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# **Economic Impact of the Crow Wing Canoe Trail, Wadena County, Minn.**



U.S. Department of Agriculture • Economic Research Service  
In Cooperation with the Minnesota Agricultural Experiment Station



## ABSTRACT

The results of cooperative efforts of private groups and individuals and government-sponsored programs in developing little-used rivers for canoeing and related recreational activities in Wadena County, Minn., are described. The sponsoring activities, which began in 1964, included the clearing and developing of 14 campsites. In 1967, the economic and employment impacts associated with the development of the Crow Wing Canoe Trail occurred primarily in four local retail sectors. The current economic impact of the trail, while not large, provides a nucleus for a developing recreation complex in Wadena County, complementing other recreational enterprises.

Key Words: Economic impact, Canoeing, Wadena County, Minn., Local economy, Recreation complex.

## PREFACE

This study was performed to determine the economic impact of developing the Shell and Crow Wing Rivers in Wadena County, Minn., for canoeing and related recreational activities. The Resource Conservation and Development Program of the U.S. Department of Agriculture (USDA) assisted in the development, which was carried out through the cooperative efforts of the Wadena County Park Board, the University of Minnesota, and the Economic Research Service and Soil Conservation Service of USDA. The Crow Wing Canoe Trail Association, local businessmen in Wadena County (especially outfitters), various clubs, and many individuals provided data and information essential to the study.

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## SUMMARY

Development of little-used rivers in Wadena County, Minn., provides many people with canoeing and related recreational activities, and has added about \$50,000 a year to the local economy.

This report summarizes the efforts and results of the Crow Wing Canoe Trail Association in developing the Shell and Crow Wing Rivers for canoeing and other recreational activities. The development, which began in 1964, included the clearing of 14 campsites and the construction of wells, grills, tables, and privies at each site.

The cost of the campsite development (excluding land) was about \$1,000 per site, including the value of labor and materials donated by clubs and individuals. Local businesses and outfitters contributed time and money, which were essential to the successful organization, development, and promotion of the trail. Wadena County provided most of the land for the sites; other sites were donated by the Northwest Paper Company, the Minnesota Power and Light Company, and the State of Minnesota.

In 1967, the canoe trail had economic and employment impacts in four local retail sectors. Equipment purchases and rentals accounted for about 44 percent of local expenditures by canoeists; food about 36 percent, auto services 6 percent, and lodging about 2 percent of the total. Canoeists on the Crow Wing Canoe Trail spent about \$50,000 for these items.

The total direct employment impact was estimated to be 6 months per year of employment for eight persons, or 4 man-years. Businesses other than outfitters were able to handle the increased business stimulated by the trail with their regular work force.

Although the current economic impact of the Crow Wing Canoe Trail is not large, it provides a nucleus for developing a recreation complex in Wadena County. The trail, combined with riding and snowmobile trails, provides a major recreation attraction, complementing other recreational enterprises. Its attractive qualities derive mainly from its semiwilderness setting and unpolluted streams. Long-range planning and continued upkeep of the area by all local people will be necessary to achieve the desired benefits of the camp trail facility.





ECONOMIC IMPACT OF THE CROW WING CANOE TRAIL,  
WADENA COUNTY, MINN.

by

Uel Blank 1/and Sterling H. Stipe, Jr. 2/

INTRODUCTION

This study evaluates the economic impact of the development of the Crow Wing Canoe Trail in Wadena County, Minn. (fig. 1). The trail begins at Menahga, Minn., on the Blueberry River, and continues on the Shell and Crow Wing Rivers downstream to McGivern Park, just north of Staples--a distance of approximately 70 river miles. Like many counties some distance from population centers, Wadena County wants to take advantage of all available opportunities for improving its economic position. Development of the trail illustrates the more effective and intensive use of resources to achieve this goal.

Local individuals and organizations--including businessmen, civic clubs, sportsmen, and youth groups--provided the major initiative for the canoe trail enterprise. Trail development was also promoted by planning and technical services of the West Central Minnesota Resource Conservation and Development Project (RC&D), 3/ of which Wadena County is a part. In addition, many Federal and State agencies provided assistance.

Objectives of the Study

The objectives of this study were to:

- (1) Estimate the impact of the Crow Wing Canoe Trail on the economy and employment of Wadena County.
- (2) Provide information useful to project sponsors in making decisions on further development and promotion of the canoe trail.

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1/ Professor, Department of Agricultural and Applied Economics, University of Minnesota.

2/ Agricultural Economist, North Central Resource Group, Natural Resource Economics Division, Economic Research Service, USDA.

3/ A Resource Conservation and Development Project is a locally initiated and sponsored activity whose purpose is to expand the economic opportunities of the people in an area by developing and implementing a plan of action for the orderly conservation, improvement, development, and effective use of their natural resources.

