1). The median number of days recorded was fourteen (table 1.2), which means that about half the respondents who fished in 1979 reported fishing fewer than fourteen days, and about half said they fished on more than fourteen days.

In general, the most popular recreation activities in Montana in 1979 were the most sedentary: picnicking, driving for pleasure, and walking for pleasure (as opposed to hiking or mountain climbing). Over 70 percent of the survey respondents reported doing each of these activities at least once in 1979. Also, as might be expected, the younger respondents showed higher participation rates, especially in the more vigorous activities. Bird watching, driving or walking for pleasure, and picnicking were activities which showed relatively greater participation by those sixty-five years of age and over. The respondent's sex and residence significantly affected participation in only a few activities. However, the license status of respondents was a generally significant factor; license holders were more likely than nonholders to have participated in every activity listed.

Table 1.1

Participation Rates for Selected Outdoor Recreation Activities
1979

(As Percentages of Total Respondents)

	Back-country Touring[a]	Bicycling[b]	Bird Watching[c]	Boating[d]	Camping	Cross-country Skiing	Driving for Pleasure	*Number of Respondents*
All respondents	23.8	32.8	29.4	32.5	57.6	14.6	71.4	*1,237*
Residence, by DFWP region								
Region 1	22.1	34.4	46.7	48.4	52.5	23.8	71.3	*122*
Region 2	22.2	35.4	27.8	29.7	60.4	20.3	65.1	*212*
Region 3	32.8	36.4	28.7	28.7	66.7	21.5	72.8	*195*
Region 4	22.8	30.2	29.5	34.7	58.6	11.9	70.5	*285*
Region 5	20.9	31.8	24.5	27.3	57.3	10.5	77.3	*220*
Region 6	25.0	31.7	27.9	34.6	51.0	3.8	72.1	*104*
Region 7	20.2	29.3	25.3	29.3	44.4	5.1	70.7	*99*
Residence, by county size[e]								
Seven largest counties	24.4	35.7	28.2	35.4	62.1	18.5	72.7	*717*
All other counties	23.1	28.8	31.2	28.5	51.3	9.0	69.6	*520*
License status								
DFWP license holder	31.4	36.0	31.1	38.5	70.7	18.7	74.2	*730*
Nonholder	13.0	28.2	27.0	23.9	38.7	9.5	67.3	*507*
Sex of respondent								
Male	28.4	29.3	28.4	37.6	63.1	15.1	70.6	*564*
Female	20.1	35.8	30.3	28.2	52.9	14.1	72.1	*673*
Age of respondent[f]								
18-24 years	39.6	54.3	21.8	49.2	75.6	19.8	85.8	*197*
25-34 years	29.9	45.6	26.5	37.7	71.5	21.1	79.4	*355*
35-44 years	26.2	30.3	29.9	29.0	63.3	18.1	68.3	*221*
45-64 years	13.4	16.4	32.8	26.8	43.8	7.7	66.6	*299*
65 years and over	8.1	11.9	38.7	16.9	23.7	1.2	50.0	*160*

Note: Because many respondents cited more than one activity, the percentage detail does not add to 100.0
[a]With four-wheel drive vehicle.
[b]Nonmotorized.
[c]Includes nature study, outdoor photography.
[d]Motorized. Includes water skiing.
[e]The seven largest counties had populations over 30,000 in 1980; all other Montana counties had fewer than 25,000 residents each.
[f]The number of respondents does not add to the total because those who did not answer the age question were omitted from the tabulation.

Table 1.1 (continued)

Participation Rates for Selected Outdoor Recreation Activities
1979

(As Percentages of Total Respondents)

