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**1988-89 OUTDOOR RECREATION SURVEY
OF
WHITEWATER WILDLIFE MANAGEMENT AREA**

SUMMARY OF FINDINGS

PREPARED BY:

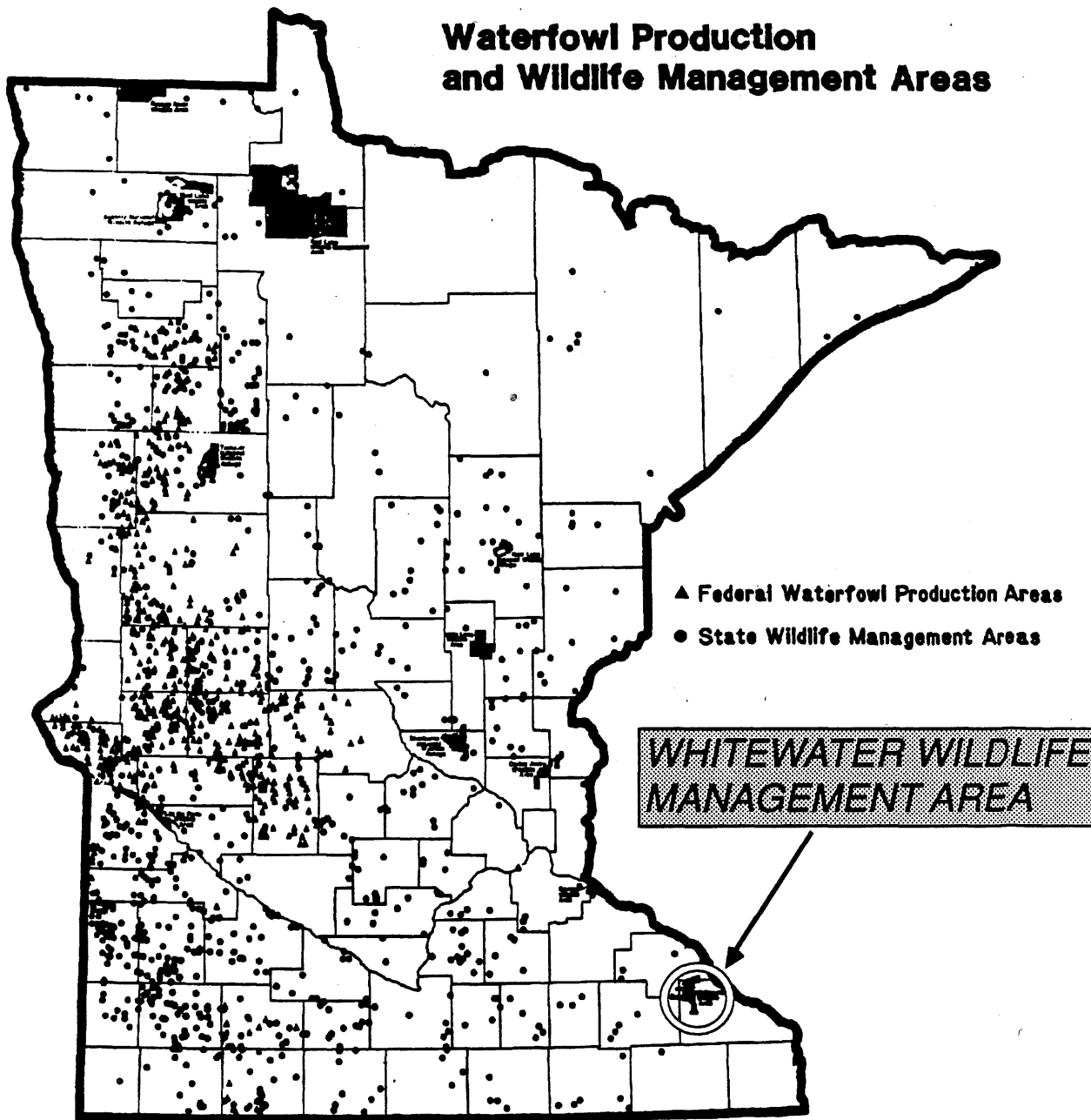
**OFFICE OF PLANNING
MINNESOTA DEPARTMENT OF NATURAL RESOURCES**

DECEMBER, 1989

CONTENTS

	<u>Page</u>
Introduction	1
Outdoor Recreation in Whitewater Wildlife Management Area	
Amount of Outdoor Recreation	2
Recreation Activities	3
Location of Activities	5
How Did Recreators Learn About Whitewater?	6
Demographics of Visitors	7
Quality of Visit to Whitewater	9
 Spending by Whitewater Recreators	 11
 Recreator Comments About Their Experience at Whitewater	 13
 References	 15
 Questionnaire Used in Whitewater Survey	 16

Waterfowl Production and Wildlife Management Areas



INTRODUCTION

Whitewater Wildlife Management Area (WWMA) is a state-owned wildlife area located in southeastern Minnesota (see map on facing page). WWMA encompasses nearly 27,400 acres, making it the sixth largest wildlife area managed by the state. Adjoining the southwest corner of WWMA is Whitewater State Park, one of the more popular state parks in Minnesota. WWMA is within a easy drive of two regional population centers (Rochester and Winona) and is a 2 to 3 hour drive from the Twin Cities metropolitan area, where half of the state's four million people live.

WWMA is situated in the driftless (unglaciated) area of southeastern Minnesota. The landscape is composed of deep valleys and steep ravines. The natural resources of the area are highly diverse and, thereby, provide a wide range of recreation opportunities. Wetlands in the area attract waterfowl, shorebirds and aquatic furbearers. The area's deciduous forest is habitat for deer, wild turkey, raccoon and ruffed grouse. The streams of the Whitewater River watershed provide a well known trout fishery.

The resources of WWMA, as noted above, afford many types of outdoor recreation. To better understand how recreators use WWMA, a year-long survey was conducted from June 1988 to June 1989. The survey was conducted continuously: each of the 52 weeks was surveyed. For a typical week, both weekend days and two randomly selected weekdays were surveyed.

On a survey day, personnel drove along randomly selected routes, during randomly selected time blocks, and placed a questionnaire on the windshield of every vehicle parked along the route (copy of questionnaire is appended). Overall, about 9 percent of all possible routes, time blocks and days of the year were part of the survey. Nearly 7000 questionnaires were placed on windshields. The number of returned questionnaires was just over 1900, giving a return rate of 29 percent, which is typical for this type of survey technique.

What follows is a summary description of the findings of the survey. The first section describes outdoor recreation in WWMA in terms of

- the amount of outdoor recreation
- activities that comprise the recreation
- location of activities in the wildlife area
- how recreators learned about the wildlife area
- demographics of recreators
- quality of recreators' visits to the wildlife area.

The next section describes the money recreators spend on their trips to WWMA, and economic impact of this spending on income and jobs.

The last section examines the comments recreators made about their experience at the wildlife area.

People who would prefer greater detail on the findings of the survey can contact the Department of Natural Resources either through the WWMA headquarters, located in the wildlife area, or through the Office of Planning in St. Paul.

