

FARMER OWNED AND OPERATED OUTDOOR
RECREATION ENTERPRISES IN IOWA

129

by

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INTRODUCTION

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One of the major problems of United States agriculture is the excess of resources, essentially labor and land. Natural manpower requirements are expected to increase by about one-fourth by 1975, however, employment of farmers and farm workers may be nearly one-fourth below the 1964 level even under conditions of full employment (103, p. 52). Manpower needs in the non-agricultural sectors are expected to increase, except for the mining industry with a projected constant level of employment (103, p. 52). Under the assumption that production due to increased technology will continue to exceed needs arising from population growth and from domestic and foreign demands, projections indicate that the United States will be able to satisfy all its agricultural needs in 1980 with about 50 million fewer crop acres than in 1962 (94, p. 3). This excess of agricultural resources causes them to receive a comparatively low return. The average per capita income in 1961 was \$1373 to a farm worker compared to \$2345 to a non-farm worker (74, p. 362). A 1965 study of the United States North Central Region observed that the 1959 situation on a per farm basis received negative residual earnings to land when capitalized into a value per acre (76, p. 94). In this study, labor and capital were imputed a return equal to their opportunity costs.

The comparatively low return to these excess resources of

land and labor create an incentive for farmers to find an alternative use for these resources which could yield a higher return. One possible alternative is the private ownership and operation of private outdoor recreation enterprises. This alternative may be especially fitted to the characteristics of low productive lands (100, p. 1). This study will deal with these farm recreation enterprises and will attempt to determine how and to what extent this is a viable economical alternative use of the projected excess farm resources.

The Problem and Its Setting

Due to the increased demand for recreation brought about by such factors as the increase in population, leisure time, disposable income per capita and mobility, the public is increasingly accepting the idea of recreation at a fee (8, p. 9). Recent legislation has been aimed at encouraging private landowner developments of this nature by offering technical and financial assistance. For example,

"Under Title IV of the Food and Agriculture Act of 1962, the Farmers Home Administration may make loans to individual farmers who are unable to get needed credit elsewhere for development of outdoor recreation enterprises. The owner-operator of a family farm may borrow up to \$60,000 to purchase land, construct fish ponds or cabins, develop a hunting preserve or a picnic and camping area, or provide other facilities for outdoor recreation. A borrower may have up to 40 years to repay a loan secured by real estate: the interest rate is 5 percent" (77, p. 59).

However, demand factors alone are not nearly enough to insure the ultimate success of such an enterprise. Besides recognizing the basic elements of increasing demand, an individual must evaluate these in respect to his own situation. These factors are highly interrelated and are significant only if the individual location fits the conditions. The location must be within a certain time distance from a population center with the time varying as to type of recreation facility (71, p. 24). Adequate travel conditions must exist and the type of facility must also be dependent on the wants of the public. These are some of the conditions that qualify the characteristics of demand.

On the other hand, the individual must consider supply factors such as the suitability of his property for alternative types of recreation facilities and the type and amount of competitive facilities (81, p. 4). Closely entwined with these factors are the costs of investment and operation to be balanced against expected returns.

The problem facing private landowners is primarily the lack of adequate information to be used in evaluating a private recreation enterprise as an alternative use of his resources. This problem is enhanced by the difficulty in measuring the actual demand and value of recreation. The economic impact of other factors such as location, advertising, level of investment, customer characteristics and traits of the manager and enterprise are recognized as important.

Objectives

This study of farmer owned and operated recreation enterprises in the state of Iowa is an attempt: (1) to determine the success and failure elements of these enterprises, something of the relative magnitude of these elements and (2) to provide a basis for suggesting more detailed research in the field of outdoor recreation in Iowa. In pursuing these objectives, some of the elements to be examined are the effects of location, advertising and level of investment on net revenue and the managerial traits as well as traits of the enterprise. Certain customer characteristics are also examined in an attempt to delineate the distinguishing characteristics of the demand population for each recreation type.

It is hoped that the results of this study will be useful to farmers contemplating a recreation enterprise as well as provide helpful information to operators who have already undertaken such enterprises.

Procedures

Initial steps in this study consisted of examination of available literature pertinent to outdoor recreation. The major portion of the literature was obtained from the reports of the Outdoor Recreation Resources Review Commission and studies done by Resources For the Future and the Economic Research Service of the United States Department of Agriculture.

The only information available in Iowa was a survey of recreation facilities conducted by the state Farmers Home Administration and Soil Conservation Service in 1962. This survey provided an estimate of the number of such enterprises in the state and of the various types of facilities provided.

The first survey questionnaire (FF1, Appendix A) was designed to identify the names and addresses of the total population of farmer owned and operated recreation enterprises in the state. The Director of the Farmers Home Administration in Iowa offered to mail the first survey to his area representatives for completion. This was evaluated as the best way to get the most complete coverage of all areas of the state. Each Farmers Home Administration area representative is the chairman of a county technical action panel composed of representatives from the county Soil Conservation Service, Farmers Home Administration, Agricultural Stabilization and Conservation Service, Extension Service and the area representative of the State Conservation Commission. It was assumed that this group of people would have the most complete knowledge of rural recreation enterprises in each county and for the state as a whole. A meeting of the Story County Technical Action Panel was attended and a copy of the proposed questionnaire was presented as a pretest for questions, comment and criticism. It was then revised and taken to the Farmers Home Administration for mailing. The resulting population was separated by county and the elimination factors were checked

against the limitations of the study. The population passing the screening test amounted to 65 farmer-owned or operated recreation enterprises. This number was sufficiently small to use the total population in the study.

The analytical objectives of the study were considered and then the second survey questionnaire was designed for a personal interview with each of the operators to facilitate the collection of the necessary data. The analytical framework was then applied to these data and the results obtained.

Sequence of Analysis

The findings of this study are presented in the following chapters. The first deals with the nature of private outdoor recreation enterprises and is divided into two major sections: (1) characteristics of outdoor recreation enterprises, and (2) extent and nature of Iowa farm outdoor recreation enterprises. The next chapter presents the analytical framework and its basis. The next chapter contains the application of the analysis and its results. The final chapter contains the summary, conclusions and recommendations.

NATURE OF PRIVATE OUTDOOR RECREATION ENTERPRISES

The concept of outdoor recreation is very diversified and includes everything from viewing the landscape to a trip to Alaska for a bear hunt (68, p. 9). The problem of studying outdoor recreation can be stated in the words of the Outdoor Recreation Resources Review Commission, "the dominant problem in approaching a study of outdoor recreation is threefold; the broad range of human activities involved; the diversity of resources necessary to enjoyment of these activities; and the differences in investment required" (68, p. 9).