	Fishing[a]	Hiking	Horseback Riding	Hunting[b]	Motorbike Riding[c]	Outdoor Swimming	Picnicking	*Number of Respondents*
All respondents	58.8	38.4	18.8	35.2	18.8	65.3	77.5	*1,237*
Residence, by DFWP region								
Region 1	67.2	47.5	21.3	41.0	21.3	81.1	81.1	*122*
Region 2	59.4	48.6	19.3	31.1	18.9	66.0	79.2	*212*
Region 3	62.1	43.6	22.1	40.5	15.4	64.6	79.5	*195*
Region 4	57.9	36.8	16.1	31.9	20.0	65.3	75.1	*285*
Region 5	56.8	37.3	13.6	32.7	17.7	63.6	75.5	*220*
Region 6	56.7	24.0	26.9	38.5	25.0	59.6	77.9	*104*
Region 7	50.4	17.2	19.2	38.4	15.2	55.6	76.8	*99*
Residence, by county size[d]								
Seven largest counties	61.8	43.7	16.7	32.5	18.8	68.2	77.5	*717*
All other counties	54.8	31.2	21.7	39.0	18.8	61.3	77.5	*520*
License status								
DFWP license holder	84.9	45.6	21.1	54.8	22.5	74.0	81.5	*730*
Nonholder	21.3	28.0	15.6	7.1	13.6	52.9	71.8	*507*
Sex of respondent								
Male	72.3	42.2	21.1	55.5	25.0	66.5	75.7	*564*
Female	47.5	35.2	16.9	18.3	13.7	64.3	79.0	*673*
Age of respondent[e]								
18-24 years	64.5	57.4	35.5	42.6	38.6	88.8	83.2	*197*
25-34 years	69.0	52.4	22.8	45.4	23.4	78.6	83.9	*355*
35-44 years	60.2	38.0	17.2	38.9	15.4	71.0	82.4	*221*
45-64 years	54.5	24.7	12.7	27.4	12.7	50.5	72.6	*299*
65 years and over	36.9	10.6	3.7	13.1	1.2	28.7	60.0	*160*

Note: Because many respondents cited more than one activity, the percentage detail does not add to 100.0

[a]Includes ice fishing.

[b]Includes trapping, archery/bow and arrow hunting.

[c]Both on- and off-road vehicles.

[d]The seven largest counties had populations over 30,000 in 1980; all other Montana counties had fewer than 25,000 residents each.

[e]The number of respondents does not add to the total because those who did not answer the age question were omitted from the tabulation.

Table 1.1 (continued)

Participation Rates for Selected Outdoor Recreation Activities
1979

(As Percentages of Total Respondents)

	Playing Outdoor Games[a]	Riverfloating or Canoeing[b]	Snowmobiling	Walking for Pleasure	Downhill Skiing	Other Winter Sports[c]	Rock Hounding[d]	*Number of Respondents*
All respondents	58.5	25.0	14.8	71.9	5.7	1.2	1.5	*1,237*
Residence, by DFWP region								
Region 1	60.7	25.4	15.6	72.1	5.7	0.8	1.6	*122*
Region 2	55.7	30.7	15.6	70.8	4.7	0.5	0.9	*212*
Region 3	60.0	37.9	12.8	74.4	10.3	1.0	2.6	*195*
Region 4	61.4	24.6	15.8	73.3	5.3	2.8	1.4	*286*
Region 5	60.5	16.8	8.6	71.8	6.8	0.9	0.9	*220*
Region 6	53.8	12.5	23.1	69.2	1.9	0.0	1.0	*104*
Region 7	51.5	19.2	18.9	67.7	1.0	1.0	2.0	*98*
Residence, by county size[e]								
Seven largest counties	63.6	29.4	12.0	73.6	7.1	1.1	1.0	*717*
All other counties	51.5	18.8	18.7	69.4	3.7	1.3	2.1	*520*
License status								
DFWP license holder	62.9	33.0	16.3	73.7	6.4	1.5	1.8	*730*
Nonholder	52.3	13.4	12.6	69.2	4.5	0.8	1.0	*507*
Sex of respondent								
Male	61.7	30.3	16.7	67.6	6.0	0.7	1.8	*564*
Female	55.9	20.5	13.2	75.5	5.3	1.6	1.2	*673*
Age of respondent[f]								
18-24 years	84.3	40.1	29.4	77.2	10.7	2.0	0.5	*197*
25-34 years	80.6	35.5	14.9	79.7	9.6	2.5	1.4	*355*
35-44 years	60.2	24.4	14.0	71.9	3.2	0.5	1.4	*221*
45-64 years	35.5	14.4	13.4	65.2	2.3	0.3	2.7	*299*
65 years and over	20.0	3.7	0.6	61.2	0.6	0.0	0.6	*160*

Note: Because many respondents cited more than one activity, the percentage detail does not add to 100.0.
[a]Golf, tennis, frisbee, softball, etc.
[b]Includes rafting.
[c]Sledding, tobogganing, snowshoeing, dogsledding, etc.
[d]Includes prospecting and metal detection.
[e]The seven largest counties had populations over 30,000 in 1980; all other Montana counties had fewer than 25,000 residents each.
[f]The number of respondents does not add to the total because those who did not answer the age question were omitted from the tabulation.