OUTDOOR RECREATION IN WHITEWATER WILDLIFE MANAGEMENT AREA

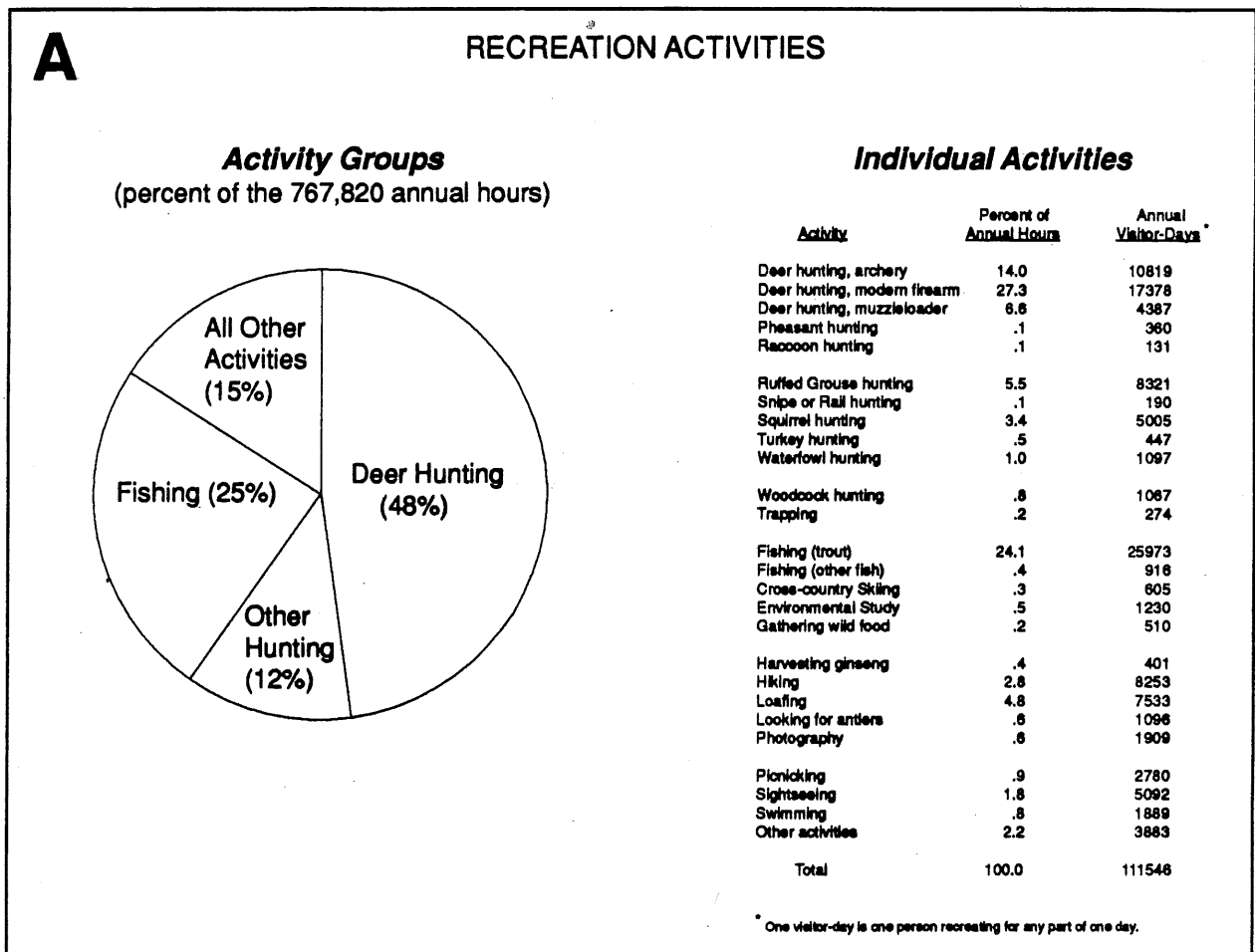
AMOUNT OF OUTDOOR RECREATION

Whitewater Wildlife Management Area had 111,500 yearly recreation visitors, who spent 767,820 hours recreating in the wildlife area. These 100,000-plus visitors represent those who were capable of being captured in the survey; they are those who got out of their car to recreate and could have had a survey questionnaire placed on their car's windshield. There are other visitors, however, who use the wildlife area purely for drive-through sightseeing and, thus, could not be captured in the survey. Had this latter group of users been included in the survey, it is roughly estimated — based on a one-day special survey — that the annual number of visitors would rise to between 140,000 and 150,000. That would make the wildlife area comparable, in terms of visitation, to the popular Whitewater State Park (187,000 visitor-days in 1988), which ranked 12th among the 64 state parks in 1988 visitation (Reference 1).