Limiting a study to only recreation facilities on farms allows more specific conclusions regarding the economic feasibility of these enterprises to provide an alternative use for excess agricultural land. Studying only the income producing facilities provides an economic measure through the use of levels of investment and returns. This is the basis for defining the population of this study as those recreation facilities provided by farm owners or operators for use of the general public in the outdoors and at a fee.

General Characteristics

The essential elements and characteristics of a successful outdoor recreation enterprise are numerous and vary somewhat with the type of facilities available. The first of these characteristics is demand.

Demand for recreation

The recent increased interest in the private ownership and operation of outdoor recreation enterprises is primarily due to the awareness of increased demand. Factors contributing to this increase are population, leisure time, disposable income per capita and mobility. Figure 1 shows the projections of these factors to the years 1976 and 2000 compared to 1955 and 1960. This was the basis for a projection that the demand for recreation in the year 2000 would be at least three times the amount in 1960. Present facilities are extremely inadequate for this increased demand (8, p. 1).

An economic analysis of demand for recreation is a subject of much debate as to procedures. Clawson and Knetsch suggest that perhaps a first kind of study into recreation demand is research to determine the best methods of collecting data (16, p. 256). Demand depends on the preference of the customers so demand research will use the customer or household as the basic unit (17, p. 13). The enterprise operators are the only authority on the characteristics of the customers of the various types of recreation. A demand study would benefit by concentration on the customer group prevalent to each certain type of recreation. An inventory of the number of customers per year correlated with the development of the facilities available would give an approximation of the impact of demand on recreation facilities.

<u>Year</u>	<u>Population (millions)</u>	<u>Visits to national parks (per 100 persons)</u>	<u>Per capita real disposable income (1000's of 1960 dollars)</u>	<u>Per capita intercity automobile travel (1000's of passenger miles)</u>	<u>Weekly hours of leisure per employed person</u>
1955	164.3	11.46	1.84	3.56	22.3
1960	180.0	13.24	1.96	3.89	23.1
1976	229.5	20.98	3.12	6.09	26.6
2000	349.2	29.10	4.18	8.00	30.6

Figure 1. Population and per capita visits national parks, real disposable income, travel by automobile and leisure for 1955 and 1960 and projected to 1976 and 2000
Source: (8, p. 6)

Location of recreational enterprises

Location is a primary factor in evaluating the effects of demand on any given recreation enterprise. Clawson defines three categories of recreation facilities in relation to use and distance (14, p. 9). One is "user-oriented" whose most important characteristic is quick accessibility. Such areas do not have to possess any original beauty or other unique natural characteristics. At the other extreme are "resource-based" areas. The importance is on natural qualities and not location such as national parks and forests. Between the two extremes are "intermediate" areas. These are within a couple of hours driving for most users. Most private recreation enterprises fall into the user-oriented or intermediate areas. Therefore the location of such an area in relation to the size of a nearby population center is very important (17, p. 25).

Advertising

Different types of recreation draw different kinds of customers. Advertising would be most beneficial if directed toward the type of people most likely to participate. Most private recreation operators rely primarily on word-of-mouth advertising and outdoor signs (35, p. 8; 38, p. 11). Use of other types of advertising could be economical, especially if directed toward the most prospective customers.

Managerial traits

Character traits are also important to the manager of a

successful enterprise (43, p. 14). The operator must have a friendly outgoing personality in dealing with his customers. He must also have certain assets as a business man such as personal knowledge of the types of recreation offered, some general business experience or ability and individual initiative. For some types of recreation, personal appearance, such as dress and poise, may create an impressive reaction from prospective customers. Extremes in age of the operator are not a severe handicap but may have an important bearing on choosing among alternative types of facilities to be offered.

Traits of enterprise

Besides the manager himself, the enterprise requires certain characteristics (43, p. 32). A neat and clean appearance of the grounds and general area is a definite asset for most types of recreation areas. Some types of enterprises may be greatly benefitted by a unique characteristic attraction such as natural beauty or some uncommon element. The attitude of the neighbors toward the enterprise may determine the success or failure of some enterprises and this should be a consideration in choosing among the possible alternative types. A concession stand or snack bar can be a very economical way to increase income and also customer participation in certain types of enterprises. Other characteristics that can be essential to the successful enterprise are advertising and conditions of accessibility. These tend to be inter-

related to the extent that customers usually travel the easiest route to a location and if this route is well marked, this will give the initial impression of a friendly and a helpful atmosphere to the first-time customer.

Extent and Nature of Iowa Farm Outdoor Recreation Enterprises

The majority of farm recreation enterprises in Iowa are relatively new in existence. Table 1 illustrates that 67 percent of the total number reported in this study had been in operation less than five years. Also illustrated are the various types of enterprises contained within the state and the numbers of each. The facilities of camp grounds vary from land rented for lakeside cabins to a grassed area along a secondary highway used primarily for field sports, picnicking and tent camping.

The fishing waters include lakes, rivers and man-made ponds. Many of these areas include other facilities such as picnicking and camping areas, boat rentals and concession stands.

The water sports area is a marina which includes sales, service and rental of water sports equipment, camping areas, guide service for fishing and a restaurant.

Hunting areas are natural areas with leased hunting rights for small game with the exception of one area which offers the hunting of wild boar.

Table 1. Farmer owned and operated outdoor recreation enterprises in Iowa 1965

Type of enterprise	Number ^a	Number surveyed ^b	Number less than 5 years old ^c
Camp grounds	4	4	2
Fishing waters	12	10	9
Water sports areas	1	1	1
Hunting areas	4	4	1
Riding stables	3	3	1
Winter sports areas	2	1	2
Vacation farms	10	6	7
Shooting preserves	4	4	3
Field sports areas	2	2	1
Natural, scenic or historical areas	1	1	1
Golf courses	2	1	2
Total	45	37	30

^a20 of the original 65 observations were eliminated because: (1) not farmer owned or operated, (2) no actual enterprise in existence, or (3) enterprise ceased to operate prior to 1962.

^bNumber of completed questionnaires. None were completed when operators refused to answer or on enterprises operating less than one complete season.

^cComputed from original 45 observations.

Riding stables are similar in nature. Their facilities offer casual riding, riding instructions and boarding of private horses.

The winter sports area is a ski slope which rents equipment and provides a tow rope as a substitute ski lift.

Vacation farms vary greatly. Some are only for children and some accomodate the whole family. Other facilities include swimming, horseback riding, hiking trails, picnic areas, fishing and other games and activities.

Shooting preserves are another homogeneous type. Facilities include small game, water fowl and trap shooting. Some are expanding to include other facilities such as camping and fishing.

The field sports areas are a trap shooting enterprise and a miniature golf course that also includes a batting cage, go-cart track and various rides for children.

The other two areas are an 18 hole golf course and a scenic cave.