Table 1.2

Extent of Participation in Selected Outdoor Recreation Activities
1979

	---------- Participated in 1979 ----------					
	Percentage of Total Respondents	*Number Participating*	*Median Number of Days*	Did Not Participate	Total	*Number of Respondents*
Back-country touring	23.8	*295*	*8*	76.2	100.0	*1,237*
Bicycling	32.8	*406*	*20*	67.2	100.0	*1,237*
Bird watching	29.4	*364*	*25*	70.6	100.0	*1,237*
Boating	32.5	*402*	*6*	67.5	100.0	*1,237*
Camping	57.6	*712*	*10*	42.4	100.0	*1,237*
Cross-country skiing	14.6	*180*	*6*	85.4	100.0	*1,237*
Driving for pleasure	71.4	*883*	*12*	28.6	100.0	*1,237*
Fishing	58.8	*728*	*14*	41.2	100.0	*1,237*
Hiking	38.4	*475*	*6*	61.6	100.0	*1,237*
Horseback riding	18.8	*233*	*10*	81.2	100.0	*1,237*
Hunting	35.2	*436*	*10*	64.8	100.0	*1,237*
Motorbike riding	18.8	*233*	*14*	81.2	100.0	*1,237*
Outdoor swimming	65.3	*808*	*10*	34.7	100.0	*1,237*
Picnicking	77.5	*959*	*6*	22.5	100.0	*1,237*
Playing outdoor games	58.5	*724*	*15*	41.5	100.0	*1,237*
Riverfloating or canoeing	25.0	*309*	*4*	75.0	100.0	*1,237*
Snowmobiling	14.8	*183*	*5*	85.2	100.0	*1,237*
Walking for pleasure	71.9	*889*	*20*	28.1	100.0	*1,237*
Downhill skiing	5.7	*70*	*10*	94.3	100.0	*1,237*
Other winter sports	1.2	*15*	*7*	98.8	100.0	*1,237*
Rock hounding	1.5	*18*	*10*	98.5	100.0	*1,237*

Following is a discussion of the overall participation rates for each activity. The responses were analyzed by residence, sex, age, and license status of the respondents; and any significant differences in participation among the respondent groups are noted.

Back-Country Touring. Just under 24 percent of the respondents reported back-country touring with a four-wheel drive vehicle in 1979. Significantly greater participation was reported by license holders (31 percent) compared with nonholders (13 percent). Those in the younger age groups were more likely to have participated in this activity, with participation falling off significantly for those over forty-five years of age and older. Eight days was the median number of days reported by those who had done some back-country touring in 1979.

Bicycling. Over 32 percent of the respondents reported bicycling at least one day in 1979. Age was the only factor significantly affecting participation; over 54 percent of those between eighteen and twenty-four years of age reported bicycling. Respondents between twenty-five and thirty-four years of age also reported a relatively higher rate of participation (over 45 percent), but participation in the other older groups diminished sharply with age. Respondents reported a median of twenty days of bicycling in 1979.

Bird Watching. This activity broadly included nature study and outdoor photography. Almost 30 percent of the survey respondents indicated some participation in these activities in 1979, and, as noted

earlier, a substantial portion of respondents in the older age categories indicated participation. Age was found to be of no statistical significance in determining participation. An interesting difference was found when comparing participants' places of residence. Those residing in region 1 (northwestern Montana, including the regions west of Glacier Park and surrounding Flathead Lake) recorded the highest participation rate -- over 46 percent. Those from region 5 (south central) showed the lowest rate, 24 percent. Participants in this activity reported the highest median number of participation days, twenty-five, of all the activities listed.

Boating. Thirty-two percent of the respondents reported some motorized boating or water skiing in 1979, and several characteristics apparently were significant. License holders were more likely to have gone boating than nonholders (38 percent versus about 24 percent), and men reported higher participation than women. As might be expected, those in the two younger age groups (under thirty-five years of age) were also more likely to have participated in this activity. And, again, respondents in region 1 (northwest) reported higher participation than did those in the other regions, possibly because that region, which includes Flathead Lake, offers abundant boating opportunities. Respondents from region 5 (south central) reported the least participation. Boating enthusiasts showed a median of six days' participation in 1979.