# LOCATION OF CROW WING CANOE TRAIL IN MINNESOTA

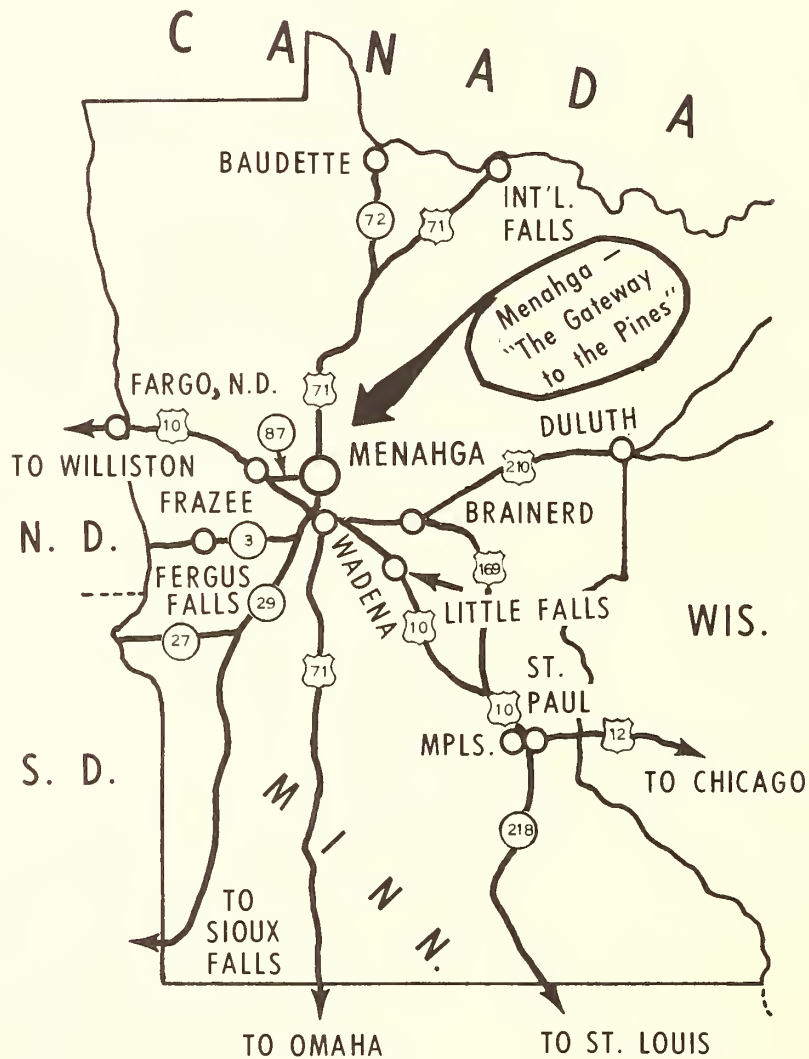


Figure 1

- (3) Evaluate the setting and physical characteristics of the Crow Wing River that are relevant to its economic and aesthetic values.
- (4) Evaluate the complementarity of the canoe trail with the complex of recreational facilities in Wadena County and the surrounding area.

### Background

The Canoe Trail Project was initiated in the fall of 1963 4/ when John Rife of Sebeka, later elected President of the Crow Wing Canoe Trail Association, contacted rod and gun clubs in towns near the river to determine their interest in such a project. The clubs responded by providing labor and materials to establish improved campsites at strategic points along the river. Most of the campsites were located on county-owned land, but one was established on privately owned land.

Chambers of Commerce of several nearby towns donated funds for a brochure showing a map of the trail, campsites, and various points of interest. Approximately 20,000 brochures were distributed during 1964, the first year of operation. Other publicity for the trail included ads in national magazines, and news stories in Minneapolis, St. Paul, and local papers. The trail was formally dedicated by the Governor of Minnesota in 1964. These dedication activities included a canoe trip by the Governor and his party. The undertaking appears to have been well managed and publicized from the outset.

### STUDY PROCEDURE

The impact of the Crow Wing Canoe Trail on the economy of Wadena County was evaluated on the basis of data from three main sources:

- (1) Outfitters 5/ in the area provided information on the number of canoeists, size of groups, residence of users, length and duration of canoe trips, and seasonal use of the trail.
- (2) Wadena County Park Board maintained registration posts at each campsite during the 1966 and 1967 seasons, and also collected special information from a sample of 109 users. These posts supplied data on users; for example, age of canoeists, canoeing experience, reason for coming to campsite, and opinion of the setting and facilities along the trail.

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4/ For additional background information see Soil Conservation, Vol. 30, No. 6, Jan. 1965, published by the Soil Conservation Service, U.S. Department of Agriculture.

5/ Suppliers of such items as canoes and camping equipment--for rent or sale.

- (3) Observers were stationed at six of the more heavily used public entry points to the trail, and spent 11 randomly selected days in July and August 1966, including weekends and holidays, to record river and campsite use.

Some adjustments were made in the raw data. For example, sample data obtained by various sources were adjusted to represent the total population of trail users over the entire season. Other adjustments were made for double counting of users that may have been made at some observation points.

Data on the economy of Wadena County were obtained from the U.S. Census of Population for various years. Figures on the local recreation industry were obtained from publications of the University of Minnesota and State agencies. These secondary data provided a basis for evaluating the effects of the canoe trail.

In addition to using the foregoing data, the authors made a personal tour of the canoe trail and noted characteristics of the river and natural setting which would affect the success of the trail.

#### ECONOMY OF WADENA COUNTRY 6/

Wadena County, with a population of 12,199 in 1960, is one of the smaller counties in Minnesota. The city of Wadena, the county seat, is the largest of the towns and villages in the area which might be expected to provide services to users of the canoe trail. The population of the city of Wadena increased 10.7 percent from 1950 to 1960, while the total county population declined 4.7 percent. County population continued to decline in the 1960-66 period (table 1). Population outmigration characterizes the economy of Wadena County as it does many counties located far from population centers. The 1960 population of incorporated places in the county was as follows:

Aldrich	-	90
Menahga	-	799
Nimrod	-	60
Sebeka	-	823
Verndale	-	606
Wadena	-	4,381

Other communities in Wadena County are Huntersville, Oylen, Central, and Bluegrass. The city of Staples, with a population of 2,706, is just beyond the southeast county boundary.

Agriculture still is the major industry in the county. In 1960, one-third of the labor force was engaged in agriculture, a drop from over one-half in 1940. There were 1,354 agricultural workers in 1960, compared with 244 in manufacturing, and nearly half the latter were engaged in processing agricultural products. Farm sales in 1964 totaled \$5,461,000, of which livestock and

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6/ See also Wadena County Overall Economic Development Plan, prepared by Wadena County RC&D in cooperation with Wadena County Extension Service, 1967.



Table 1.--Population and family income, Wadena and surrounding counties, 1950-66

County	Population				Median family income 1960 1/
	1950 1/	1960 1/	1966 2/	Change :1960-66	
	Number	Number	Number	Percent	
Wadena-----	12,806	12,199	12,175	-0.2	3,266
Becker-----	24,962	23,959	26,702	+11.4	3,707
Cass-----	19,468	16,720	16,663	-0.3	3,020
Hubbard-----	11,085	9,962	9,555	-4.1	3,320
Ottertail---	51,320	48,960	49,858	+1.8	3,595
Todd-----	25,420	23,119	23,934	+3.5	2,979
Total----	145,061	134,919	138,887	+2.9	--
Minnesota---	2,986,391	3,413,864	3,576,000	+4.7	5,573

1/ U.S. Census of Population.

2/ Minnesota Department of Health.

livestock products accounted for about 90 percent. The value added in manufacturing in 1963 was \$1,994,000. Recreation activities, including receipts from the canoe trail, totaled an estimated \$371,000 in 1967.

Wadena County's location contributes to its potential as a transportation, warehousing, and wholesale center. The county is situated at the junction of highway U.S. 10--programmed to become a dual highway--and U.S. 71. It is also on the main Minneapolis-Seattle route of the Burlington Northern Railway. The county had a greater growth of jobs in trucking and warehousing from 1950 to 1960 than any adjacent county except Becker. While jobs in wholesaling declined, the loss was less than that for adjacent counties.