Certain types of these enterprises, especially farm vacations, draw almost solely on the large cities for their customers. There are ten vacation farms in Iowa who draw customers primarily from Chicago, Omaha and Des Moines. Many other farmers in the state are contemplating an enterprise of this type and present operators say that competition for customers is very strong. Other types of enterprises also have competition for customers. Hunting, fishing and camping areas are

highly competitive with state owned recreation facilities. These operators say that this is usually the roughest competition because the charge for state owned recreation is either very small or none. County Conservation Boards are presently establishing county parks and recreation areas using lands within the county. These areas are providing free recreation facilities which provide a great deal of competition for the private recreation enterprises near these areas.

The fees charged by the enterprises within the state do not vary with any set pattern. All lying within a narrow range, as illustrated in table 2, they are comparative to other areas in the United States (35, p. 9; 71, p. 40).

Table 3 indicates the average number of customers per year for each type of recreation area. This gives an indication of the relative capacity of the enterprises located within the state and possibly a trend of their development over the five-year time period. However, attempting to analyze development of existing enterprises from table 3 is clouded by the changing number of enterprises.

Hunting areas are quite homogeneous in nature and customer numbers did not change. Only the deletion of one of the areas raised the average in 1963 and 1964. These areas are primarily leased to a limited group of people and the other was operating at full capacity so no change in number was noted.

Table 2. Charges made by recreational facilities in Iowa 1965

Type of enterprise	Range of fees (dollars)	
Camp grounds:		
Cabin, per week end	15.00	
Tent site, per night	1.00 -	2.00
Trailer site, per night	1.00 -	2.00
Electrical hook up	.50 -	2.00
Fishing waters:		
Per person per day	.25 -	2.00
Per pole	.75	
Per car	.75	
Hunting areas:		
Leased rights, per year	100.00 -	200.00
Wild boar, per hog	35.00	
Shooting preserves:		
Per day	10.00	
Guide service, per day (usually with dog)	10.00 -	20.00
Per bird		
pheasant	4.00 -	5.00
quail	2.50 -	3.00
partridge	3.00 -	4.00
duck	3.50 -	4.00
Riding stables:		
Per person, per hour	1.00 -	2.00
Instruction, per hour	1.00 -	3.00
Ski areas:		
Per person, per day (includes equipment and tow)	5.00	
Per person, per day (tow charge only)	2.00	
Vacation farms:		
Adult, per week	40.00 -	46.50
Child, per week	30.00 -	50.00

Table 3. Average yearly number of customers by type of recreation in Iowa 1965

Year	Hunting areas		Fishing waters		Camp grounds		Riding stables		Vacation farms		Shooting preserves		Field sports areas	
	\bar{Y}^a	\bar{X}^b	\bar{Y}	\bar{X}	\bar{Y}	\bar{X}	\bar{Y}	\bar{X}	\bar{Y}	\bar{X}	\bar{Y}	\bar{X}	\bar{Y}	\bar{X}
1st year	4	32	10	810	3	506	3	1333	6	99	4	480	2	2280
1960	4	32	2	1550	2	502	2	7500	2	850	2	277	1	2500
1961	4	32	4	1031	2	502	2	7500	2	1210	2	299	1	2500
1962	4	32	5	969	2	502	2	7700	3	1007	2	328	1	2500
1963	3	41	9	648	3	338	3	5800	4	878	2	332	1	2500
1964	3	41	9	587	4	629	3	5266	6	665	4	561	2	2030

 \bar{Y} = number of observations. \bar{X} = average number of customers.

Average number of customers of fishing waters declined over the years due to the addition of new enterprises which were of a significantly smaller magnitude in size of facilities. The customer number of existing enterprises usually increased over the years but addition of the new enterprises lowered the average.

Camp grounds varied greatly in facilities, as indicated on page 12. This caused the average number of customers to vary with the number of enterprises and not with their age or development. These areas also showed an individual increase in customer numbers over the years.

Riding stable data tended to prove the statement of one of the operators that the peak number of customers was in the second, third and fourth years of operation. The years 1960 to 1962 were these years for one of these enterprises which caused the increased average during that time. The 1963 average was lowered by the addition of a new enterprise and the slacking off period of the other.

Vacation farms also vary widely in capacity. One enterprise has a capacity of only about ten people at once while others can handle nearly 50 or 60. One enterprise also has facilities for hay rides which increase its customer numbers. This increases the average. However, some enterprises have a complete weekly turnover and this gives an increased yearly total. Most of these enterprises work at near capacity during

their entire season.

Shooting preserves show the most tendency toward sustained growth. Average customer numbers have increased steadily during the years (table 3) and they seem to be drawing customers from an increasing distance.

Field sports areas vary greatly in facilities and find that the first few years are the largest in customer numbers. As with riding stables and fishing waters, their customers are usually local residents whereas the other areas draw customers from greater distances or appeal more to transients.

The natural, scenic or historical area started operation in 1960 and showed no variance in yearly customer numbers. The number for each year was approximately 3,000.

The water sports area started in 1962 and demonstrated a consistent increase in customer numbers. Numbers for the years 1962 through 1964 were 200, 400 and 600, respectively.

The winter sports area was completely dependent on the weather regarding yearly number of customers. The operation started in 1961 and had yearly customer numbers of 200, 50, 50 and 100, respectively.

The golf course also started in 1961 and has shown a steady growth. Respective customer numbers were 2,500, 12,000, 14,000 and 20,000.

Table 4 indicates the relative labor requirements for the various recreation types. None of the operations used child or hired labor at any time other than during the operating

Table 4. Average hours of weekly labor required per recreation type in Iowa 1965

Type of enterprise	Number of observations	Operating season			Out of season Operator and wife (hours)	
		Operator and wife (hours)	Children (hours)	Hired (hours)		Total (hours)
Camp grounds	4	27	5	0	32	8
Fishing waters	10	47.5	10	1.5	59	2.5
Hunting areas	4	5	0	0	5	0
Hiding stables	3	104.5	3	20	127.5	87
Vacation farms	6	124.5	36.5	155	316	33
Shooting preserves	4	87.5	33	27.5	148	26
Field sports areas	2	36	0	3	39	15
Natural, scenic or historical areas	1	0	100	50	150	0

Table 4 (Continued)

Type of enterprise	Number of observations	Operating season			Out of season Operator and wife (hours)
		Operator and wife (hours)	Children (hours)	Hired (hours)	
Winter sports areas	1	30	30	0	0
Water sports areas	1	60	140	30	20
Golf courses	1	100	25	10	0

season.

Vacation farms, shooting preserves and riding stables are very labor intensive during the operating season due to their requirements of closer supervision and management. They also require relatively more labor during the off-season. Riding stables and most vacation farms have horses and other livestock used in their operations. Shooting preserves raise their own birds and some provide kennels for boarding dogs. Having facilities of this type, requires labor time for care and feeding beyond the operating season.