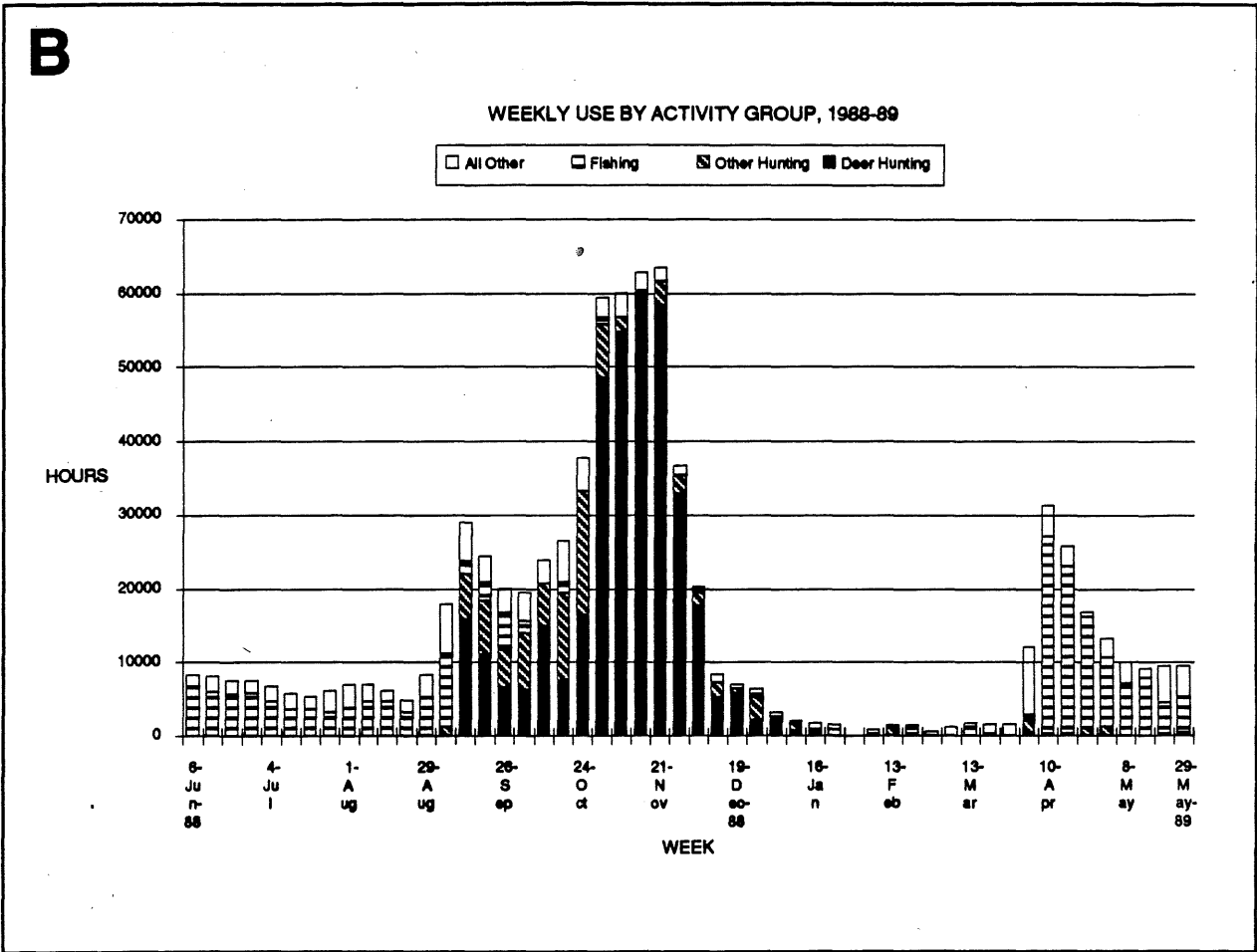
RECREATION ACTIVITIES

Recreation in Whitewater is dominated by hunting and fishing, which together account for 85 percent of total use (Chart A). Hunting alone accounts for 60 percent of total use. Deer hunting is the principal type of hunting. Most deer hunters are equipped with modern firearms, but a large number also hunt with bow and arrow. Muzzleloaders, although less common, are popular for hunting deer in the wildlife area. Other species hunted with some frequency are ruffed grouse, squirrel and waterfowl.

Fishing contributes a quarter of total use. Nearly all fishing is for trout. Remaining activities that are engaged in with some frequency are loafing (relaxing), hiking and sightseeing.



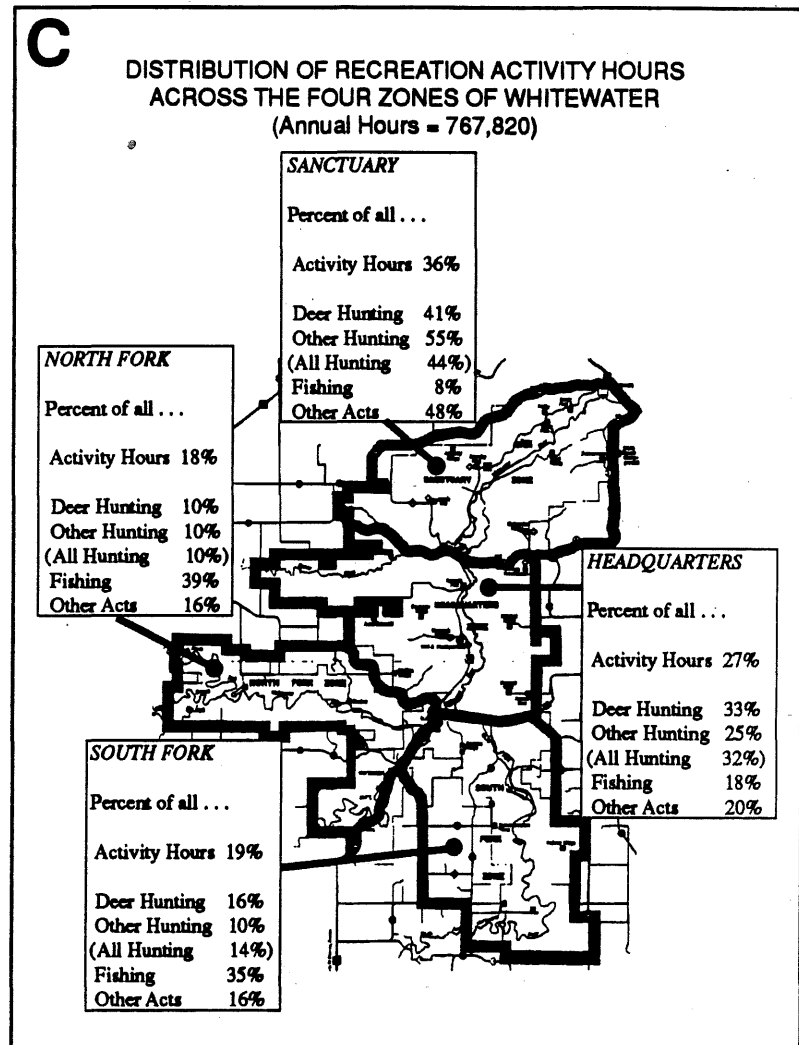
The dominant activities produce a marked seasonality in the use of the wildlife area (Chart B). Hunting, which opens in September, produces a jump in total use. It peaks when deer hunting peaks in November, and drops rapidly with the close of the season. Mid-winter is a time of little use. The next peak occurs in April with the opening of the trout fishing season. This is followed by a relatively uniform amount of summertime use, most of which is fishing.



LOCATION OF ACTIVITIES

Recreation use is distributed relatively evenly over the four zones of the wildlife area; no single zone receives the bulk of total use nor does any single zone receive little use (Chart C). The most heavily used zone is the Sanctuary Zone* in the north (36% of total use) and the most lightly used zone is the North Fork Zone in the west (18% of total use).

Fishing and hunting are geographically segregated in the wildlife area. This segregation provides a good indication of where users think the best opportunities for each activity are located. The two northern zones contain three-fourths of all hunting, while the two southern zones contain three-fourths of all fishing. Archery hunting for deer is concentrated in the northernmost zone, where 61 percent of all archery occurs. Hunters using modern firearms spread their effort more evenly among the zones, and spend a sizable portion of their time in all but the North Fork Zone. A majority (55%) of hunting for other species occurs in the northernmost zone, and another 25% occurs in the adjacent Headquarters Zone. About half of recreation use, exclusive of hunting and fishing, occurs in the northernmost zone, with the remainder evenly distributed among the other three zones.