Camping. Camping was enjoyed by a majority -- over 57 percent -- of the survey respondents in 1979, with a median of ten days' participation reported. Camping was considered to be all types of camping, not just

backpacking. License holders were significantly more active; over 70 percent of the license holders surveyed said they camped at least once in 1979, while only about 39 percent of the nonholders reported camping. There were also significant differences between the participation rates of men and women; 63 percent of the male respondents indicated participation, compared to about 53 percent of the female respondents. Those in the two younger age groups were far more likely to have camped than those over thirty-five years of age. Apparently residence was also significant. Those who lived in the seven largest counties reported a higher rate of participation (62 percent) than did those in the remaining counties (51 percent). Over two-thirds of those in region 3 (southwest) said they had camped, while the other regions showed less participation, with those in region 7 (southeast) showing a significantly lower participation rate (44 percent).

Cross-Country Skiing. Over 14 percent of those surveyed said they had cross-country skied in 1979. The only significant differences in participation were based on age; those in the age groups spanning eighteen to forty-four years showed similar participation rates, with decreasing participation reported by those over forty-five years of age. Cross-country skiing enthusiasts recorded a median of six days' participation in 1979.

Driving for Pleasure. Driving for pleasure or sightseeing was enjoyed by a large proportion -- 71 percent -- of the survey respondents, and twelve days was the median number recorded. High participation rates

were reported by those from all regions and areas of the state. The only significant rate differences were among the different age groups. Those between eighteen and twenty-four years of age reported the highest participation rate (nearly 86 percent), closely followed by those between twenty-five and thirty-four years of age (79 percent). While no age group reported a participation rate below 50 percent, the rates did decline with age.

Fishing. As noted earlier, nearly 59 percent of the respondents said they had fished in Montana at least one day in 1979; the median number of days reported was fourteen. The respondents residing in the different regions and multicounty areas showed relatively similar participation rates. However, significantly different participation rates were reported by men and women; 72 percent of the male respondents indicated they had fished, while the rate for female respondents was about 47 percent. In terms of age, those under forty-five years of age recorded higher rates of participation than did older respondents. And, interestingly, 21 percent of those who were not license holders said they had fished.

Hiking. Hiking or mountain climbing are also popular activities, enjoyed by over 38 percent of the survey respondents in 1979, who reported a median of six days. Significant differences appeared among respondents in terms of residence, license status, and age. Respondents from the seven most populous counties reported a higher participation rate than did those from the remaining counties (over 43 percent versus 31 percent). Respondents residing in region 2 had the highest rate (almost 49 percent)

of the seven regions, while region 7 (southeast) had the lowest rate (17 percent). License holders were more likely to have gone hiking or mountain climbing than nonholders (over 45 percent and 28 percent, respectively). And, not surprisingly, those in the two younger age groups had the highest participation rates.

Horseback Riding. Almost 19 percent of the survey respondents indicated they went horseback riding in 1979. Place of residence, license status, and sex were not significant factors influencing participation. The only statistically significant difference was based on age; those under thirty-five years of age reported significantly greater participation (27 percent) than did the older respondents (12 percent). Enthusiasts reported a median of ten days of horseback riding in 1979.

Hunting. Over 35 percent of the survey respondents said they had hunted in Montana in 1979; these hunters recorded a median of ten days. Place of residence was not significant; respondents who lived in the seven regions reported participation rates ranging from 31 percent to 41 percent, and those in the largest counties and the rest of the state reported about 32 and 39 percent, respectively. However, the difference in participation rates among men and women was significant; over 55 percent of the male respondents said they had hunted, while only 18 percent of the female respondents indicated they had done so. Those in the three younger age groups (under forty-five years of age) showed relatively, but not significantly, greater participation than did those in the older age groups. In contrast with fishing enthusiasts, far fewer nonholders of licenses

reported doing any hunting. As mentioned earlier, over 21 percent of nonholders said they had fished, but only 7 percent of nonholders reported hunting.

Motorbike Riding. About 19 percent of the respondents said they had gone motorbike riding with on- or off-road vehicles in 1979. Significantly more male than female respondents (25 percent versus about 14 percent) reported participation. Age was the only other notable factor; almost 39 percent of those under twenty-five years of age said they had gone motorbike riding at least once in 1979, and the participation rates decreased sharply in the other age groups. The median number of participation days recorded was fourteen.