Water sports areas and natural, scenic or historical areas also seem to be relatively labor intensive during the operating season. These areas have a diminished labor requirement during the rest of the year.

Golf course data may be misleading due to the fact that this individual enterprise considers most of the entire year as its operating season. Therefore, the data for seasonal operation would be the same for the entire year.

Other areas require varying degrees of labor, usually dependent on how much time has to be spent collecting entrance fees. Hunting areas usually require the least labor because the fee is usually collected only once per season or else at a specified time.

Table 5 indicates the range of average yearly operating expenses for each type of enterprise. These figures give an approximation of the yearly outlay for operation and also of

Table 5. Average yearly operating expenses by type of recreation in Iowa 1965

Type of enterprise	Range of expenditures (dollars)
Camp grounds	25 - 2000
Fishing waters	0 - 2000
Hunting areas	0 - 1900
Riding stables	350 - 9000
Vacation farms	630 - 13000
Shooting preserves	2000 - 14000
Field sports areas	1000 - 2000
Winter sports areas	900
Natural, scenic or historical areas	2000
Water sports areas	- ^a
Golf courses	45000

^aInformation not available.

the magnitude of operation. Hunting areas and fishing waters may give a misleading indication on the lower bound of their range. A few of these enterprises operate with completely natural facilities so there is no operating expense.

ANALYTICAL FRAMEWORK

Analysis of Questionnaires

The first questionnaire (FF1, Appendix A) was designed to identify the population and to limit this population to a workable size. The limitation to income producing recreation areas was necessary to allow collections of cost and revenue data and necessitated the elimination of enterprises that had not operated at least one complete season. These enterprises were defined to be those which were open to the general public at a fee. The limitation to farmer owned and operated enterprises allowed emphasis on the evaluation of recreation as an alternative use of agricultural resources.

The second survey questionnaire (FF2, Appendix B) was designed to implement a personal interview with the operator of each of the population enterprises and to facilitate the collection of the necessary data. One of the first steps necessary in the preparation was to determine and define the types of recreation in which each enterprise was to be placed. These groupings were necessary for the comparison and analysis of the enterprises because different types would vary widely in their characteristics whereas enterprises of the same type would not have so great a variation. All of the following definitions include that the enterprise is open to the public at a fee.

1. Camp grounds--This includes areas for tent, trailer or pack camping and also areas rented for vacation living sites near a recreation area.
2. Fishing waters--Water areas for fishing, owned or with access to by the operator.
3. Water sports areas--An area of water suitable for boating or swimming. The operator has either control or access to the area. It may also include a marina near fishing waters.
4. Hunting areas--An area of land or water for hunting wild game, small game, big game, or waterfowl.
5. Riding stables--An area for the use of horses or other riding animals and their boarding.
6. Winter sports areas--An area developed for the use of snow and ice for recreation.
7. Vacation farms--A rural area operated as a working farm or ranch that rents vacation living accommodations.
8. Shooting preserves--An area devoted to the hunting of pen-reared game and may include trap-shooting.
9. Field sports areas--Areas for concentrated play activities other than in water. These may include such things as picnicking and go-cart racing.
10. Natural, scenic, or historical areas--Areas of natural interest, exceptional scenery, fauna or flora, geological or mineral interest, or historical significance.
11. Golf courses--A 9-hole or 18-hole golf course.

These definitions were derived from a questionnaire used early in 1965 by the Iowa Soil Conservation Service and the Iowa Conservation Commission. The criteria for placing an enterprise in a certain recreation type was that the major portion of the total recreation income was derived from that type of recreation. An enterprise could not be included in more than one type because of the inability to separate the actual costs and returns of each part of the enterprise from the total. More comprehensive record keeping by the operators would have allowed this kind of separation to be possible.

The location criteria were chosen on the basis of Iowa population distribution. There are very few locations in the state that are not within 30 miles of a town of at least 10,000 population. This would be a maximum of about one hour of driving time to a location. Using a longer distance or a smaller minimum population size would require analysis of many population centers in relation to one location. Some of these recreation areas are of the type that draw on local residents and using longer distance criteria could reach beyond the prospective customer concentration. Some areas draw almost solely from the larger population centers and using a smaller size or distance could confuse their locational relationship.

The questions on customer characteristics were designed to obtain the most complete objective information from the operators. Any other questions, such as education level, income level or customer satisfaction, would be primarily a

subjective estimate by the operator. These questions would have to be answered by the customers themselves to get the true picture.

The other questions, dealing with such things as characteristics, cost, and revenues, were designed to collect the necessary data from these areas to complete the proposed analysis.

Regression Analysis

In the attempt to show the relative correlation between net revenue and location, advertising, investment level and labor expense, multiple regression analysis was used because of its suitability to this type of analytical objective. The "b" values obtained from multiple regression analysis indicate the slope of a least squares regression line relating the independent and dependent variables (21, p. 193). If this value is significant, tested by "t" values, then the two variables are significantly correlated. A value for F is obtained and tested to show the significance of the total regression equation.

This study was necessarily partitioned into classification by types because of the wide variance in data between types of recreation enterprises. In this portion of the study, individual regression analysis of a single independent variable was used in an attempt to show the relationship of that variable to net revenue for each individual type of recreation.

In single variable regression, the same relationship or correlation is indicated and tested by the same methods as in multiple regression analysis. However, in this case, the F value is actually testing the same relationship as the "t" test so it can be eliminated. A value is also obtained for R^2 and this indicates the percentage of variation in the dependent variable explained by the independent variable. In many of the recreation types, the number of observations also precluded the use of more than one independent variable in any single regression because a smaller number of observations reduces the degrees of freedom, which increases the test value of "t" at each level of significance.

Analysis of Location

In an attempt to determine the importance of area location in relation to net revenue, data were collected for a regression analysis of these two factors. Data on distance and population were collected from each recreation enterprise. A minimum population of 10,000 was set for city size because of the relatively even distribution of cities of at least this size in the state. A maximum distance of 30 miles was set because of the improbability of any location not being within 30 miles of a city of at least the minimum size. However, an exception was made for cities with a population of 100,000 or over because of their size. The minimum distance in this case was 50 miles. One other exception was made for the case

studies which were the recreation types with too few observations to be included in the regression analyses. Some of these enterprises were not located within the maximum distance of a minimum sized population center. In order to obtain a locational observation for comparative purposes, the next largest city meeting the distance criteria was used in these cases. The values obtained are listed in Appendix C.

The Y variable in the regression was the net revenue reported by the enterprise operator for the specified year. The X variable for location was computed as follows:

$$X = \frac{\text{population 1}}{\text{distance 1}} + \frac{\text{population 2}}{\text{distance 2}} + \dots + \frac{\text{population i}}{\text{distance i}}$$

The numbers 1 thru i designate all cities meeting the criteria for a given location. This factor, defined above, will hereafter be called the locational density. The population of the cities was based on 1960 census data.