In 1960, the median family income in Wadena County was \$3,266. At this level, Wadena ranked ninth from the bottom of all Minnesota counties. Hence, the need to stimulate the lagging economy and find new uses for county resources motivated local leadership to begin development of the Crow Wing Trail.

#### NATURAL FEATURES OF THE CROW WING RIVER AREA

The Crow Wing Canoe Trail lies in a rural agricultural area, characterized by broad expanses of cropland and prairie-type pastureland. About 20 percent of the total land area is in forests. The upland forest is primarily coniferous; the forest along major streams consists of softwoods and hardwoods.

Pine is the common type of forest found on the well-drained land adjacent to the river. Jack pine is the most common, with some red pine and white pine. White spruce and balsam fir also grow within view of the river. Black spruce

and cedar are the most prevalent types of softwoods growing in the low, poorly drained bottomlands, but there are also several varieties of hardwoods.

Patches of wild rice, ranging in size from less than one-tenth to more than 1 acre, are common in the upper portion of the trail. They diminish in frequency near the halfway point, and only an occasional small patch is found in the lower part of the trail. 7/

Marshes of reed canary grass are prevalent along the shore and on a few sandbars forming islands in the lower portion of the trail. Wild rice grows along the outer edges of these canary grass patches. Wild flowers and water lilies are common throughout the length of the trail.

Various types of broad-leaved and grass-type water plants can be seen at frequent intervals along the trail. As the plants grow larger in summer, they tend to slow the velocity of the river flow.

Soils in the vicinity of the trail consist of two types: (1) light-colored outwash sands, and (2) brown till drumlins and outwash sands.

The first 35 miles and about the last 20 miles of the canoe trail flow through the light-colored outwash sands. This area is described in a resource map prepared by the Soil Conservation Service as:

" . . . a level to gently sloping outwash plain with dominantly light-colored, very sandy soils (including Menagha) and peat soils. Many of the very sandy soils on more level slopes have high water tables. The peat soils are usually too wet for cultivation and are used primarily for meadow or wildlife. Problems on sandy soils, including low fertility, droughtiness, and wind erosion, become more critical when cultivated and these soils are best used for recreation area development, timber production, or meadow." 8/

About 25 miles of the middle portion of the canoe trail flow through the brown till drumlins and outwash sands. This area is described as:

" . . . gently sloping area with considerable sandy soils and peat soils, and numerous acid, sandy loam, brown till drumlins. The drumlin soils are light-colored loamy sands with moderately well to somewhat poor drainage. Productivity of cultivated crops in drumlin soils is low to moderate; low fertility, acidity, some droughtiness, and susceptibility to wind and water erosion cause serious farming problems." 9/

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7/ Harvest of wild rice, called "ricing," is a local activity of long standing. The Minnesota State Conservation Department provides management services to maintain the production of wild rice.

8/ Uel Blank, Project Work Plan, West Central Minnesota RC&D, Soil Conservation Service, 1964.

9/ See footnote 8.



In the vicinity of the trail are fish, ducks, turtles, muskrat, mink, otter, beaver, whitetailed deer, black bear, raccoon, rabbit, squirrel, pheasant, ruffed grouse, and fox. Wildlife most likely to be seen by the canoeist are fish, ducks, turtles, and muskrat. Although the others are quite prevalent in the area, they are seldom seen. Ducks inhabit the river throughout the summer, with young ducklings likely to be seen early in the canoeing season. 10/

Fish species in the Shell and Crow Wing Rivers include tullibee, suckers, northern pike, trout, and walleye. Panfish, bass, bullheads, and carp also are in this area.

The approaches to the canoe trail are county roads passing through flat, open country farmland. There are 11 bridges throughout the length of the trail. Six of these are served by paved roads; at other access points, the last few miles to the river are mostly graveled county roads. Four communities are located near the river.

The Shell River is clear water, varying 75 to 100 feet in width and 1 to 10 or more feet in depth. In the Shell River portion of the canoe trail, numerous small shells and some large ones can be seen on the stream bottom where the water is less than 4 feet deep. Very few shells are seen in the Crow Wing River portion of the trail. Fry and fingerling fish are numerous, and are easily seen in the clear water. The stream bottom is primarily sand, with small gravel and rocks up to 12 inches and larger in diameter covering the riverbed. 11/

Along the lower half of the trail, the water is deeper and not as clear as in the upper portion. There are no rapids in the upper half of the trail. In the lower portion, there are six areas in which the river falls 3 to 6 feet within a short distance, creating rapids on which some canoe-maneuvering skill is required. Under average conditions, the flow is approximately 1 mile per hour between rapids.

As the average depth of the river decreases, there are more shallow areas where the canoeist would have to lead or portage the canoe a short distance. During June, the river is navigable with no portages about 20 percent of the time; with 3 or less portages about 50 percent; and with 5 or less portages about 80 percent.

Lakes and marshes in the watershed tend to regulate the runoff naturally, so that the Crow Wing River is seldom subject to severe floods. These same factors tend to maintain streamflow during dry periods.

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10/ See footnote 8.

11/ For additional discussion and pictures of the physical features of the river see Uel Blank, Selected Rivers of Minnesota, Recreation Analysis, a report prepared for the Minnesota Department of Conservation in 1967, pp. 60-63.

## TRAIL DEVELOPMENT

The major steps in developing the Crow Wing River into a canoe trail were: (1) Preparation of access points and campsites; (2) development of supporting services, especially outfitting and transportation facilities; and (3) promotion of the area for recreation. Other developments, such as a bridle-snow-mobile trail, are important additions noted later in this report.

Development of the canoe trail was facilitated by large parts of the river frontage being controlled by a relatively small number of owners, most of whom were sympathetic to the proposed development. These owners were the Northwest Paper Company and Minnesota Power and Light (both contributed land for campsites), Wadena County, and the State of Minnesota. These owners control 90 percent of the frontage along the upper reaches of the trail and about 50 percent along the lower reaches.

A relatively small number of individuals performed key roles in the development. Among these was a group which, after initially operating informally, was organized in 1966 into the County Park Board. Two strategically located outfitters and the county commissioners also had essential roles in the development of the trail. Their efforts were supported by many agencies, firms, local organizations, and private citizens. 12/

### Campsites and Trails

There are 21 access points and/or campsites along the canoe trail, as now defined. Of the 14 campsites, only 3 existed prior to trail development. One new site was developed in 1966 by the State Conservation Department. The 10 remaining sites were assigned to various groups for development, including sporting clubs, private citizens, Boy Scouts, Future Farmers of America, large firms, and local governments. On six sites, for which data are available, the average cost of development was approximately \$1,000. Altogether, 700 acres of land were reserved at an estimated total capital value of \$190,000. This value includes the contributed inputs noted above, the value of the land, refuse containers, the work of Green Thumb 13/ in clearing the ground (see fig. 2), and a number of miles of new county road construction or improvement providing access to new sites.