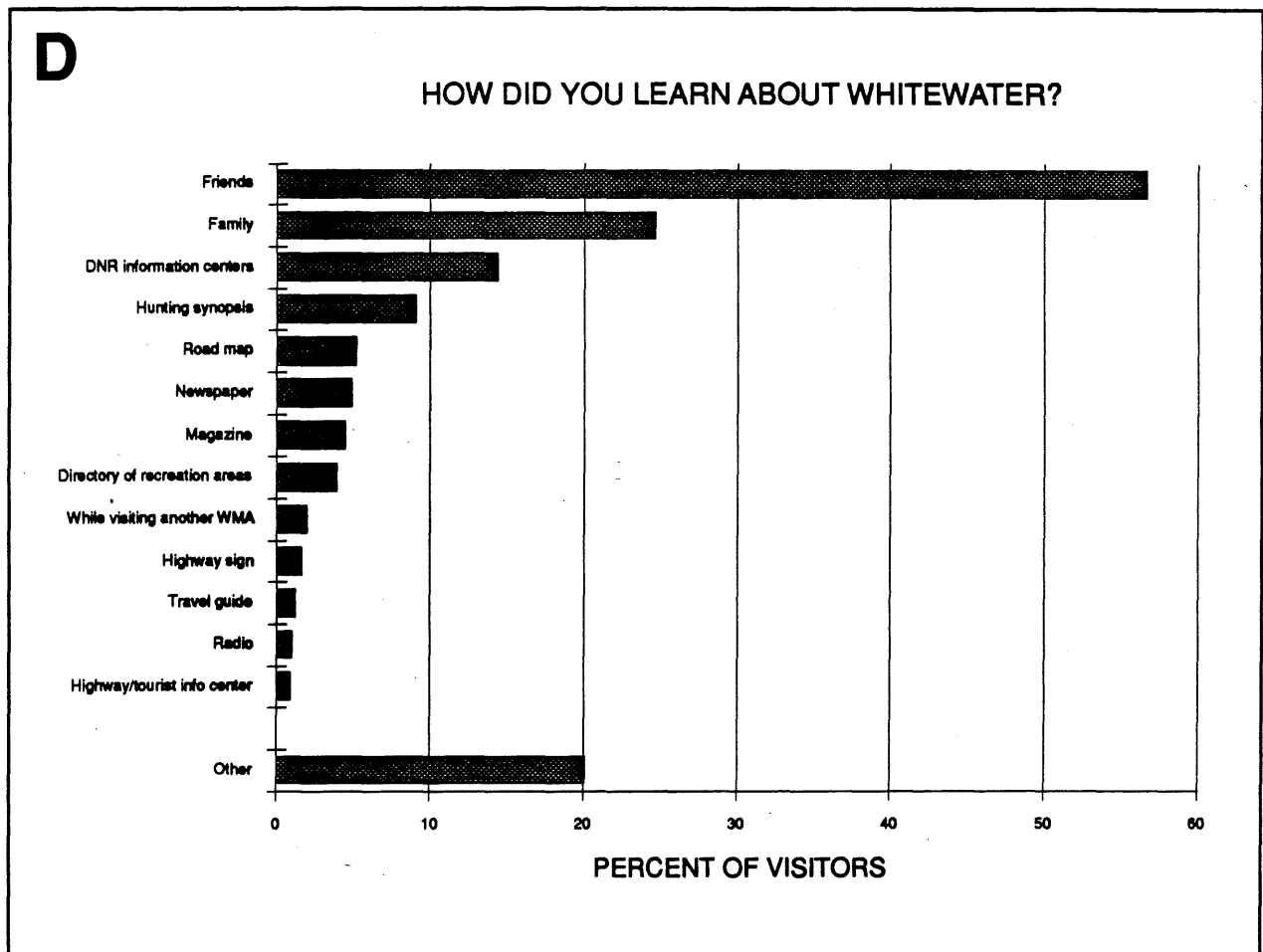


* A portion of the Sanctuary Zone is a 'sanctuary' in which hunting is not permitted.

HOW DID RECREATORS LEARN ABOUT WHITEWATER?

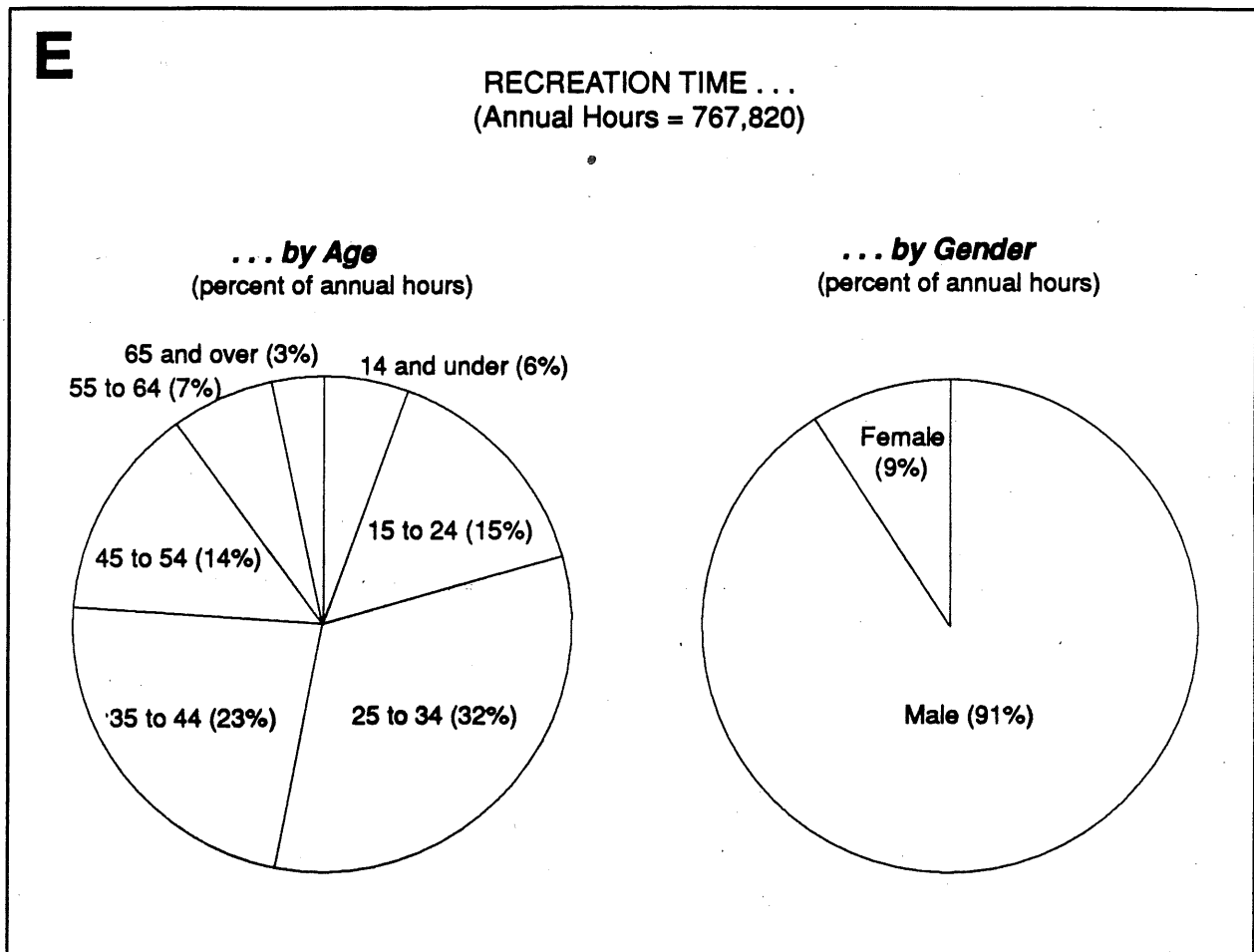
Recreators learn about the wildlife area predominantly by word of mouth, from friends and family (Chart D). Word of mouth is the primary information source for all user groups. The next largest source of information is the DNR, which is an important source for all user groups. 'Hunting synopsis', as expected, is most important to hunters; for hunters, this source is as important as the DNR. The sizable 'other' category is comprised mainly of the write-in response 'I've been here before'. Presumably these prior visitors learned originally about Whitewater like those who specified their source of information.

It is not surprising that word of mouth is the primary information source for the wildlife area. Word of mouth is the top source for state park visitors, too (Reference 2). And it is the primary way the general Minnesota population finds out about the full range of recreation outings, from day trips to weekend trips to major vacation trips (Reference 2).