Analysis of Investment

Investment was analyzed in an attempt to determine how and to what extent the magnitude of the enterprises affect the returns. Information was gathered on investment figures for the years 1959 thru 1964. This was done with the objective of doing a time series analysis on investment levels. For this reason, a construction cost index was used to deflate these figures to a 1959 basis (104, p. 14). The farm construction cost index was used because the major portion of

investments in these recreation enterprises was for the construction of such items as ponds and buildings and the remodeling of these facilities. The time series analysis was not completed due to the small number of enterprises that were in operation for the specified time period. Deflating the investment figures had no affect on the regression analyses except for changing the "b" value of the Y variable, which would be a change in the Y intercept of a regression line.

Regression analysis was used to show the actual correlation between net revenue and the total sum of yearly investments thru the year 1964. The level of total investment thru 1964 gives a general indication of the magnitude of the enterprise so this should be somewhat positively correlated with net revenue.

Analysis of Advertising

The regression analyses of dollar expenditure for advertising was a direct attempt to examine the extent of the impact of the level of advertising upon net returns. Data were collected in a manner so as to reflect the total expenditure on advertising for the year in question. Expenditures for advertising items such as signs, which have a useful life of more than one year, were obtained for the year in which they were purchased. An estimated life span was then obtained from the operator and used to distribute the cost over the life span. Expenditures for other items were based on the cost of the

amount actually used during the year.

Analysis of Total Yearly Labor Expenditure

The analyses of the labor requirements was another indirect attempt to analyze the effect of magnitude of the enterprise upon the net revenues. The wage rates for hired labor and for operator labor were set under the assumption that the opportunity cost would be equal to that of farm labor. The family labor of children is included as hired labor, under the assumption that children were not performing the management duties. Data published by the United States Department of Agriculture in 1964 set the wage rate of hired farm labor working 75 to 149 days per year at \$.75 per hour while those working over 250 days received approximately \$1.00 per hour (105, p. 16). These wage rates were used as the basis for the analyses of labor, with \$1.00 per hour as the wage rate attributed to the operator labor.

Other Data

Customer characteristics

This portion was an attempt to delineate characteristics of the demand population for each type of recreation as seen by the operators. The questions attempted to collect customer data from objective information of the operators. Knowledge of these characteristics could be of great assistance in the initial steps of a demand study using a sample of potential

customers.

Successful manager

This section was included in an attempt to delineate the characteristics required of a successful manager of a farm recreation enterprise. The operators were asked to indicate the traits of a successful manager of an "ideal" recreation enterprise of their type.

This type of information would be useful to a farmer in evaluating himself as an operator of a recreation enterprise. It would be of assistance in his decision to enter the recreation business and also in choosing the type of facilities.

Successful enterprise

Each type of recreation enterprise requires different characteristics to make it a success and this was an attempt to delineate these essential characteristics for each individual type of recreation studied.

Each operator was asked to give his opinion of the characteristics of an "ideal" enterprise of the same type. This information would be invaluable to a prospective operator in evaluating the aspects of his potential location and size.

Major problems

This section was constructed to reveal the major problem areas inherent to farm recreation and to the different types of enterprises. Indication of a truly major problem could

indicate an area for further study in an attempt to derive a solution.

Competition

Data collected in this area attempted to show the type of facilities which compete against the farm recreation areas. If strong competition exists, analysis of its source by a prospective operator could be influential in the selection of a recreation type.

Future intentions and "different procedure if starting over"

This was an attempt to show the operators' viewpoints on the future of each type of recreation enterprise. Indication of expansion in a certain type could show an optimistic attitude toward growth of demand for that type of recreation. The opposite could also be true.

Indication of different starting procedures could illustrate more optimal starting conditions and would be quite helpful to a beginning or prospective operator.

ANALYSIS AND RESULTS

Multiple regression was used to determine the significant variables associated with net revenue of farmer owned and operated outdoor recreation enterprises. Regressions were also used to individually test each independent variable and each individual type of recreation. Certain types of recreation had only one or two observations which excluded them from individual regression analysis. Therefore, these types, including golf courses, water sports areas, field sports areas, natural, scenic, or historical areas and winter sports areas are treated as individual case studies in a later section of this chapter. These areas were not included in the multiple regression or in the individual total regressions because of the possibility that the data from these observations could change the total effect of the variables. This would confuse the attempt to relate the effects of the individual type regressions to the results of the total and multiple regression. The description of the variables used in the regressions are shown on page 35.

Variable Y is net revenue in 1964 obtained for each observation. This is the dependent variable in all the regression analyses.

Variable X_1 is the total investment of each enterprise up to and including 1964. This was expected to have a positive effect on net revenue because the enterprises with a

greater investment were assumed to have more or larger facilities and therefore, be more attractive to the prospective customers.

Variable X_2 is total advertising expense in 1964. Its effect on net revenue was hypothesized to be positive. Logical reasoning would assume the positive effect because advertising would indicate an increase in public awareness of the facilities offered.

<u>Designation</u>	<u>Description</u>
Y	Net revenue, 1964
X_1	Total investment thru 1964
X_2	Advertising expense, 1964
X_3	Total yearly labor expense
X_4	Locational density of population
X_5	Advertising expense, first year

Variable X_3 is total yearly labor expense for maintaining the enterprise. The hypothesis that labor expense would be positively related to net revenue was the result of the assumption that a greater labor expense would indicate either: (1) more facilities, (2) larger facilities, or (3) better managed facilities.

Variable X_4 is the locational density factor obtained by dividing the relevant population of the contiguous cities by distance to the enterprise. This variable was assumed to have a positive effect for two reasons: (1) nearby larger population centers would increase the number of prospective customers, and (2) shorter distances would decrease the cost of the recreation to the customer.

Variable X_5 is the advertising expense for the first year of operation. This variable was not expected to have a great effect on 1964 net revenue except for the cases where the operator relied on word-of-mouth advertising after the initial year of operation. However, examination of the correlation matrix of the multiple regression analysis (table 6) indicated a relatively strong relationship between initial advertising and net revenue. Therefore, this variable was tested for the individual recreation categories.

Table 6 illustrates the explanatory effects of location, total investment thru 1964, 1964 advertising expense and total yearly labor expense on 1964 net revenue. Only 30 of the original 31 observations were used in this regression due to missing data on one observation.

Total investment thru 1964, X_1 , was assumed to have a positive effect on net revenue. Table 6 shows X_1 to be significant at the .05 level. It appears that greater investment in facilities will return a larger net revenue as hypothesized.