Each campsite provides the following: (1) Two to four wood picnic tables; (2) a well with hand pump to provide potable water; (3) steel cooking grills (mounted on an 18-inch-high concrete base); and (4) two pit-type privies. Several of the campsites have tent pads, 10 by 12 feet in area, consisting of a stabilized bed of sand about 4 inches deep.

Work on the new facilities began in 1964, and was essentially completed by the beginning of the 1965 canoeing season. Fish-cleaning tables and suggestion boxes were added at the beginning of the 1966 season. The canoeist is invited to register his visit on a card provided at the suggestion box, and to make comments about his trip and the adequacy of the facilities.

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12/ See Herbert A. Flueck and Hans Uhlig, "Vacationing on the Crow Wing Trail," Outdoors U.S.A., Yearbook of Agriculture, 1967, pp. 290-292.

13/ The Green Thumb is a Minnesota State agency which promotes local employment opportunities.



Figure 2. Green Thumb crew rebuilding a horse trail near a campsite.

The campsites are uniform in the facilities they provide, even though they were developed by different volunteer groups. Most of the sites are located in wooded areas of mixed hardwood and pine; a few are in grassy clearings. All are located immediately adjacent to the river, so that most tent sites are within 200 feet of the water (see fig. 3). Some are on banks 10 to 12 feet above the water. The Wadena County Road and Bridge Department maintains the campsites on a weekly basis. Many potential sites along the river have not been developed or improved; some show evidence of occasional use.

In 1965, with assistance from the Neighborhood Youth Corps, a saddle trail was developed to complement the canoe trail. The project included clearing 15 miles of trail, constructing corrals and hitching racks, and enlarging camps. Trails and corrals are located so that campsites used by canoeists are also available to riders and hikers. The start of the saddle trail is at Huntersville, where a wrangler station has been established. The length of the trail has been extended, so that about 55 miles of trail are available for hiking, horseback riding, or snowmobiling (see fig. 4).





Figure 3. A canoe campsite located on the Wadena River.

### Outfitting and Trail Services

There had been some canoe rental on the Crow Wing River after World War II, but rental services did not begin operating on a commercial scale until 1964.

In 1967, there were three outfitters and renters, with a total of about 80 rental canoes. One outfitter, at Wadena, outfits only incidentally to his marine-supply operation. The other two are located by the trail and also engage in business activities other than canoe outfitting. One, at Menahga, combines outfitting with a bait-rearing and sporting-supply business. Another, near Nimrod, operates a dairy farm.

Commercial facilities give continuing impetus to use of the trail in four significant ways:

- (1) The two outfitters located on the trail have developed their own literature and conduct programs to supplement the overall promotional effort.



Figure 4. Horse riders on a developed bridle trail of the Crow Wing Wilderness Saddle Trail.

- (2) Outfitters rent canoes to nonowners which also makes possible larger group-canoeing outings when rentals are necessary to supplement canoes owned by group members.
- (3) Outfitters also rent or sell other items such as tents, sleeping bags, life jackets, eating utensils, horses, and snowmobiles. Food supplies are also available.
- (4) Outfitters provide transportation to and from various access points on the river when needed.

At seven points along the trail, supplies and refreshments are available at communities or service facilities. These stopping points are sometimes furnished by outfitters (fig. 5). None of these, at present, intrude unduly on the natural setting of the river.



Figure 5. Snowmobile trail riders stopping at a campsite for hot coffee and donuts served by an outfitter.

Facilities for rental of horses for use on the bridle trail are still limited. Most of the horses are provided by farms in Wadena County; others are supplied by the wrangler station at Huntersville.

#### Promotion of the Canoe Trail

Major efforts to promote the canoe trail include: (1) The Governor's dedication of the trail in 1964; (2) the U.S. Secretary of Agriculture's canoe trip in 1965; and (3) the Governor's horseback trail rides in 1966 and his daughter's rides in 1967.

Stories about the canoe trail have appeared in various newspapers as a result of hosting newsmen interested in learning more about the facilities. Snowmobile roundups, attended by 400 people in 1966 and 1967, have also drawn attention to the trail. Brochures, too, have had an important role in publicizing the trail. First distributed in 1964, when the Crow Wing Canoe Trail Association was organized, these brochures have been distributed at various



sporting events in the State, and mailed to those requesting information. Revisions to the brochure have been made regularly, and a waterproof map of the trail was added in 1967. About 20,000 brochures were distributed in that year. Approximately 100,000 copies were to be available in 1968.

Despite the intensive promotional effort, business employees--such as gas pump operators, waitresses, and motel clerks--ordinarily contacted by tourists in the Wadena County area were, for the most part, neither interested in the Crow Wing Trail nor able to give adequate information about it. While such a situation is commonly encountered in vacation areas, it represents a serious gap in the promotional efforts.

#### GENERAL CHARACTERISTICS OF CANOE TRAIL USERS

Crow Wing River canoeists include family groups, organized groups, children's camp users, and other informal, nonfamily groupings. The typical canoeist is younger than the general U.S. population. There is a much higher percentage in the 15 to 19 year-old group and very few over 45 years of age (table 2). Family groupings made up about one-third (34.5 percent) of all canoeists; parties averaged 6.5 persons in 1966. The number of two-person parties was also high. Groups containing 20 or more individuals were common; groups numbering up to 54, 60, 82, and 83 were observed.

Table 2.--Percentage distribution of Crow Wing canoeists versus U.S. population, by age, 1965 and 1966

Age	: Crow Wing River canoeists : : 1966 :	U.S. population 1965
	: <u>Percent</u> :	<u>Percent</u>
Under 15 years-----:	33.9	30.8
15-19-----:	39.9	8.8
20-24-----:	4.5	7.0
25-44-----:	18.2	24.0
45-64-----:	3.5	20.1
65 and over-----:	--	9.3
Total-----:	100.0	100.0

Sources: Estimates by trail observers, and Statistical Abstract of the U.S. Bureau of Census, 1965.

Sponsoring organizations included church groups, "Y" camps, and Boy Scouts. There are 61 children's camps in the counties of Wadena, Ottertail, Crow Wing, Cass, Itasca, Hubbard, and Becker. These camps consistently use both the canoeing facilities and the bridge trail, and camp members are usually on the trail for a period of 3 days or more.