Outdoor Swimming. Respondents were asked if they had gone swimming outdoors during 1979. Nearly two-thirds of the respondents indicated they had, and they recorded a median of ten days. Place of residence, license status, and age were significant among respondents. Those who lived in region 1 (which includes Flathead Lake as well as many other lakes and rivers) were far more likely to have gone swimming outdoors; 81 percent of those respondents indicated participation. Respondents from the western and central regions (2, 3, 4, and 5) recorded participation rates between 63 and 66 percent, while those in the more arid eastern part of the state (regions 6 and 7), reported the least participation (55 and 59 percent). Significantly more license holders than nonholders said they had gone swimming (74 percent versus almost 53 percent). And, age was again a statistically significant factor. Those ranging in age from eighteen to

thirty-four years showed high rates of participation (about 89 percent and 78 percent, respectively), followed by those between thirty-five and forty-four years of age (71 percent) and significantly less in the older groups.

Picnicking. Picnicking, like driving for pleasure, is a less vigorous activity and is enjoyed by a large percentage of Montanans. Over 77 percent of the survey respondents indicated they had picnicked at least once in 1979, with a median of six days. Age was a factor affecting participation, but the participation rates for the older age categories were still high. Respondents in the three younger categories (under forty-five years of age) reported very close participation rates, all over 80 percent. Compared to the younger groups, fewer respondents aged forty-five years and older reported picnicking, but their rates were still relatively high -- about 73 and 60 percent, respectively. License holders showed a slight edge over nonholders in participation rates (about 82 percent and 72 percent, respectively).

Playing Outdoor Games. Outdoor games and sports, such as golf, tennis, softball, volleyball, etc., are popular recreation activities. Over 58 percent of the survey respondents said they participated in outdoor games and sports in 1979. Those respondents who reside in the seven-county area reported higher participation than did those in the other counties, and license holders were more likely than nonholders to have participated in such activities. As might be expected, participation rates were very high -- over 80 percent -- among the younger respondents

(under thirty-five years of age). Fifteen days' participation was the median.

River Floating or Canoeing. One-fourth of the respondents said they had gone river floating, canoeing, or rafting in 1979, for a median of four days. Those respondents who lived in region 3 (southwest) were most likely to have gone floating or canoeing (about 38 percent), while those in region 6 (northeast) reported the lowest participation (12 percent). Respondents in the seven most populous counties reported greater participation than did those in the other counties, and license holders were more likely to have gone canoeing or floating than were nonholders. Those in the younger age groups again showed significantly higher rates of participation.

Snowmobiling. Almost 15 percent of the survey respondents said they had gone snowmobiling in 1979. The only apparently significant factor was age. The youngest group (under twenty-five years of age) was highest with a 29 percent participation rate, and the participation declined significantly with age. Enthusiasts reported a median of five days' snowmobiling in 1979.

Walking for Pleasure. Like the other more sedentary activities, walking for pleasure or sightseeing was very popular; it was enjoyed by almost 72 percent of all respondents. Respondents in all geographic regions showed similarly high rates of participation. More women than men reported walking for pleasure or sightseeing, over 75 percent versus

about 67 percent. As might be expected, those under forty-five years of age had the highest participation rates (about 72 percent or more), but respondents in the older age categories also reported substantial participation (over 60 percent). A high median number of days -- twenty -- was recorded for this activity.

Downhill Skiing. A relatively small percentage of survey respondents -- under 6 percent -- said they had gone downhill skiing at least once in 1979. One reason for the smaller response is that downhill skiing, unlike the other activities, was not included in the list of activities read to respondents; survey participants had to mention downhill skiing specifically for their participation to be noted. The very small sample size also makes it difficult to assess the differences in participation rates among the respondent groups. Skiing enthusiasts did show active participation in this activity; ten days was the median number of days spent skiing.

Other Activities. A small percentage of respondents reported participation in other winter sports, rock hounding or metal detection, and miscellaneous activities. The low number of responses makes it impossible to determine statistically significant differences among the respondent groups, and the overall participation rates for these activities must be interpreted with caution.

Preferences for Additional Activity Participation

As a followup, respondents were asked if there were any outdoor recreation activities they wished they could do in Montana but don't

for any reason. Thirty-five percent said "yes" (table 1.3). Relatively similar response rates to this question were recorded by those in all the various respondent groups, although the respondents in region 3 (southwest) were slightly less likely to answer affirmatively.

Those respondents who answered "yes" to that initial question were then asked to cite the reasons or factors that kept them from enjoying the recreation activities in which they would like to participate. Many respondents cited more than one reason, and the reason mentioned most often was that the activity was not available in the respondents' area, either due to geographic limitations, lack of access, or the lack of developed areas. Thirty-eight percent of those answering this question gave this response (table 1.3). Respondents in regions 5, 6, and 7 gave this response with more frequency than the respondents as a whole.