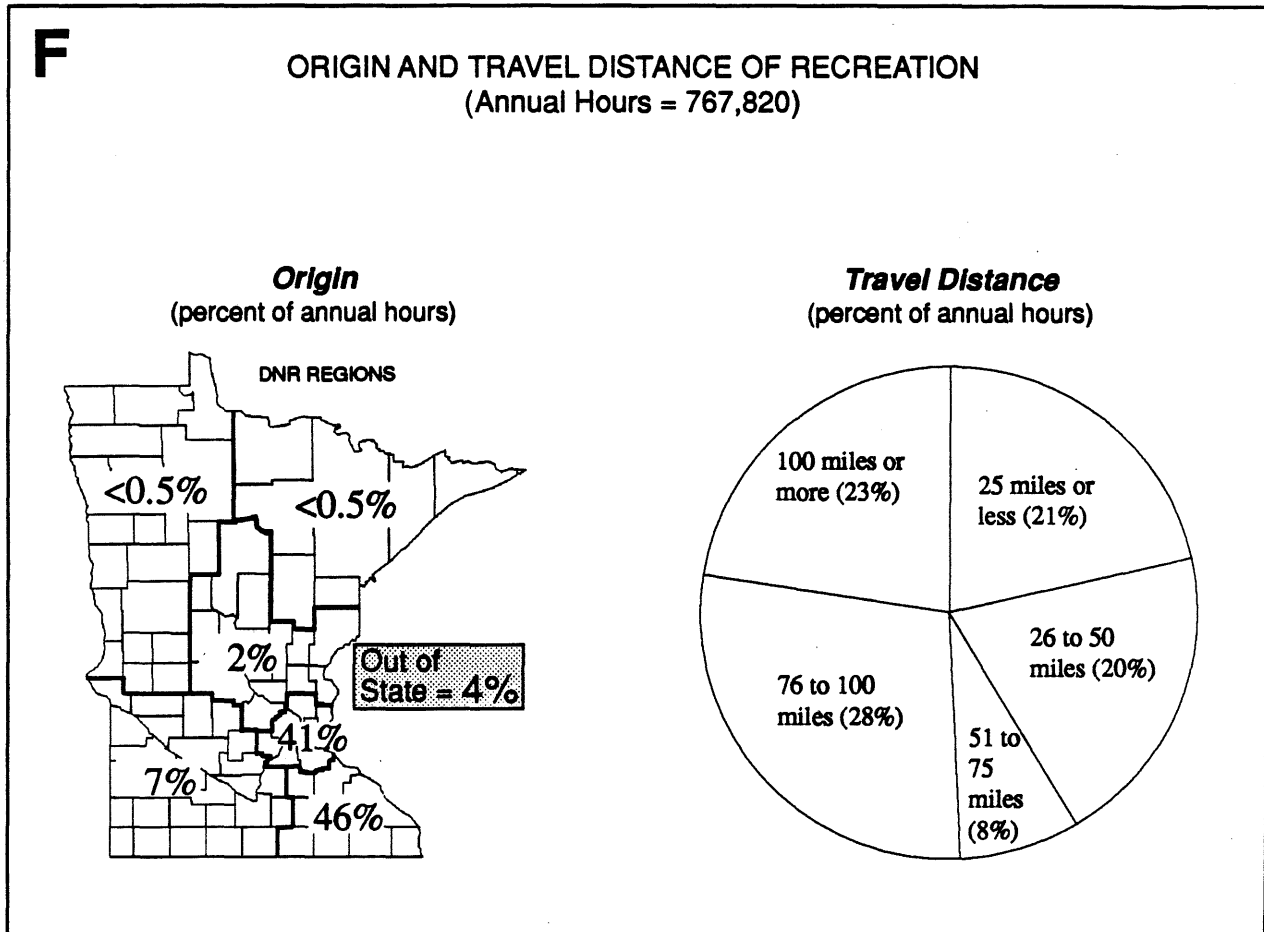
DEMOGRAPHICS OF VISITORS

The age and gender of Whitewater visitors is typical of hunters and trout anglers. Visitors are predominantly male because nearly nine-tenths of trout anglers are male and even a greater proportion of hunters are male (Chart E). The dominant age groups are teens to middle age, again characteristic of hunters and trout anglers. Children (under age 15) do not participate heavily in either of these two activities.



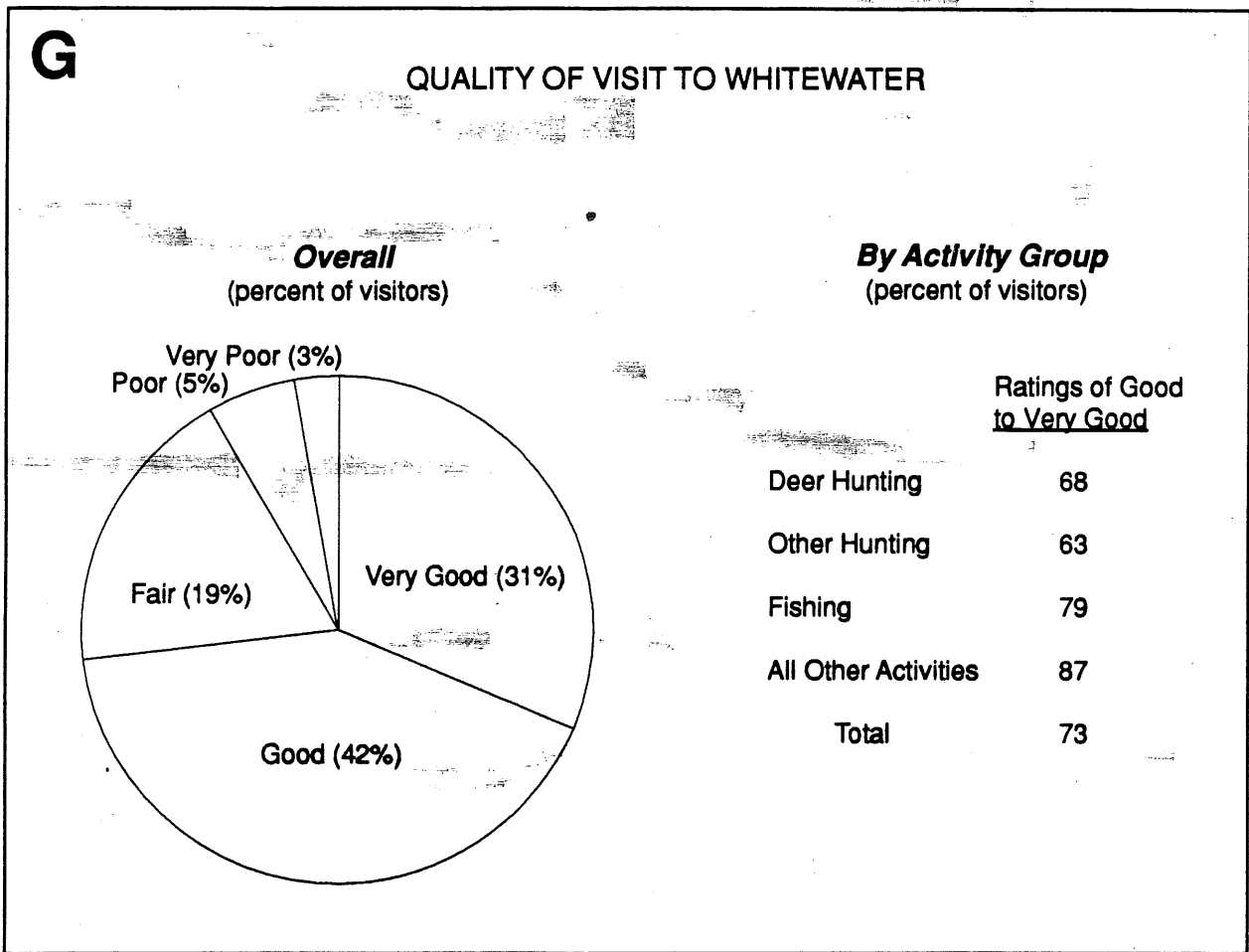
Whitewater has a substantial local market and a substantial distant market: 41 percent of total use comes from within 50 miles of the wildlife area, and 50 percent comes from over 75 miles (Chart F). The local market originates in the Southeast Region. Three counties near the wildlife area (Olmstead, Wabasha and Winona) account for 80 percent of the Southeast Region's use. The distant market largely originates in the Twin Cities metropolitan area; 82 percent of the Twin Cities' use originates in Dakota, Hennepin and Ramsey County.