As in many types of outdoor recreation, a high proportion of professional people and a low proportion of sales and clerical workers and laborers made up the population using the Crow Wing Canoe Trail in 1966 (table 3). A wide variety of occupational groups was represented, with the notable exception of retired people. A relatively high number of canoeists were farmers. While farmers and farmworkers comprised only 18.9 percent of the work force in Minnesota in 1960, they made up 32 percent of employment in Wadena County in 1960. This helps to explain why 20 percent of the canoeists indicated farming as the source of income.

Table 3.--Occupation of principal family breadwinner among Crow Wing canoeists versus all employed persons in Minnesota, 1960 and 1966

Crow Wing Trail users, 1966 1/		Employed persons in Minnesota, 1960 2/	
Occupation	Distribution	Occupation	Distribution
	Percent		Percent
Professional-----:	22	Professional-technical-----:	10.0
Semiprofessional--:	6	Craftsman (except foreman)-----:	15.2
Skilled-----:	8	Farmer-farmworker:	18.9
Farmer-----:	20	Self-employed-----:	3.9
Business owner---:	9	Foreman, salaried:	8.9
Manager, foreman--:	11	Sales, clerical, delivery-----:	18.0
Sales, clerical---:	12	Other operative laborer-----:	16.7
Laborer-----:	3	Service household:	5.1
Service household-:	--	Not reported-----:	3.2
Other (including students)-----:	9		
Total-----:	100	Total-----:	100.0

1/ Wadena County Park Board.

2/ U.S. Census of Population, 1960.

Trail users responding to questions on income had a median income of just over \$10,000 (table 4). The median family income in the United States was approximately \$7,000 in 1966; the 1960 median family income in Minnesota was \$5,573. This supports the general belief that canoeists are drawn from the higher income groups in greater proportion than from the total population.

Less than 10 percent of the family groups reported incomes of over \$15,000. In contrast, 25 percent of the nonfamily canoeists reported family incomes of over \$15,000. This group included young people from youth camps in the area, some of which are relatively expensive.

Table 4.--Family income of Crow Wing canoeists, 1966

Annual income (dollars)	All reporting	Canoeing in family groups	Nonfamily canoeists
	Percent	Percent	Percent
0- 4,999-----:	9	--	14
5,000- 9,999-----:	42	39	45
10,000-14,999-----:	30	52	16
15,000-24,999-----:	17	9	23
25,000 and above----:	2	--	2
Total-----:	100	100	100

Source: Wadena County Park Board.

#### Characteristics of Crow Wing Canoeists

Of the parties responding to the survey, almost two-thirds rented part or all of the canoes used. Parties owning canoes and those renting had distinctly different experiences in canoeing. For all users reporting, there was an average of 8.6 years of canoeing experience per person. <sup>14/</sup> Those who were members of a group (not a family) that rented canoes had an average of only 3.8 years of experience; there was a high proportion of teenage youths in these groups. At the other extreme, adults of families owning their canoes had an average of 15.4 years of canoeing experience. All those owning their canoes had an average of 11.7 years of experience. All those in parties renting at least some canoes averaged 7.1 years of experience. Over one-third (36.5 percent) of those renting were on their first canoe ride.

The average frequency of canoeing for all persons was 3.4 times per year. Canoe owners canoed almost four times as often as those renting--6.6 versus 1.8 times. Those in nonfamily groupings who owned canoes used them the most often--9 times per year.

Thirty-six percent of the trail users indicated they had not canoed elsewhere in the past 5 years. Slightly less than one-third (32 percent) reported canoeing in one or two places, while the same proportion had canoed in three or more other places. Almost one-third (32 percent) had taken no other vacation in 1966. However, 41 percent had taken two or more other vacation trips.

#### Activity Pattern of Crow Wing Canoeists

Nearly all Crow Wing canoeists had made the trip exclusively for the purpose of canoeing the Crow Wing River. For 7 percent of the canoeists, the

<sup>14/</sup>Years of experience are counted as the time since the user's first canoe ride.

Crow Wing adventure was a part of a longer vacation trip; only 4 percent canoed elsewhere on this same trip.

Canoeing parties stayed on the river as long as 11 days. The average trip was estimated at 2.6 days for each person--a figure determined by a conservative resolution of the difference between an average of 3.6 days per party reported by the group sampled by the County Park Board (which contained less than 1 percent reporting a stay of only 1 day) and 1.8 days per person determined from outfitter rentals, 38 percent of which were for only 1 day.

Almost 47 percent of all parties renting from local outfitters were out only 1 day; the 1-day parties were smaller than other groups. Approximately 30 percent were out for 2 days. About 39 percent of all canoeists renting from outfitters were out for just 1 day and an equal number were out for 2 days.

An estimated 75 percent of all canoeists spent 2 or more days in the area of the Crow Wing Trail on each trip. About 25 percent spent only 1 day at a time. Some recreationists stayed in the area longer than the period for which they rented canoes.

In 1967, the average party canoed 23 to 27 miles, or approximately one-third of the developed canoe-trail length. The average distance traveled per day ranged from 11.3 to 14.4 miles, whether the party was out for 1, 2, 3, 4, or 5 days (table 5). Those out for more than 5 days covered shorter distances per day. Under the conditions of the Crow Wing River, paddlers with only moderate skill can easily travel 20-25 miles daily.

Table 5.--Average size of party and distance traveled, by number of days on trail, 1966 and 1967

Days out	Average number in party		Average distance traveled per day	
	1966	1967	1966	1967
	Number	Number	Miles	Miles
1-----	5.4	6.4	13.6	14.1
2-----	8.4	7.5	13.6	14.4
3-----	4.8	7.2	12.4	11.3
4-----	6.9	8.9	13.2	14.3
5-----	11.9	8.0	12.2	11.8
6-----	9.4	13.0	10.3	--
7-----	5.0	--	9.3	--
8-----	4.0	--	--	--
11-----	8.0	--	6.7	--

Source: Adapted from outfitters' data.

## Factors Influencing Canoe Trail Users

In 1966, about half of the users of the Crow Wing Trail were repeat customers, or came because friends and relatives recommended the trail (table 6).

Table 6.--Factors influencing canoe owners and renters to select the Crow Wing Trail for canoeing, 1967 1/

Source of information	All	Canoe renters	Canoe owners
		Percent	
Friends and relatives-----	38	42	30
Brochures-----	29	27	34
Newspapers-----	17	17	17
Canoeed there before-----	10	10	11
Local people-----	3	3	2
Road signs-----	1	-	2
Other-----	2	1	4
Total-----	100	100	100

1/ Multiple checks were permitted. About two-thirds of the respondents checked a single item.