Table 6. Multiple regression results of location, total investment thru 1964, 1964 advertising expense and total yearly labor expense regressed on 1964 net revenue for 30 observations

	Y	X_1	X_2	X_3	X_4
Value of b	445.2	.080	-3.850	.220	-.078
Standard deviation S_b	234.0	.019	.962	.045	.021
Significance of b t value	1.902	4.312	-4.003	4.850	-3.711

" t " value = 2.06 for .05 probability of larger value

Computed $F = \frac{\text{sum of squares due to regression/number of } b\text{'s}}{\text{mean square deviations from regression}}$

Computed $F = 18.706$

$F(.05) = 2.78$

$R^2 = \frac{\text{sum of squares due to regression}}{\text{corrected total sum of squares}}$

$R^2 = .750$

1964 advertising expense, X_2 , was also assumed to have a positive effect on net revenue. Table 6 shows this effect to be significantly negative at the .05 level. From this, the assumption would be that advertising was not an economical investment. However, investment in advertising is more of a long-run nature and returns may not be immediately forthcoming. Also, some types of advertising may have a life-span of more than one year. Signs may have an effective life of up to

10 years. This would indicate that first-year advertising expense might possibly be more significant. This is tested for the individual types of recreation and is presented in a later section.

Total yearly labor expense, X_3 , conformed to the hypothesis of positive effects on net revenue. In table 6, the effect of variable X_3 was significant at the .05 level. This would indicate that enterprises with greater or better managed facilities return a greater net revenue than other enterprises.

The location factor, X_4 , was assumed to have a positive effect on net revenue. Table 6 shows variable X_4 to be significantly negative at the .05 level. This seems to indicate that net revenue is inversely related to nearness of population centers. This is a very surprising result. Upon re-examination, it can be reasoned that this result could be based on the fact that certain types of enterprises draw more customers from distant population centers or from transients. Another possible explanation is that customers may be attracted to isolated facilities. This would probably be true for vacation farms, shooting preserves, hunting areas and camp grounds. This will be examined further by recreation types in a later section.

This percentage of variation explained by regression, R^2 , was .75. This means that only 25 percent of the variation in net revenue was not explained by the independent variables. The over-all test of the significance of the regression was

significant at the .05 level (table 6) and the four variables were important in explaining net revenue.

In all following regression analyses, the F test is omitted because each regression has only one dependent and one independent variable. This makes the test of the F ratio duplicate the "t" test on the significance of the "b" values because, in this case, $F = t^2$ (21, p. 185).

Total Investment Thru 1964

Only 30 of the original 31 observations were used in the total regression because of lack of data for one observation (table 7). The observation was one of the three riding stables so this also eliminated the possibility of testing the effect of total investment for this recreation type.

Total investment thru 1964, X_1 , proved to be significantly positive at the .05 level when all possible observations were tested (table 7). However, the percentage of the variation explained by the regression equation, R^2 , was only .39. The regression values in table 6 for all observations correspond very closely to the values given for the same variable X_1 in the multiple regression of table 6. However, examination of the R^2 values for the individual recreation types shows a wide variance which could possibly account for the .39 value for the total case.

Table 7. Regression results of total investment thru 1964, X_1 , on 1964 net revenue

Type of recreation	Number of observations	Value of b	Standard deviation S_b	Value of t	t(.05)	R^2
All observations	30					.39
Y		190.34	287.86	.661	2.048	
X_1		.093	.022	4.247	2.048	
Shooting preserves	4					.58
Y		851.69	1725.30	.494	4.303	
X_1		.125	.075	1.656	4.303	
Vacation farms	6					.06
Y		890.50	1386.10	.642	2.571	
X_1		.038	.076	.497	2.571	
Hunting areas	4					.64
Y		25.00	252.80	.099	4.303	
X_1		1.666	.887	1.879	4.303	
Fishing waters	10					.02
Y		133.40	229.00	.582	2.306	
X_1		.017	.046	.381	2.306	
Camp grounds	4					.72
Y		218.00	223.40	.976	4.303	
X_1		.037	.017	2.246	4.303	

The investment variable X_1 for shooting preserves is significant only at the .25 level. Having only four observations leaves only two degrees of freedom and this causes the test value for "t" to be rather large. The value of R^2 is .58 which is higher than the value for the total regression. This indicates that X_1 is probably a fairly important variable in explaining variance in the net revenue of shooting preserves.

For vacation farms, variable X_1 did not approach any reasonable level of significance. Therefore, it was assumed that total investment was not important in explaining variance in net revenue of this recreation type.

Variable X_1 for hunting areas proved to be almost significant at the .20 level even though total investment thru 1964 for two of the four observations was zero. The value of R^2 was .64 indicating that a large proportion of the variance in net revenue of hunting areas could be explained by total investment.

The regression for fishing waters was not significant and the value for R^2 was only .02 indicating that there was no relationship between net revenue and level of investment for this type of recreation.

The regression on camp grounds was significant at the .20 level. Again, having only four observations, raised the test value of "t". The value of R^2 was .72 which indicates

X_1 could actually be quite important in explaining the variance in net revenue for this type of recreation facility.

The two remaining riding stables, not included in individual analysis, had a 1964 net revenue of \$1500 and \$0 and a total level of investment thru 1964 of \$7212 and \$5474, respectively.

Advertising Expense in 1964

Advertising expense in 1964, X_2 , was not significantly related to 1964 net revenue in the regression analysis for all observations (table 8). The R^2 value was only .001 which indicated a completely random relationship. This differs greatly from the results of the same variable in the multiple regression (table 6), which indicates that there may be intercorrelation when the effects of the other variables are not removed, as was the case in the multiple regression.

The individual results of shooting preserves, vacation farms and fishing waters are not significant and have very low values of R^2 (table 8).

The 1964 advertising expense, X_2 , for camp grounds was significantly positive at the .20 level which tends to indicate some relationship to 1964 net revenue for this type of recreation. The value of R^2 was .75 and this supports the previous conclusion.

Variable X_2 for riding stables was not significant. Having only three observations and only one degree of freedom

Table 8. Regression results of 1964 advertising expense, X_2 , on 1964 net revenue

Type of recreation	Number of observations	Value of b	Standard deviation S_b	Value of t	t(.05)	R^2
All observations	31	1122.00 -.311	382.00 1.822	2.937 -.170	2.045 2.045	.001
Shooting preserves	4	2331.40 4.427	2961.00 18.824	.787 .235	4.303 4.303	.03
Vacation farms	6	1999.30 -2.074	959.50 2.122	2.083 -.977	2.571 2.571	.19
Fishing waters	10	227.10 -1.659	217.10 3.772	1.046 -.440	2.306 2.306	.02
Camp grounds	4	97.85 55.58	244.20 22.92	.401 2.424	4.303 4.303	.75
Riding stables	3	6345.20 -.014	2446.60 78.35	2.593 -1.792	12.706 12.706	.76

caused the test value for "t" to be quite large. The values for "b" and "t" were negative in this case which would tend to support a conclusion that 1964 advertising expense was negatively correlated to 1964 net revenue for this type of recreation. The R^2 value of .76 would tend to support this conclusion.