All of the Whitewater markets (trout anglers, deer hunters, other hunters and remaining recreators) have a large local component and a large distant component. Within deer hunting, however, there are some notable differences in the origins of visitors. Deer hunters equipped with modern firearm come from shorter distances than archery deer hunters, who come from longer distances. Just over half (53%) of modern-firearm deer hunting is from the Southeast Region, while only 26 percent of archery deer hunting originates in the Southeast. The Twin Cities, on the other hand, is the origin of only 27 percent of modern-firearm deer hunting, but is the origin of 60 percent of archery deer hunting.



QUALITY OF VISIT TO WHITEWATER

Most visitors (73%) rated the quality of their Whitewater recreation experience as good to very good (Chart G). Only 8 percent rated their experience as poor to very poor. Anglers gave higher ratings than hunters. And nearly 9 of 10 recreators — exclusive of hunters and anglers — rated their experience as good to very good. Positive ratings (comparable to ‘good/very good’) in the 80-90 percent range are what Minnesota state parks receive from their visitors (Reference 2).



This exact same 'quality of visit' question was asked of Carlos Avery hunters in a 1984 DNR survey (Carlos Avery is a large state-owned wildlife management area located in Anoka and Chisago County — see map at beginning of report). When compared with Carlos Avery hunters, Whitewater hunters gave slightly higher ratings, although the differences are small:

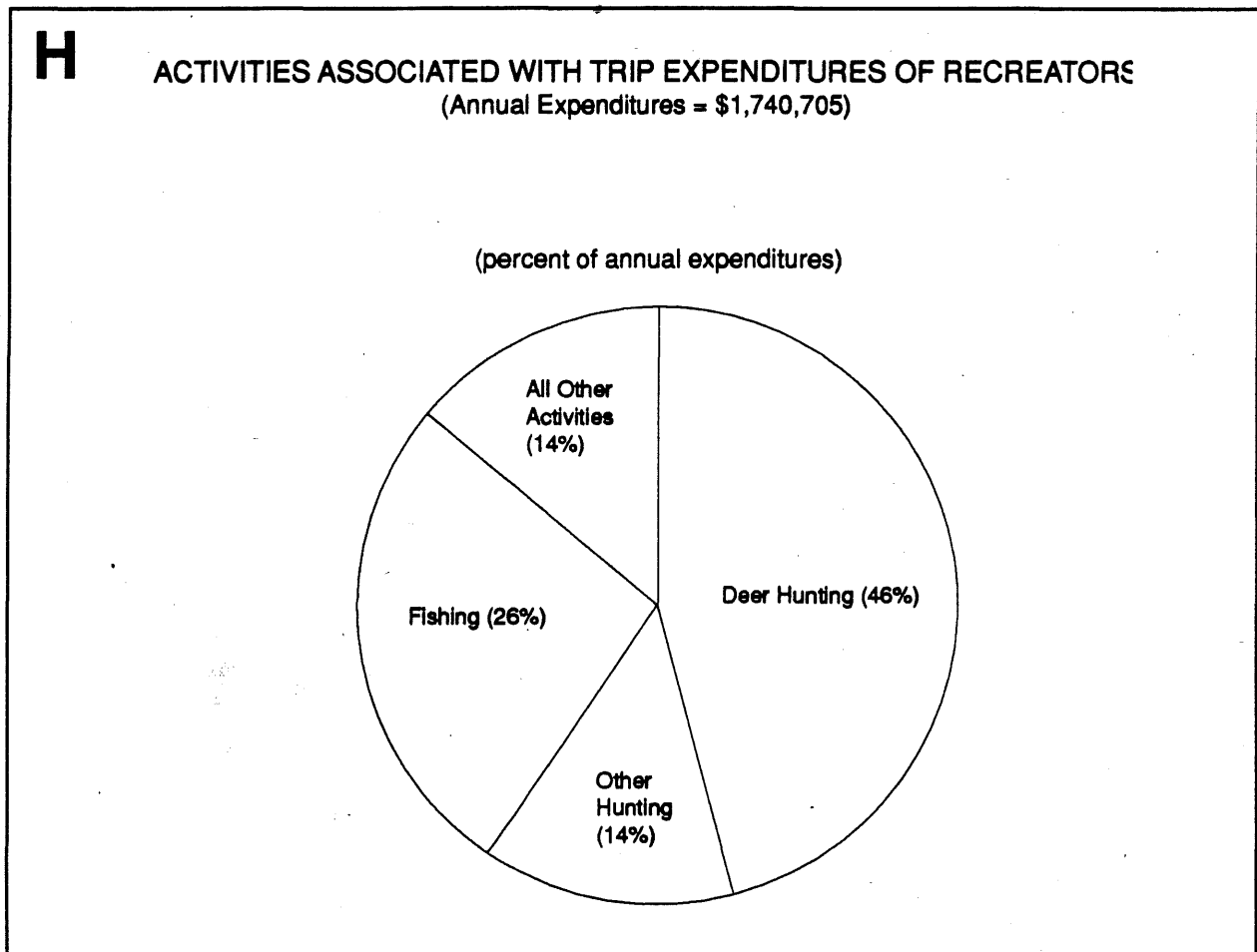
Ratings by Hunters of the Quality of Visit

<u>Rating</u>	<u>Carlos Avery</u> (percent of hunters)	<u>Whitewater</u>
Very good	25	31
Good	42	42
Fair	22	19
Poor	7	5
Very poor	4	3
Total	100	100