Source: Wadena County Park Board.

Various forms of advertising appeared to be the major factor why the remainder of the canoeists selected Crow Wing Trail. Brochures were second in importance, and newspapers were relatively effective. Road signs had very limited influence, probably because none were on main roads.

## Market Area Served

The majority of canoeists (about 88 percent) on the Crow Wing Trail in 1966 came from Minnesota (table 7). Wadena and five counties nearby, with a total population of 139,000, supplied nearly as many users as did the Twin City area, with a population of 1,690,000. While precise data were not available, day users of the newly developed camping and picnicking areas outnumbered canoeists, and were predominantly from nearby areas.

Visitors from States adjoining Minnesota were the next most frequent users. Despite its small population, North Dakota led as an out-of-State market. Fargo lies only 100 miles from Wadena County, and has over 10 percent of North Dakota's population. Favorable reporting of the trail by Fargo newspapers also accounted for the large number of visitors from that area. The trail apparently serves a recreational need of people both from the local area and outside the area.



Table 7.--Percentage distribution of Crow Wing Trail canoeists, by origin, 1966

State of origin	Percent
Minnesota-----	87.8
Wadena and 5 adjoining counties-----	(20.5)
Twin Cities metropolitan area-----	(24.1)
Rest of State-----	(43.2)
North Dakota-----	4.2
Iowa-----	3.3
Illinois-----	0.8
Wisconsin-----	0.6
South Dakota-----	0.3
All others (12 States)-----	3.0
Total-----	100.0

Source: Weighted average of data from County Park Board sample, voluntary registrants, and outfitter customers.

#### RECREATION FACILITIES IN WADENA AND ADJACENT COUNTIES 15/

Wadena County adjoins five other counties, four of which are among the most abundantly endowed of any in the State for recreation in the traditional Minnesota pattern with lake-based resort facilities (table 8). Wadena County has relatively few shallow lakes and a small acreage of public recreation land, compared with nearby counties, and consequently has fewer resorts and other lodging facilities than adjacent counties, except Todd (tables 9 and 10). The changing pattern of the vacation industry in the area is indicated by the decline in the number of recreation-type businesses from 1958 to 1963 (table 9). Four of the adjoining counties had about one-fourth of the seasonal homes and one-fifth of the children's camps in the entire State of Minnesota (table 8).

Despite Wadena County's comparatively limited resources, a substantial recreation complex exists there. In addition to the canoe trail, these activities include:

- Lake waterskiing and fishing
- Swimming beaches
- Resorts
- Picnic grounds
- Amusement parks
- Campgrounds
- Riding trails
- Snowmobile trails
- Hiking trails
- Golf courses
- Hunting
- Fishing
- Archery range
- Bowling
- Movies (indoor and outdoor)
- Rifle ranges
- Museum

Swimming facilities, in addition to lakes and streams, include a supervised pool in Wadena and a supervised beach on Spirit Lake in Menahga.

15/ Based on interviews and the Overall Economic Development Plan, published by the Wadena County Resource Conservation and Development sponsors and the Wadena County Extension Service, 1967.

Table 8.--Recreational resources, facilities, and services, Wadena and adjacent counties, selected years

Location	Public recreation land 1965 1/	Lakes 1965 1/	Public and private campsites: 1965 1/	Motels 1967 2/	Hotels 1967 2/	Resorts 1967 2/	Food and bev- erage facilities: 1967 2/	Chil- dren's camps 1967 2/	Sea- sonal homes 1960 3/	Gasoline service stations 1963 4/
	Acres	Number	Number	Number	Number	Number	Number	Number	Number	Number
Wadena County----	15,200	3,800	50	7	1	8	59	1	203	28
Becker County----	131,000	94,600	99	16	9	149	104	6	3,200	43
Cass County----	537,000	258,000	441	19	8	418	93	10	7,045	27
Hubbard County----	83,000	48,300	142	18	5	203	57	11	2,891	28
Ottertail County----	6,700	174,000	78	19	11	221	162	8	5,139	64
Todd County----	2,800	27,900	12	4	5	12	82	1	974	38
Total--	775,000	606,600	822	66	56	1,011	557	37	19,331	228
Minnesota---	3,414,00	3,499,000	NA	904	1,019	3,002	10,749	191	68,682	4,425

1/ Minnesota Outdoor Recreation, 1965.

2/ Registrations, Minnesota Department of Health, 1967.

3/ U.S. Census of Housing, 1960. Numbers may include some rental cottages of resort operations.

4/ U.S. Census of Business, 1963. Number of stations are shown.

Table 9.--Number and receipts of hotels, motels, tourist camps, Wadena and adjacent counties, 1954, 1958, 1963

Location	1954		1958		1963	
	Number	Receipts	Number	Receipts	Number	Receipts
	Number	\$1,000	Number	\$1,000	Number	\$1,000
Wadena County-----	<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>1/</u>	15	<u>2/</u> 161
Becker County-----	<u>1/</u>	<u>1/</u>	113	1,156	87	962
Cass County-----	262	2,273	304	2,805	253	2,834
Hubbard County----	<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>1/</u>	125	<u>2/</u> 1,399
Ottertail County--	115	1,094	187	1,523	186	1,858
Todd County-----	<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>1/</u>	15	<u>2/</u> 161
Minnesota-----	2,597	59,618	3,257	80,031	3,163	92,558

1/ Data are not available.

2/ Estimates computed on the basis of average receipts per establishment.

Source: U.S. Census of Business, 1963. This table is intended for comparison with table 8 and for noting trends.

Table 10.--Direct income and employment from recreational activities, compared with agriculture and manufacturing, Wadena County, Minn., 1960's

Source	Direct income	Direct employment
	\$1,000	Number
Agriculture-----	<u>1/</u> 5,461	<u>2/</u> 1,354
Manufacturing <u>3/</u> -----	1,994	231
Recreation, total-----	371	54
Hotels, motels, and resorts <u>4/</u> -----	(80)	(7)
Food and beverage establishments <u>5/</u> -----	(125)	(22)
Children's camps <u>6/</u> -----	(10)	(1)
Seasonal homes <u>6/</u> -----	(94)	--
Canoe trail <u>4/</u> , <u>5/</u> , <u>6/</u> , <u>7/</u> -----	(49)	(4)
Riding stables <u>7/</u> -----	(5)	(1)

1/ U.S. Census of Agriculture, 1964.

2/ U.S. Census of Population, 1960.