The next most frequently cited reason was that the respondents lacked the time necessary to pursue the recreation activities they wished they could do. The only significant difference in terms of this particular response was between those in region 3 (southwest), who mentioned this least often, and those in region 6 (northeast) who mentioned it the most (about 22 percent and 44 percent, respectively).

Other reasons cited for lack of participation were that an activity was just too expensive to pursue, or that the respondents' age and health were limiting factors. Miscellaneous responses, mentioned by only a few respondents, included lack of equipment necessary for the desired activity and references to the high cost or unavailability of gasoline.

CHAPTER 6

CHARACTERISTICS OF MONTANANS AND THEIR HOUSEHOLDS AS REVEALED BY THE SURVEY

This section briefly discusses the characteristics of Montana households, as described by the survey respondents who live in those households. (Appendix B on the survey sample briefly describes the respondents themselves and compares them with the Montana population.) Also discussed in this section are the characteristics of persons who reported purchasing a license from the Department in 1979. As noted earlier, these persons are referred to as license holders, and those who did not purchase a DFWP license of any kind are referred to as nonholders.

Household Size

Much has been said about increased numbers of households in the United States since 1970 and companion decreases in household size. Data from this survey, as well as data from a statewide housing survey for 1978, suggest that Montana has not escaped this trend. According to preliminary data from the U.S. Bureau of the Census, the number of households in Montana increased about 30 percent during the 1970s. At the same time, average household size has declined: it was reported at 3.10 in 1970, compared to survey estimates of 2.94 for 1978 and 2.88 for 1980 (table 6.1).

Table 6.1

Household Size, by Residence

(In Percentages)

	Average Household Size[a]	Number of Persons in Household					Total	*Number of Respondents*
		1	2	3	4	5 or More		
All respondents	*2.88*	17.5	32.7	17.6	18.4	13.9	100.0	*1,237*
Residence, by county size[b]								
Seven largest counties	*2.79*	17.6	35.0	18.8	17.0	11.6	100.0	*717*
Butte-Silver Bow	*3.05*	14.3	33.9	10.7	25.0	16.1	100.0	*56*
Cascade	*2.73*	22.2	26.7	22.2	19.3	9.6	100.0	*135*
Flathead	*3.11*	15.4	32.3	15.4	18.5	18.5	100.0	*65*
Gallatin	*2.90*	16.7	34.5	20.2	14.3	14.3	100.0	*84*
Lewis and Clark	*2.38*	25.4	38.0	21.1	8.5	7.0	100.0	*71*
Missoula	*2.50*	19.8	40.5	20.6	13.0	6.1	100.0	*131*
Yellowstone	*2.95*	11.4	37.7	17.1	20.0	13.7	100.0	*175*
All other counties	*3.02*	17.3	29.4	16.0	20.4	16.9	100.0	*520*
Residence, by DFWP region								
Region 1	*3.20*	15.6	29.5	15.6	19.7	19.7	100.0	*122*
Region 2	*2.69*	18.4	35.4	20.8	17.0	8.5	100.0	*212*
Region 3	*2.88*	16.4	35.4	16.4	18.5	13.3	100.0	*195*
Region 4	*2.71*	21.1	31.6	21.1	16.1	10.2	100.0	*285*
Region 5	*2.94*	12.3	38.2	15.9	20.0	13.6	100.0	*220*
Region 6	*3.14*	16.3	26.0	16.3	17.3	24.0	100.0	*104*
Region 7	*3.04*	22.2	23.2	11.1	24.2	19.2	100.0	*99*

Note: Percentage detail does not add to total due to rounding.

[a]Average number of persons in the household.

[b] The seven largest counties had populations over 30,000 in 1980; all other Montana counties had fewer than 25,000 residents each.

The seven largest counties, as a group, and the rest of the state followed this statewide pattern somewhat closely. The seven-county area, however, was more likely to have smaller households: more than 70 percent of the households had three or fewer persons, but over half (53 percent) had only one or two; the average overall was 2.79 persons per household. In the rest of the state, while almost 63 percent had three or fewer persons, less than half (47 percent) had one or two persons and the average overall was 3.02 persons.

Among the seven largest counties, there was about a 30 percent variation in overall household size. Lewis and Clark (Helena) and Missoula counties, for example, tended to be at the smaller end of the scale with averages of 2.38 and 2.50 persons, respectively; no less than 80 percent of their households had three or fewer persons. At the larger end were Butte-Silver Bow and Flathead (Kalispell) counties with average sizes of slightly over three persons. In these latter two counties, as well as Yellowstone (Billings), about two-thirds or more of the households had between two and four persons. Cascade (Great Falls) and Gallatin (Bozeman) fell in between, with about 70 percent of their households having three or fewer persons. In all cases, however, the most prevalent household size was two persons.