Hunting areas were not included in this regression because only one observation had an advertising expense in 1964. The expense was \$12 and net revenue was \$1100. The net revenue values for the others were \$175, \$100, and zero.

Total Yearly Labor Expense

Total yearly labor expense, X_3 , was significantly positive at the .05 level when all observations were tested (table 9). The value of R^2 was only .24 indicating that this variable probably explains only a small portion of the variance in net revenue. The values of "b" and "t" correspond very closely to those obtained from the multiple regression (table 6) which tends to support the conclusion that this variable is actually important but does not explain a great deal of variance.

Total yearly labor expense, X_3 , for shooting preserves was not significant and the R^2 value was only .04 (table 9). This indicates that this variable was not particularly important in explaining variance in net revenues for this type of recreation.

Table 9. Regression results of total yearly labor expenditure, X_3 , on 1964 net revenue

Type of recreation	Number of observations	Value of b	Standard deviation S_b	Value of t	t(.05)	R^2
All observations	31					
Y		444.50	374.56	1.187	2.045	.24
X_3		.195	.064	3.043	2.045	
Shooting preserves	4					
Y		2031.20	3563.70	.570	4.303	.04
X_3		.072	.258	.277	4.303	
Vacation farms	6					
Y		1353.40	1424.20	.950	2.571	.001
X_3		.021	.274	.077	2.571	
Fishing waters	10					
Y		352.60	258.10	1.365	2.306	.10
X_3		.140	.148	.940	2.306	
Camp grounds	4					
Y		202.50	362.50	.559	4.303	.44
X_3		.382	.306	1.250	4.303	
Hiding stables	3					
Y		2071.80	4116.80	.503	12.706	.64
X_3		.957	.721	1.327	12.706	

Variable X_3 for vacation farms proved to be non-significant and had a value for R^2 of only .001. This extremely low value indicates that there is a purely random relationship between total yearly labor expense and net revenue for this recreation type.

Fishing waters also received non-significant values of "b" and "t" when regressed with variable X_3 . The value of R^2 was .10.

Variable X_3 for camp grounds was not significant but the value of R^2 was .44 indicating that X_3 could explain a greater portion of the variance in net revenues of this type of recreation.

For riding stables, the "t" values of variable X_3 began to approach a greater level of significance. Having only one degree of freedom associated with the three observations greatly increased the significance level of the "t" test value. The R^2 value of .64 indicated a greater percentage of explained variance.

Hunting areas were not included in this individual type regression on labor expense because only one observation used any labor. The levels of 1964 net revenue and total yearly labor expense for this observation were respectively: \$1100 and \$210. Levels of 1964 net revenue for the other three observations are indicated in Appendix C.

Locational Density

The locational density variable, X_4 , was not significantly related to 1964 net revenue in the regression for all observations (table 10). The value of R^2 was only .02 which indicates a random relationship. However, in the multiple regression analysis (table 6), this variable was significantly negative at the .05 level. More confidence would be placed on the multiple regression analysis because it also removes the effects of the other variables. In the single-variable regression, effects of other variables can compound the effect of the tested variable. Upon completion of the multiple regression, it was reasoned that the negative effect might be based upon certain recreational types which were not as dependent on locational density. These types were shooting preserves, vacation farms, hunting areas and camp grounds. Another factor to be considered is the physical characteristics of these enterprises. Location according to physical characteristics may be more important in some cases than location in regard to population centers. Shooting preserves, hunting areas, camp grounds and fishing waters may be valid examples of this consideration. These types of recreation have to be located where physical terrain is complementary to the nature of the proposed activities.

Locational density, X_4 , for shooting preserves was significant at only the .30 level (table 10). However, the value

Table 10. Regression results of locational density, X_4 , on 1964 net revenue

Type of recreation	Number of observations	Value of b	Standard deviation S_b	Value of t	t (.05)	R^2
All observations	31					
Y		1308.90	442.02	2.961	2.045	.02
X_4		-.030	.039	-.782	2.045	
Shooting preserves	4					
Y		4584.60	1691.80	2.709	4.303	.54
X_4		-.114	.074	-1.533	4.303	
Vacation farms	6					
Y		2023.80	1058.00	1.912	2.571	.15
X_4		-.070	.084	-.831	2.571	
Hunting areas	4					
Y		437.50	506.00	.865	4.303	.03
X_4		-.041	.177	-.233	4.303	
Fishing waters	10					
Y		393.00	290.80	1.351	2.306	.10
X_4		-.031	.033	-.937	2.306	
Camp grounds	4					
Y		656.70	599.70	1.095	4.303	.03
X_4		-.050	.224	-.224	4.303	
Riding stables	3					
Y		1018.70	4959.60	.205	12.706	.16
X_4		.252	.572	.440	12.706	

of R^2 was .54 indicating an explanation of 54 percent of the variance in net revenue. The 'b' value was negative which indicates that the enterprises of this type which are more remotely located have a greater net revenue. This relationship may be due to the effects of other factors stated in the previous paragraph.

Variable X_4 for vacation farms, hunting areas, fishing waters and camp grounds was not significant and low values were obtained for R^2 (table 10). The 'b' values for these areas were negative and may be due to the effects of the previously presented factors.

For riding stables, locational density was not significant but did have a positive value. The value of R^2 was only .16 but the data indicates that this recreation type may actually be directly dependent on distance and size of population centers.

Advertising Expense of First Year

First year advertising expense, variable X_5 , was tested on the individual recreation categories. As previously stated, this variable was not originally considered to be important in explaining the variance in 1964 net revenue. However, examination of the correlation matrix indicated a significant relationship so regressions were estimated using this as the independent variable.

For shooting preserves, variable X_5 proved to be significant at the .10 level and the value of R^2 was .88 (table 11). This indicates that first-year advertising expense explains a significant amount of the variance in net revenue for this type of recreation activity. This high correlation may be partially due to the Iowa law that requires shooting preserves to have the entire perimeter of their area posted with signs at frequent intervals. The minimum area for a shooting preserve to be licensed is 320 acres, so the expense of posting is quite high. Another factor which could be involved is that these areas usually rely quite heavily on sports shows for advertising after the initial year of operation.

Variable X_5 for vacation farms was not significant and had an R^2 of only .03 indicating a random relationship. This may be caused by the fact that these types of recreation advertise primarily once a year and usually in only one or two sources, such as a listing of vacation farms published in Chicago. Therefore, each year's advertising expense is approximately the same relatively low-cost outlay.