3/ U.S. Census of Business, 1963.

4/ Estimated from data relating to adjacent counties; one-half of all lodging is assumed attributable to recreation, 1967.

5/ Estimated partly from data related to adjacent counties; one-fourth of total business and employment is assumed attributable to recreation, 1967.

6/ Estimated partly from data related to adjacent counties, 1967.

7/ Estimated from observation, 1967.



There is a golf course near Wadena and one near Staples. The county also has two parks with picnic grounds, two rifle ranges, one archery range, one riding stable, one bowling alley, one indoor and two outdoor movies, and a museum.

Festival events include Dairy Days at Sebeka, the Midsummer Festival at Menahga and the County Fair at Wadena. Band concerts are given weekly at Menahga and Wadena.

Recreational activities in the mid-1960's were estimated to provide some \$371,000 in direct income, and employment for 54 workers (table 10).

#### ECONOMIC ANALYSIS

##### Use Trends of the Canoe Trail

On the basis of data from outfitter rentals in the area, canoeing along the Crow Wing Trail increased sevenfold from 1964 through 1967 (table 11). After World War II, there was some canoeing on Crow Wing River and a limited amount of canoe rental. However, rapid growth did not take place until the decision was made in 1964 to actively develop and promote the trail.

Table 11.--Canoeing along Crow Wing Trail, 1964-67

Year	:	Index of use
1964	:	15
1965	:	43
1966	:	91
1967	:	100

Source: Adapted from outfitters' data of canoe rentals (figures compared are for person-trips).

Between 1966 and 1967, canoeing only increased about 10 percent. This relatively small increase may be attributable in part to unfavorable weather. In many parts of the United States, outdoor recreation was reported down by 10-30 percent in early 1967. <sup>16/</sup> Six weeks of almost constant rain occurred in June and July, seriously reducing the use of the trail. Outfitters reported that advance 1967 reservations were running far ahead of 1966--in some cases by as much as three times. However, many reservations were canceled, presumably because of adverse weather. Another weather-associated problem was a decline of about 15 percent in the average length of stay between 1966 and 1967

<sup>16/</sup> "Rain, Cool Weather Discourage Tourists in Many Sections of U.S. This Summer," Wall Street Journal, September 1, 1967, p. 18. In addition, the Minnesota Park and Recreation Director reported State park use down 10 percent in 1967.

## Volume of Use

In 1967, approximately 9,700 person-trips were made in canoes on the Crow Wing River. Each canoeing use of the river by each person, whether for a fraction of a day or for several days, was considered a one-person trip. Each person-trip averaged 2.6 days in length. Thus, there were 25,200 user-days of canoeing in 1967.

There were about 3,000 user-days for boats other than canoes, and 20,000 user-days for picnics and outings at sites along the river. Other uses, including horseback riding and snowmobiling, represent substantial potential use, although these activities do not presently constitute a large volume. Riding, hunting of waterfowl, and fishing are traditional uses of the river and its adjacent lakes; these activities are not included in the above figures, except to the extent that the "boating" and "picnicking" figures reflect them.

## Economic Impact

In 1967, canoeists spent approximately \$49,000 for a wide variety of purposes in the general vicinity of the Crow Wing River. One set of data, based on a 1966 survey of 204 persons by the County Park Board, reveals per trip expenditures of \$10.15 per person (table 12). In this survey, canoeists were asked to report only expenditures made within the general vicinity of Crow Wing River. An undetermined proportion of expenditures made outside the area was included, however. Note that expenditures for rental equipment are slightly over-represented in the sample.

Table 12.--Estimated expenditures of canoeists per trip,  
Crow Wing River area, 1966

Item	Expenditures per person		Total
	Dollars		Percent
Food-----	\$ 3.74		37
Lodging-----	0.20		2
Auto expenses-----	1.16		11
Equipment purchase-----	0.51		5
Equipment rental-----	3.93		39
Other-----	0.61		6
Total-----	\$10.15		100

Source: Wadena County Park Board.

The data indicate that the firms deriving the most benefit from sales in 1967 were outfitting, food, and auto services. Lodging expenditures were small, since most canoeists camped. The "other" category includes such items as insurance, fishing licenses, and entertainment. 17/

Retail services are readily accessible at seven points along the trail--Menahga, Twin Lakes, Huntersville, Funks, Nimrod, Oylen, and Wahoo Valley. Some canoeists begin their trip at Menahga and often stop at some of the other points for refreshments, resupply, and minor equipment. Quantitative survey data are not available for all points. Visitors stopping only for rest and refreshments spend an estimated 25 cents per stop per person. Such an expenditure is substantial when computed for the entire number of day-users. Purchases are also made in nearby communities such as Wadena, Sebeka, and Staples. Outfitters estimated that 75 percent of those contacted purchase some groceries locally.

The total estimated expenditures of \$49,000 in 1967 represent an average of \$5.05 spent in Wadena County for each of the 9,700 person-trips made by canoe on the Crow Wing River. This figure is less than half that reported in table 12. The adjustment was made on the basis of outfitters' records and on reports of other businesses serving trail users.

The part of the \$49,000 that was "new money" in the local economy generates added income through the multiplier effect. Presumably, a portion of the money from outside the community was paid by the first local recipient to someone else in the community for goods or services before it was again spent outside the area. Studies of recreation industries in areas similar to Wadena County show that each dollar spent by customers generates an additional \$.50 to \$1.00 of community expenditures.

Other economic impacts may have resulted from the Crow Wing Canoe Trail, but these were not included in expenditure estimates of this study. These impacts include: (1) Local expenditures by an estimated 20,000 picnickers who came to the area because of its developed facilities; (2) tourist and sight-seeing traffic attracted by trail publicity; and (3) interest in real estate along the trail. In time, the interest in real estate may be reflected in higher land prices, increased tax revenues, new investments and developments, and more travel to the area by outsiders.

#### Employment Impact and Seasonality

Owing to the seasonality of canoeing, the employment effects of the canoe trail are not as great as might be expected. The enterprise affected the most by the trail was the outfitting sector whose employment requirements increased during the canoeing season by 2 man-years or four persons at one-half man-year each.

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17/ The pervasive economic impact of recreation on a local economy is demonstrated in a Wisconsin study which found that 32 of 34 producing segments of a county made export sales to recreation consumers. See R.J. Kalter, Estimating Local Secondary Impacts of Water-Based Recreation Investment Using Inter-Industry Analysis, University of Wisconsin, Water Resources Center, 1967.