There was less variation in average household size among the seven administrative regions, but some differences are worth noting. Largest in average size was region 1 (northwest) with 3.20 persons, followed by the two eastern regions (region 6 and 7) with averages slightly over three persons each. These three regions were more likely than the others to have households of three persons or more (although in all cases at least a majority had between two and four persons). At the smaller end

APPENDIX A

METHODOLOGY

This survey was conducted among Montana residents (adults eighteen years of age and older) during a six-week period commencing in May 1980. The eligible (adult) population was estimated at 546,000 residents, from which a minimum 1,200 interviews were to be obtained.

The survey was designed for telephone administration, rather than the personal or mail approach. Personal interviews are very expensive, given the time and travel involved, especially for a statewide survey. Also, there are no reliable and adequate lists of all Montana households or residents from which to select a representative sample for personal or mail contact. For primarily these reasons, the Bureau of Business and Economic Research, in 1978, designed a program to generate random telephone numbers for Montana and substate areas. This program utilizes a random digit dialing (RDD) technique for sample selection. The RDD technique is superior to the use of the telephone directory because it does not exclude households with unlisted telephones, and the actual sample selection can be facilitated considerably by computer techniques.

The sample frame resulting from use of the RDD technique approximates the current mix of households covered by the various telephone companies in the state as well as the geographic distribution of those households. (The geographic distribution of the sample for this study is discussed in

Appendix B.) Of course, while even this approach does not assure 100 percent coverage, it is felt that any biases due to coverage problems do not significantly distort the results for the purposes of this type of study for at least two reasons. First of all, as recently as 1977, the U.S. Federal Communications Commission reported that no less than 96 percent of the households in the United States had telephones in their own homes; more locally, the FCC has reported that about 95 percent of Montana's households have telephone coverage.[1] In addition, while there are some without telephones, such households or persons usually cannot be reached by personal or mail survey methods either--they tend to be more transient and/or socially isolated and are difficult to reach regardless of the method used.[2]

Therefore, for the reasons stated and because this particular telephone approach, utilizing RDD sample selection techniques, has worked well in past studies, this project was designed for telephone administration.

However, because the initial sample units generated by the RDD procedure were households rather than individual residents, a second random selection procedure was used to select the individual respondents from among the eligible adults living in the various households: in their initial contacts with the households, the interviewers determined the

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[1] U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States, 1979* (Washington, D.C., 1979), table 975; citing U.S. Federal Communication Commission, *Statistics of Communications Common Carriers*.

[2] William R. Klecka and Alfred J. Tuchfarber, "Random Digit Dialing: A Comparison to Personal Surveys," *Public Opinion Quarterly*, vol. 42, no. 1 (Spring 1978), p. 106.

composition of each; then a respondent was selected from among the eligible adults in each household using a specific random selection procedure.[3] These various random sampling procedures were followed so as to ensure that every person had a chance to be selected and to ensure that the sample was representative of the Montana population from which it was drawn. (The sample is discussed in more detail in Appendix B.)

During the data collection period, about 3,600 randomly selected telephone numbers were attempted. About 1,900 of these were ineligible numbers; they included primarily nonworking or unassigned numbers, as well as nonresidential numbers and "no contacts" (no contact was made after at least five varied attempts). Of the approximately 1,700 persons subsequently selected at random from the eligible households, about 73 percent responded, resulting in 1,237 usable interviews. This response rate compares quite favorably with surveys of this type.

The size of the survey sample assures that the overall survey results are within plus or minus 4.3 percentage points of the "true" value (i.e., the result that would be obtained by interviewing all households in the state) at a confidence level of 99 percent. To illustrate what this means, had it been determined that 40 percent of the sample had lived in their current communities less than five years, it could then be assumed with 99 percent certainty that the true value lay between 35.7 and 44.3 percent (40 percent $\pm$ 4.3 percent).[4]

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[3]The interviewers rotated systematically among eight varying random selection tables which, used together, are designed to generate a sample that is representative of the population from which it is drawn.

[4]If we assume a slightly lower confidence (or certainty) level of 95 percent, the reliability (or confidence interval) is increased to 2.8 percentage points: that is, we can assume with 95 percent certainty that the overall survey results are within plus or minus 2.8 percentage points.

