

LEISURE TIME INDUSTRIES

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An area boat dealer saw a 30 percent increase in boat sales in 1983 (*The Forum*, 1983). Suppliers cannot meet the nationwide soaring demand for fishing tackle, especially equipment geared to beginners (*The Kiplinger Washington Letter*, 1984). The number of three-wheeled recreational vehicles is expected to increase by over 8,000 in North Dakota during 1984 (Leitch et al., 1983). Travel and tourism generated approximately \$48 million in tax revenues, created about 18,000 jobs, and resulted in \$646 million in expenditures in North Dakota in 1981 (U.S. Travel Data Center, 1982). Whatever the reasons — changing preferences, the economy, energy development, demographic change, or industrial development — the leisure industry in North Dakota is expanding its already major role in the state's economy.

Substantial proportions of North Dakotans participate in outdoor recreation activities (Table 1). Overall participation is expected to continue to grow due to greater overall population, increased participation per individual, and higher participation rate (Mittleider et al., 1980). The average work week in North Dakota went from 39 hours in 1960, to 37 hours in 1970, and to less than 35 hours in 1982. In addition, North Dakota's population increased by 25 percent from 1970 to 1980. Fewer hours working means more hours spent in leisure time activities and more people means increased competition for leisure time resources.

To respond to the changing recreational needs of North Dakota's residents, to capitalize on the economic benefits of nonresident tourists, and to determine the degree outdoor recreation may compete for scarce resources, data on the character and extent of leisure time activities is needed by resource management agencies (e.g., State Water Commission, Game and Fish Department, Parks and Recreation Department). Most, if not all, environmental and natural resource policy issues significant to North Dakota for the next 20 years affect or are affected by outdoor recreation. Among the top 20 issues confronting the state are soil conservation, surface water allocation, coal development, conversion of prime lands, wetland preservation, and decreased streamflow (Leitch and Leistriz, 1983). Resolution of

Table 1. Outdoor Recreation Participation in North Dakota.

Activity	Percentage of North Dakota Residents Participating in Outdoor Recreation Activities	Average Number of Days of Activity Per Participant
Upland Game Hunting	12.9	5.9
Waterfowl Hunting	13.0	7.4
Big Game Hunting	8.6	4.4
Nongame Hunting	6.1	7.9
Ice Fishing	8.2	5.8
Cross-Country Skiing	4.3	6.8
Downhill Skiing	3.2	4.4
Snowmobiling	15.7	11.4
Sledding	13.7	7.2
Ice Skating	12.0	8.7
Hockey	1.8	16.1
Fishing	27.4	6.7
Powerboating/Waterskiing	12.2	8.0
Beach Swimming	13.0	6.6
Outdoor Pool Swimming	13.7	12.9
Picnicking	28.3	3.6
Camping	19.6	5.9
Visiting Historical Places	15.0	2.4
Bicycling	12.3	24.5
Baseball/Softball	10.1	10.9
Golf	8.8	15.3
Tennis	4.5	11.3
Jogging	4.1	27.1
Sailing	.8	8.3
Canoeing	1.0	4.4
Hiking	1.2	11.4
Horseback Riding	2.3	9.8
Archery	.4	6.5
Trap Shooting	1.2	9.2
Soccer	.3	17.9
Horseshoes	1.0	5.3

these general resource issues as well as specific issues, such as the Garrison Diversion Unit and use of Missouri River water, all require an understanding of outdoor recreation components.

Several studies have been conducted by the Department of Agricultural Economics at NDSU to help resource management agencies understand the character and extent of outdoor recreation activities in North Dakota. Starting with early surveys of participation and predictions of future demand (Cox et al., 1968; Cox and Johnson, 1970), to more recent, comprehensive analysis of future participation in outdoor recreation (Mittleider et al., 1980), and several ongoing studies, we are only beginning to develop a data base for one of the top three industries in North Dakota.

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State Parks

North Dakota's nine state parks were visited by over 1 million people in 1983. Travel to and from parks, activity at parks, and purchases of outdoor recreation equipment all generate economic activity. As part of a study of the economic impact of the state park system, over 900 park visitors have been surveyed during the past 10 months (Mittleider and Leitch, 1984). Preliminary estimates of the total expenditures of all park visitors in 1983 approach \$22 million.

The economic activity resulting from the expenditures of all park visitors was estimated using the North Dakota input-output model (Leistriz et al., 1981). These expenditures generate nearly \$50 million in gross business volume, which includes over \$10 million in personal income to North Dakota households, and support over 800 jobs in the state. Over \$1 million in government revenues is also generated by park visitor expenditures each year.

In addition to providing relaxation for North Dakota's residents, the state park system attracts "new money" to the state in the form of expenditures by out-of-state visitors. These exports of recreational services are important components of the state's business, just like exports of agricultural commodities or energy resources.

Resident Hunting and Fishing

Wildlife is an important component of outdoor recreation in North Dakota residents and nonresidents spend millions of dollars annually for hunting and fishing in the state. Effective management of an economic industry that generates cash flows as large as hunting and fishing requires accurate and regular information on the magnitude and distribution of those flows. Some data gathered during a two-year project to develop collection methods for licensed sportsmen help to illustrate the significance of these activities (Kerestes and Leitch, 1983).