SPENDING BY WHITEWATER RECREATORS

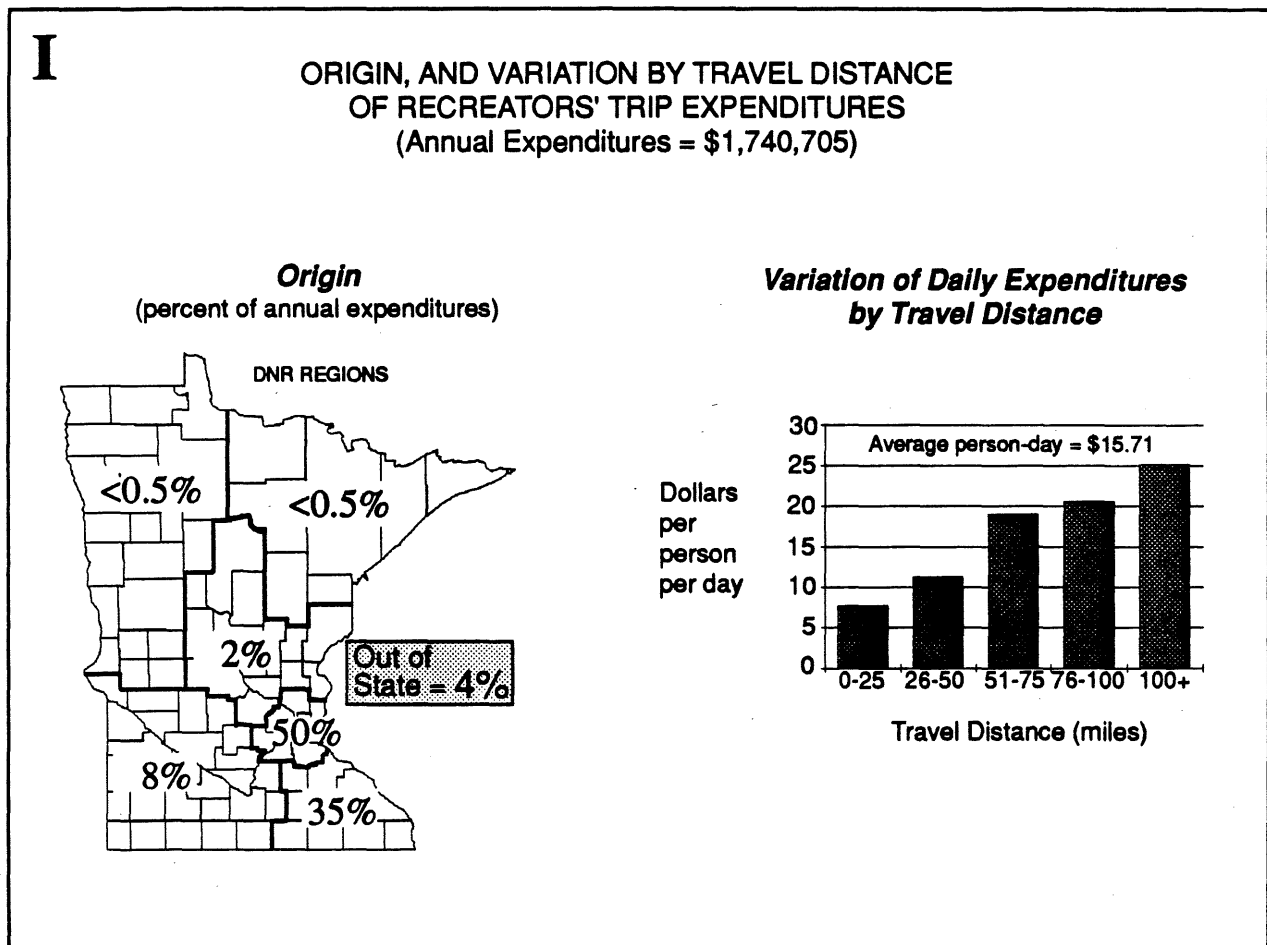
Recreators spend money on food, gas, lodging and items related to their recreation activity. The total amount Whitewater recreators spent — on the days they visited the wildlife area — was \$1.74 million. A portion of this spending was made in the vicinity of Whitewater, and a portion was made between distant-recreators' homes and the vicinity of the wildlife area. That portion spent near Whitewater (counties surrounding the wildlife area) is estimated from other studies to be about 65 percent, or \$1.14 million (Reference 3).

The same activities that dominate the use of Whitewater dominate spending (Chart H). The reason for this is simple: the greater the number of hunters that use the wildlife area, for example, the more hunters as a group spend.



Most of the spending originates in the Southeast and the Twin Cities Region, as did most of the use (Chart I). The Twin Cities, however, accounts for 50 percent of all spending, but only 41 percent of all use. In contrast, the Southeast Region accounts for 46 percent of all use, but only 35 percent of all spending. The reason that use and spending are not directly comparable is: recreators who travel further (such as from the Twin Cities) also spend more each day, particularly on lodging (Chart I).

The money recreators spend is respent many times in the economy. A recreator, for instance, buys from a retailer, who buys from a wholesaler, who buys from a manufacturer, who buys from a raw material producer. Each time money is spent someone receives a portion of the transaction as income, and income means jobs. The income and jobs associated with Whitewater spending would produce — based on other Minnesota outdoor recreation studies (Reference 4) — the following in the private sector of the Minnesota economy: \$1.22 million in income to Minnesotans, and 51 jobs for Minnesotans.



RECREATOR COMMENTS ABOUT THEIR EXPERIENCE AT WHITEWATER

A significant number of recreators (15%) included written comments on the survey form. Written comments can provide important anecdotal information that otherwise cannot be gained via a standard fill-in-the-blank questionnaire format. Written comments also tend to point to issues that recreators feel strongly about.

Out of the 311 written comments offered, 22% of them were primarily descriptive in nature. The day's activity and weather or personal use history of the area were most often described. These comments were not issue-oriented, nor did they provide any sort of judgement on the way Whitewater is managed. The remainder of the comments (78% or 243) were issue and/or judgement oriented and the results below reflect only those comments.

The highest percentage of comments (29%) were complimentary towards the condition and management of Whitewater. Hunting and fishing pressure, and a perceived lack of game and fish accounted for 12% of the comments offered. A related set of comments expressing concern over game and fish law violations totaled five percent. There were a number of complaints (9%) about the ethics, tactics and behavior of Southeast Asian hunters at Whitewater. In general, complaints about the way Whitewater is managed accounted for 18% of the comment total; those comments are broken down into six categories in the following table. Five percent of those commenting thought Whitewater's sanctuary should be opened to hunting; four percent wanted to see it kept closed.

<u>Comment</u>	<u># of responses</u>	<u>percent</u>
Complimentary in nature/commendation.	70	29%
Concerns over hunting/fishing pressure and/or lack of game and fish.	28	12%
Complaints about ethics/tactics/courtesy of SE Asian hunters.	23	9%
Concern over game/fish law infractions taking place in WMA.	13	5%

<u>Comment</u>	<u># of responses</u>	<u>percent</u>
Open sanctuary to hunting.	11	5%
Sanctuary should remain closed to hunting.	10	4%
Support for winter trout season.	6	2%
Would like to see more:		
— grouse habitat management	6	2%
— winter catch and release areas	5	2%
— special regulation fishing areas	5	2%
— designated catch and release areas	4	2%
— outdoor toilets	3	1%
— pheasant habitat management	2	>1%
— campsites in WMA	2	>1%
— trout stocking	2	>1%
— ski trails	1	>1%
— horse trails	1	>1%
Complaints about:		
— signing and lack of good area map	11	5%
— trash	10	4%
— motorized vehicles	8	3%
— lack of trout stream improvements	5	2%
— maintenance or lack of parking areas	5	2%
— road maintenance	4	2%
Comments concerning amending the muzzleloader season (i.e. providing break after firearm season, earlier muzzleloader season, extend season, etc.):	8	3%
	243	100%

REFERENCES

1. Minnesota Department of Natural Resources, Division of Parks and Recreation.
2. Minnesota Department of Natural Resources, Office of Planning. 1989. 1988 Survey of Minnesotans on Their Attitudes, Perception and Use of Minnesota State Parks & 1987 Summer Use Survey of Minnesota State Park Visitors: Summary of Findings.
3. Portion of travel expenditures made in the vicinity of Whitewater is estimated (1) from work done on MN state parks as part of the Public Area Recreation Visitors Survey (a national survey in which DNR participated), and (2) from work done by DNR on the 1986 Lac qui Parle goose hunt. See: (1) Linda L. Van Pelt and Timothy J. Kelly. 1988. Significance of of State Park Visitor's Expenditures to the State and Regional Economies in Minnesota. MN DNR, Office of Planning; and (2) Joe Hiller, Tim Kelly, Joel Anderson and Ken Bonnema. 1987. Survey of 1985 Canada Goose Hunters in the Lac qui Parle Zone of Minnesota. MN DNR, Division of Fish & Wildlife and Office of Planning.
4. Economic impacts (income and jobs) are based on the behavior of the typical outdoor recreation travel dollar in the Minnesota economy. See: Linda L. Van Pelt and Timothy J. Kelly. 1988. Significance of Outdoor Recreation Expenditures to the State and Regional Economies in Minnesota. MN DNR, Office of Planning.