The relatively smaller number of respondents in the various geographic categories (counties, population size groups, and regions), however, do not assure the same very high level of confidence as is the case for the entire statewide sample.[5] Nevertheless, in most instances, the confidence levels are quite reasonable, and any statistically significant differences among the areas are noted in the text.

Increased sample size, of course, would have reduced the limits of sampling error. However, the reduction would have been small in relation to any practicable increase in sample size, and the effect would have been to increase costs and time without great benefits in meeting the objectives of the survey.

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[5]For example, for the seven largest counties, as a whole, and the remaining forty-nine counties, as a whole: with a 95 percent level of confidence, the confidence intervals are ± 3.7 and ± 4.4 percentage points, respectively. Among the seven regions: with a 90 percent confidence level, the confidence intervals range from ± 3.0 percentage points (region 4) to ± 5.0 percentage points (region 7).

APPENDIX B

THE SAMPLE

The final sample included 1,237 persons, aged eighteen years and older, residing in Montana at the time of the survey. The geographic distributions of the survey sample are presented in table B.1. The first distribution presents data for the seven largest counties (the predominantly urban counties of the state) and for the remaining forty-nine smaller (and predominantly rural) counties, as a whole. The second distribution presents the data for the seven administrative regions of the Department of Fish, Wildlife, and Parks (see figure B.1).

Table B.2 summarizes the various demographic characteristics of the survey sample (respondents). The majority of the respondents were between eighteen and forty-four years of age, with an estimated median age of thirty-eight years, and a little over half were female. The majority (54 percent) had lived in Montana over ten years. The respondents tended to be well educated: 41 percent had completed high school and another 45 percent had completed some college or more. Most of the respondents indicated that they were householders (household heads) or shared that status with a spouse or other household member, and most were employed, predominantly as private sector workers. Almost half the respondents reported total household incomes between $15,000 and $35,000 in 1979, while 38 percent reported household incomes below $15,000 and 12 percent reported incomes above $35,000. Respondents were also asked whether they

Table B.1

Distribution of Survey Sample, by Residence

	Percentage of Total	*Number of Respondents*
All respondents	100	*1,237*
Residence, by county size[a]		
Seven largest counties	58	*717*
Butte-Silver Bow	5	*56*
Cascade	11	*135*
Flathead	5	*65*
Gallatin	7	*84*
Lewis and Clark	6	*71*
Missoula	11	*131*
Yellowstone	14	*175*
All other counties	42	*520*
Residence, by DFWP region		
Region 1	10	*122*
Region 2	17	*212*
Region 3	16	*195*
Region 4	23	*285*
Region 5	18	*220*
Region 6	8	*104*
Region 7	8	*99*

Note: Percentage detail may not add to total due to rounding.

[a]The seven largest counties had populations over 30,000 in 1980; all other Montana counties had fewer than 25,000 residents each.

APPENDIX C

COVER SHEET AND QUESTIONNAIRE

B3. Now I'm going to read a list of outdoor recreation activities. Please tell me about how many days you did each one in 1979 in Montana. *(Begin with activity marked and continue through the list, ending with the activity, if any, just above the one marked. Read only the activities, not the preceding letters.)*

	Activity	NUMBER OF DAYS
A.	Back country touring with a four-wheel drive vehicle	_____
B.	Bicycling	_____
C.	Bird watching or nature study	_____
D.	Boating with a motor. . .	_____
E.	Camping	_____
F.	Cross-country skiing. . .	_____
G.	Driving for pleasure or sightseeing	_____
H.	Fishing	_____
I.	Hiking or mountain climbing	_____
J.	Horseback riding . . .	_____
K.	Hunting.	_____
L.	Motor bike riding. . .	_____
M.	Outdoor swimming or going to a lake or river	_____
N.	Picnicking	_____
O.	Playing outdoor games	_____
P.	River floating or canoeing	_____
Q.	Snowmobiling	_____
R.	Walking for pleasure or sightseeing	_____

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T.	____________________	_____
U.	____________________	_____
V.	____________________	_____

B3a. Are there any other outdoor recreation activities you did in Montana in 1979 that I didn't mention? *IF YES: Ask the following, if necessary, and record on lines T, U, V above.*

B3b. Which ones?

B3c. About how many days did you *(activity mentioned)* in 1979? *(Ask for each additional activity mentioned.)*

B3d. Did you use any logging roads for any outdoor recreation activity or to gain access to any areas?

1. YES	2. NO	3. DON'T KNOW