The first 274 North Dakota resident fishing licenses were sold for \$1.50 each in 1924. Since then over 3 million fishing licenses have been issued to North Dakotans. In 1984 over a quarter of the state's population purchased a license. Each licensed angler contributes to the state's economy by spending money for equipment, meals, gasoline, and many other tourism-type services. Resident anglers spent about \$900 each during the 1981 season. All in all, the fishing industry represents an economic injection of more than \$135 million (Kerestes and Leitch, 1982).

Another major component of outdoor recreation is hunting. There are fewer hunters than anglers and the seasons are shorter, but they spent nearly \$90 million in 1981. Waterfowl and small game hunting and firearms deer hunting accounted for the majority of expenditures. However, individual expenditures were greatest

for moose and furbearer hunters, \$809 and \$890 each per season, respectively.

Hunting and fishing activities by residents in 1981 resulted in expenditures of \$225 million in North Dakota — certainly an industry worth managing.

Nonresident Hunters and Fishermen

Nonresident small game hunters, firearms deer hunters, and anglers each spent an average of \$450 to \$485 hunting or fishing in North Dakota during 1983. All nonresident hunters spent a total of \$3.4 million in North Dakota in 1983 (Anderson and Leitch, 1984). This compares to total expenditures of \$2.5 million in 1977 (Leitch and Scott, 1978), which, when adjusted for inflation, approximately equals 1983 expenditures.

Over \$8 million in gross business volume was generated by the expenditures of nonresident hunters in North Dakota in 1983, which included about \$2 million of personal income to residents. Additionally, nearly 200 jobs were supported by the expenditures of nonresident hunters in 1983.

Nonresidents pay considerably more for their hunting and fishing licenses than do residents, adding approximately one-half million dollars to Game and Fish Department revenue each year.

About 20,000 nonresident hunters and anglers come to North Dakota each year from nearly all of the other 49 states and many other countries. Their primary reasons for coming to North Dakota are because they have friends or relatives in the state or they are former residents. However, they also come because of the good hunting and fishing in the state, and because of the friendly landowners and uncrowded hunting conditions.

Devils Lake

Two major water bodies in North Dakota — Lake Sakakawea and Devils Lake — have experienced rapid increases in fishing activity over the past several years. An impact study was conducted to assess the socioeconomic impact of this increased activity on the economy of the Devils Lake trade area (Schwinden and Leitch, 1984). Over 700 anglers were interviewed during the 1983-84 fishing season to collect expenditure and other fishing activity information.

Results of the study indicate the Devils Lake fishery is very important to the local economy: anglers spent approximately \$15 million in the multicounty area during the 1983-84 fishing season. They fished an estimated 230,000 days and spent money on bait, food, boats, motels, rods and reels, and other items of equipment and services. These expenditures in turn "multiply" to \$35 million in gross business volume after turning over in the local economy. As a result, over 800 jobs are created and \$640,000 in tax revenues are generated.

This type of socioeconomic impact information is extremely useful not only to local businesses, as evidenced by the interest expressed by the Devils Lake Chamber of Commerce, but also to fish and game management agencies for planning purposes.

Snowmobiling

Snowmobiling is still a popular winter sport in North Dakota, although it does not get the attention it did in the early 1970s. The Parks and Recreation Department, responsible for snowmobile trail management, was concerned about how to manage snowmobile registration fees in light of changing conditions. In order to wisely allocate the trail tax fund portion of registration fees, a study was done to estimate the needs and attitudes of snowmobilers in North Dakota (Leitch, West, and Anderson, 1983).

Analysis of the 1,200 responses to a mail survey indicated that characteristics of snowmobilers and their snowmobiles had changed very little when compared to a similar survey 10 years earlier. There were very few new snowmobilers and less than 1 percent of the participants had purchased new snowmobiles within a year of the survey. Three-fourths of all registered snowmobiles in the state are 1974 models or older. There are already more three-wheelers than snowmobiles in the state, and another 8,000 sales are expected this year. This has created a conflict with use of the six state-operated snowmobile trails. Three-fourths of the snowmobile survey respondents felt that enforcement of snowmobile regulations was adequate, yet one-half felt three-wheeled recreational vehicles caused problems and should be licensed.

Changes like these, stemming from changing socioeconomic conditions and recreational fads, make it important to have up-to-date information on recreationists and their activities. Without evidence of changing patterns in recreational activity, resources may not be directed to their most beneficial use.

Summary

Outdoor recreation is important to the people of North Dakota in terms of both social and economic well-being. It is expected to play an even larger role as population characteristics and economic conditions change. The millions of dollars spent for outdoor recreation activities each year generate household income, tax revenues, and support the employment of thousands of North Dakota residents.

Agriculture is the number one industry in the state, but tourism competes with energy for that number two spot. All three — agriculture, energy, and tourism — compete for resources, making information about each industry important to the wisest use of the state's resource base.

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