QUESTIONNAIRE USED IN THE
1988-89 OUTDOOR RECREATION SURVEY
OF
WHITEWATER WILDLIFE MANAGEMENT AREA

Dear Visitor,

Would you please take a few minutes of your time to complete this questionnaire? It is very important to us at Whitewater Wildlife Management Area that you do. In order to be able to manage Whitewater well, we need to know how you, the visitor, use the area. This survey will provide important information for future management of Whitewater. We will make sure your responses are kept confidential.

We would like you to complete this questionnaire after your visit today. Please complete the form for the entire group in your vehicle, fold it to expose the return mailing address, seal it using the attached peel-off tab and drop it in any mailbox or in one of the drop boxes located in Whitewater WMA (see map on reverse side for locations) on your way home. No postage is required.

Please complete and return this questionnaire, even if you've completed and returned one on a previous day.

Thank You,

Jon Cole
Jon Cole, Manager
Whitewater WMA

1. In the first space on each line provided below, please write the age of each person traveling in your vehicle today, that used Whitewater Wildlife Management Area today. In the spaces provided to the right of each age circle the sex of each person, then write their home town or county and zip code on the last blank in the line. Remember to write the state, if anyone is from a state other than Minnesota.

AGE	SEX	COUNTY OF RESIDENCE OR HOME TOWN	ZIP CODE
1. _____	male female	_____	_____
2. _____	male female	_____	_____
3. _____	male female	_____	_____
4. _____	male female	_____	_____
5. _____	male female	_____	_____
6. _____	male female	_____	_____

2. Approximately how many miles did you drive, one-way, to reach this Area? _____ Miles

3. What time did you arrive at the Area today? _____ am pm
Hour (circle one)

4. How many hours did your party spend at Whitewater Wildlife Management Area today? _____ Hours

5. We would like to know exactly where you spent time in the Whitewater Wildlife Management Area? The map on the reverse side of this questionnaire shows the location of four zones within the area. Please do two things: 1) write the estimated number of hours spent in each zone in the spaces provided below, 2) place an X on the map as close as possible to the exact place(s) where you were.

Sanctuary Zone _____ North Fork Zone _____ Headquarters Zone _____ South Fork Zone _____

6. Below is a list of activities that visitors to Whitewater often do. Please read the list over. To the right of each activity are columns to tell us how many members of your party participated in each activity and how long, in total hours, they participated in each activity. Using those columns, circle the total number of party members who did each activity, and enter the total number of hours they did each in the blank provided.

ACTIVITY	NUMBER PARTICIPATING	HOURS SPENT ON ACTIVITY	ACTIVITY	NUMBER PARTICIPATING	HOURS SPENT ON ACTIVITY
Cross-country skiing	1 2 3 4 5 6	_____	Hunting		
Environmental study	1 2 3 4 5 6	_____	Deer (archery)	1 2 3 4 5 6	_____
Fishing (trout)	1 2 3 4 5 6	_____	Deer (modern firearm)	1 2 3 4 5 6	_____
Fishing (other fish)	1 2 3 4 5 6	_____	Deer (muzzleloader)	1 2 3 4 5 6	_____
Gathering wild food	1 2 3 4 5 6	_____	Pheasant	1 2 3 4 5 6	_____
Harvesting glassag	1 2 3 4 5 6	_____	Raccoon	1 2 3 4 5 6	_____
Hiking	1 2 3 4 5 6	_____	Ruffed Grouse	1 2 3 4 5 6	_____
Loafing	1 2 3 4 5 6	_____	Saips or Rail	1 2 3 4 5 6	_____
Looking for antlers	1 2 3 4 5 6	_____	Squirrel	1 2 3 4 5 6	_____
Photography	1 2 3 4 5 6	_____	Turkey	1 2 3 4 5 6	_____
Picnicking	1 2 3 4 5 6	_____	Waterfowl	1 2 3 4 5 6	_____
Sightseeing	1 2 3 4 5 6	_____	Woodcock	1 2 3 4 5 6	_____
Swimming	1 2 3 4 5 6	_____	Other _____	1 2 3 4 5 6	_____
Trapping	1 2 3 4 5 6	_____			
Other _____	1 2 3 4 5 6	_____			

7. If any of your party hunted, fished, or trapped, please list the species (type of animal) you were after, the number your party took, and any hunting cripples that were lost on the lines provided below.

Species	Take by party	Cripples Lost by party	Species	Take by party	Cripples Lost by party
1. _____	_____	_____	3. _____	_____	_____
2. _____	_____	_____	4. _____	_____	_____

8. How would you describe the quality of your visit to the Area today?

Very Poor	Poor	Fair	Good	Very Good
1	2	3	4	5

9. Please give us an estimate of the total amount of money you and other members of your party spent (or will spend) today on this trip to Whitewater Wildlife Management Area. Estimate all money you and your party spent today so far, and the money you and your party expect to spend the rest of today. Include expenses for gas and oil, other transportation, repairs, lodging, food, incidentals and other items related to your trip.

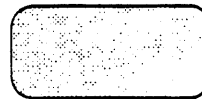
_____ Total of dollars you and other members of your party expect to spend today.

10. How did you learn about Whitewater Wildlife Management Area? Please check () the item(s) that provided you with the most important information.

<input type="checkbox"/> Friends	<input type="checkbox"/> Travel guide	<input type="checkbox"/> While visiting another WMA
<input type="checkbox"/> Family	<input type="checkbox"/> Road map	<input type="checkbox"/> Directory of recreation areas
<input type="checkbox"/> Newspaper	<input type="checkbox"/> Highway sign	<input type="checkbox"/> Highway or tourist information center
<input type="checkbox"/> Magazine	<input type="checkbox"/> DNR information center	<input type="checkbox"/> Other (please describe) _____
<input type="checkbox"/> Radio	<input type="checkbox"/> Hunting synopsis	

Please remember to seal the questionnaire with the peel-off label attached below. If you have additional comments or criticisms please write them in the space below. Thanks very much for your assistance.

After you've completed the questionnaire, seal it closed using this peel-off tab and drop it in any mailbox. Postage is pre-paid.



WHITEWATER WMA
ALTURA, MINNESOTA 55910

**WHITEWATER RESEARCH TEAM
WHITEWATER WMA
ALTURA, MINNESOTA 55910**

Please remember to place an X on the map as close as possible to the exact place(s) where you were.