Although many recreational enterprises in Minnesota are characterized by a very short season, this study showed that canoeing on the Crow Wing Trail lasted about 6 months, reaching its peak in July and August--months of maximum summer recreational activities. Slightly more than half the canoe rentals were made in these 2 months. According to outfitter rentals, activity begins as early as April and continues through October. For example, rentals have been made as early as April 4, and the last rental in 1969 was on October 27. A higher proportion of user-days than of users occurs during July and August, attributed, in large part, to a longer average length of stay by canoeing parties. In 1966, of total annual user-days, 29.5 percent took place in July, and 23.9 percent in August. Of total users, 25.9 percent came in July, and 21.4 percent in August.

The patronage by canoeists of various establishments such as restaurants, gas stations, and grocery stores generated labor requirements. These requirements, however, were apparently absorbed by regular employees. The trail activity, nonetheless, helps to reduce underemployment and to yield higher returns to present owners and employees.

Maintenance services performed on the campsites and roads and the garbage pickup also generated employment, which fluctuated with the use of the facilities. Approximately 1 man-year of employment was generated by maintenance work in 1968.

The total employment directly generated by the canoe trail is estimated to be 4 man-years, or employment for eight people for about 6 months each year. This figure is not likely to increase so long as current workers are underemployed and can handle the increased business in their regular workday.

## CONCLUSIONS AND RECOMMENDATIONS

Many individuals and organizations in Wadena County coordinated their efforts to develop a river into a recreation resort facility which has enhanced the value of a community resource. Rivers which had been slightly used for canoeing and which had brought practically no income into the county now provide recreation for a considerable number of people and, in 1967, added about \$50,000 to the local economy of Wadena County. The businesses receiving the greatest benefits were food stores and restaurants, outfitting establishments, gasoline stations, garages, and general retail stores--giving the trail a broad base of local support.

As noted earlier, the additional business generated by the trail was 4 man-years of employment, or employment for eight people working about 6 months a year. The additional business accruing to local merchants from the trail use was apparently handled without hiring more personnel.

The importance of the canoe trail is its potential to contribute significantly to the recreational complex in Wadena County. It already generates sales equal to approximately 13 percent of the recreation industry's sales. In addition, the trail is complementary to rather than competitive with most of the other recreational facilities in the county.

Since 1964, canoeing activity on the Crow Wing Trail has grown at a rapid rate. This growth reflects the effectiveness of the developmental and promotional effort, and the appeal of this type of recreation.

The capacity of this type of facility is significant. If the 25,200 user days were evenly spread over the 5 months of major use, there would be 170 users for each day. About 30 percent of the total use occurs in July. The level of use in July averages to about 260 users per day, or about 3.5 users per mile of the trail length in that month. Since activities tend to be grouped on certain days and to have a higher incidence at some points than others, concentration of users can be relatively high in selected areas at any given time. This level of use is above that regarded by many as conducive to retaining a wilderness image. Despite this, however, a large number of users responding to the survey mentioned the quiet peacefulness and semiwilderness nature of the area (see fig. 6). Part of this image may be attributed to the short time that the trail has been intensively used.



Figure 6. Typical tranquil scene along the Crow Wing Canoe Trail.

The Crow Wing Canoe Trail development has had the support of many local individuals and groups. This support included individuals who gave their time as officers and directors of the Canoe Trail Association, youth groups and sportsmen's clubs which donated labor, and local firms which contributed financial support. Significantly, this support has been sustained over several years.

The excellent natural features of the resource itself (the river and associated land) are a major factor in attracting canoeists. The streamside is relatively undeveloped and the stream is not polluted. A stream carrying industrial or sewage wastes or having disorderly streamside use could not give the same pleasure as that obtained by users of the Shell and Crow Wing Rivers in this area.

Canoe-camping in a semiwilderness setting, such as that of Crow Wing River, does not appear to have a high dollar return when considered alone. As this operation is further developed, however, it can provide the focal point of a recreational complex with major economic impact. To continue as a major attraction, the trail must be well managed to preserve and develop its attractive features.

Today, owing to a rapidly expanding population and higher personal incomes, any attractive area in the United States is in danger of developing so quickly that little direction can be realized. Hence, the existing tools for guiding the development of the Crow Wing Canoe Trail area should be evaluated to determine whether they are adequate to assure the type of development most beneficial to all people in the area.

In addition to establishing effective tools to guide development, other means of achieving beneficial results are recommended. Some of these include:

- (1) The marketable package (canoe trail) should be expanded to realize the potential economic impact. There must be goods and services that can be purchased in the variety and kind that fit consumer needs. Examples include:
  - a. The feasibility of a major lodging and entertainment facility along the trail should be investigated to determine its potential for extending the recreation season, such as by serving canoers and horseback riders in the spring, summer, and fall; hunters in fall and winter; and snowmobilers in winter.
  - b. A few people might find employment as local guides for fishing, canoeing, horseback riding, and hiking. This step might require coordination through a central publicity office or association.
  - c. The riding activity might be developed further. Although a traditional State activity, riding has not been developed sufficiently through production management and publicity.



- d. The quality of food, lodging, and recreational services available in nearby towns and along the highways is critical to the overall recreational complex. Organizational effort might be devoted to maintaining uniformly high standards.
- (2) More emphasis should be placed on publicity in a selected city or group of cities to increase the effectiveness of the promotional budget. These efforts should be directed toward cities with a large number of employees in high-income, professional, and skilled occupations, since these groups furnish the majority of canoeing visitors. Resort areas of surrounding counties may also be a lucrative source of sales. By working cooperatively with nearby resort groups, it may be possible to improve the appeal of these resorts while also upgrading the use of the canoe trail and supporting services. Brochures should be prepared highlighting the attractive features of the trail, including local outfitting stores, resorts, swimming facilities, fishing waters, clean streams, hunting, snowmobiling, riding trails, access highways, and airports.
- (3) A program should be initiated to provide information to area store clerks, service station operators, and motel and restaurant personnel so they can be more knowledgeable of the services available in the area. They should be supplied with directory leaflets listing the local facilities and be educated about their important role in promoting these facilities. As part of the recreational complex, these individuals are the visitor's first contact when he arrives. Their enthusiasm and information about the recreational facilities can have a considerable influence on a visitor's decision to stay, which will be reflected in an increased volume of business.

The success that Wadena County has achieved thus far indicates that it has a comparative advantage in the type of recreational services offered by the Crow Wing River Trail. This advantage has been possible through the combined efforts of many individuals, private concerns, and government organizations. Continued development of services and aggressive merchandising, however, will be required to maintain and improve on this advantage.



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