For fishing waters, variable X_5 was highly significant even at the .001 level. The value of R^2 was .92 indicating that this variable explains a great deal of variance in net revenue for these areas. These enterprises usually use directional signs and then rely on word-of-mouth advertising. This may partially account for the high correlation for, as one operator said, "The news of a good fishing hole gets around".

Table 11. Regression results of first year advertising expense, X_5 , on 1964 net revenue

Type of recreation	Number of observations	Value of b	Standard deviation s_b	Value of t	t(.05)	R^2
Shooting preserves	4					.88
Y		433.50	896.00	.484	4.303	
X_5		9.230	2.369	3.896	4.303	
Vacation farms	6					.03
Y		1661.30	1031.10	1.611	2.571	
X_5		-3.815	10.277	-.371	2.571	
Fishing waters	10					.92
Y		-40.32	61.10	-.660	2.306	
X_5		9.858	1.061	9.286	2.306	
Camp grounds	4					.79
Y		280.00	176.80	1.583	4.303	
X_5		47.720	17.600	2.711	4.303	
Riding stables	3					.84
Y		7227.80	2231.50	3.238	12.706	
X_5		-112.670	48.430	-2.326	12.706	

First year advertising expense for camp grounds was almost significant at the .10 level. The value of R^2 was .79 indicating that this variable was probably important in explaining the variance in net revenue.

Variable X_5 for riding stables was not significant, although the value of R^2 was .84. The "b" value was negative but no confidence could be placed on this fact due to the presence of only three observations.

Case Studies

Due to the fact that some of the recreation types contained only one or two observations, the analysis of these enterprises was not included in the regressions. These data are presented in this section in the form of case studies. Specific characteristics of these areas were discussed with the other enterprises in the second chapter and the preceding portion of this chapter. The complete listing of data is contained in Appendix C to allow individual comparisons with other enterprises.

Field sports areas

These two enterprises are not actually comparable in nature of facilities. The trap shooting enterprise initiated as a project for the participation of the operator and his friends. It was then developed into an enterprise in an attempt to recoup part of the investment. The main operation

is still for personal pleasure so the operator is not attempting to maximize profit, as is illustrated by the comparatively low net revenue of \$200.

The miniature golf and go-cart enterprise is oriented toward profit maximization. The mechanical repairs and maintenance of the facilities are done by the operator and this tends to minimize the investment and operating expenses of the enterprise. The operator said that if he used hired labor for this work, his net revenue would probably be a negative figure. He increased his use of advertising in an attempt to attract customers from a greater distance and reported a small degree of success.

Natural, scenic or historical areas

This enterprise was a cave which relied upon natural and scenic attractions. The present operator purchased the operation in 1960 as part of a farm so his actual investment in the recreation enterprise is relatively small compared to the yearly value of net revenue, illustrated by data in Appendix C.

The advertising expense was of a consistent level and included signs, brochures and mass media. The operator was undecided about increasing this expense which tends to indicate a nearly optimal level and distribution of advertising.

The enterprise was located on a secondary highway near a city of below minimum size. This was a college community so the actual population was increased during most of the year.

Also, this type of locational density may not be truly relevant.

Winter sports areas

This enterprise was a ski slope which was solely dependent on the weather for the length of its operating season. The season was usually only three to five weekends a year and this was insufficient to cover operating costs.

The operator said that a snow-making machine was a necessary investment for economical operation, however, in his case, the rate of customer attendance would not support the investment and operating costs of this equipment. He blamed the low attendance on the lack of a good community attitude toward his enterprise.

Advertising expense was extremely low for each year and this may have enlarged the problem of low customer numbers.

Water sports areas

This enterprise, a marina, started operation in 1963 with Farmers Home Administration and local bank financing. The widely varied facilities included a camp ground and restaurant.

The total investment was higher than for most enterprises, but the enterprise was also intended to produce a sizeable portion of the family income. The low net revenue so far is said to be due to the inexperience of the operators. It is expected to improve as the operators gain this experience, especially in pricing.

Advertising expense has been increased in an effort to attract additional customers. Number of customers has risen but there is no actual proof that the two were related. Advertising expenditures in 1964 were several times larger than first year expenditures.

Golf courses

This 18-hole course started in 1961 and has shown a steady growth. Nine holes were used the first years and the second nine added in 1964.

This enterprise is located within one mile of Des Moines which gives it the highest locational density value. This may explain a portion of the large net revenue.

Investment in facilities is high because of the large land area and extensive improvements required for the 18-hole course.

Advertising was used in the first year and then reliance was placed on word-of-mouth advertising. This seemed to be sufficient, as indicated by the steady increase in net revenue and customer numbers.

Customer Characteristics

Camp grounds

The prevalent type of customers for these enterprises was family groups of mixed ages. These groups were primarily urban residents within the state.

Fishing waters

The predominant customers for these areas were about evenly distributed between male and family groups. The predominant age range was between 21 and 65, although the total range included all ages. The origin of these customers was primarily urban within Iowa. However, some customers are from rural areas and enterprises near the edge of the state draw quite heavily on out-of-state residents.

Hunting areas

Customers of these areas were primarily men between the ages of 36 to 65. They were mostly urban residents of Iowa.

Riding stables

Children between the ages of 10 to 20 were the primary customers of these enterprises. They were mostly from within the state's urban population.

Vacation farms

The customers of these enterprises depend on the type served by the operator. Some operate only for children and others only for families. The children were usually below 15 years of age while parents of family groups ranged between 21 and 50 years. They were mostly urban residents and were about evenly divided between residents of Iowa and other states.

Shooting preserves

The major group of customers were men between the ages

of 21 and 65. They were primarily urban residents equally divided between Iowa and other states.

Field sports areas

Customers of these enterprises varied from mostly men to family groups depending on the actual type of recreation facilities available. The age range also varied between the two enterprises. The customers of the trap shooting enterprise ranged between the ages of 36 to 50 while the miniature golf and go-cart enterprise ranged from 10 to 20 years of age. The customers of both areas were urban and rural Iowa residents.

Natural, scenic, and historical areas

Family groups between the ages of 21 to 35 were the prevalent type of customers. They were mostly rural Iowa residents.

Water sports areas

The customer type was mainly family groups of all ages and were urban Iowa residents.

Winter sports areas

The prevalent customer type was groups of men and families up to age 50 and were mainly urban Iowa residents.

Traits of a Successful Manager

Every operator was asked to indicate his opinion as to the personality traits required of the successful manager of an "ideal" enterprise of the operator's type. Every operator

stated that an ability and interest in meeting and helping people was the most important.

Camp grounds

Operators of this recreation type considered it important that a manager have some knowledge of camping, some other business experience and individual initiative. Less important traits were neat personal appearance and level of education.

Fishing waters

Important traits of fishing water managers were some knowledge of fishing, individual initiative and patience. Characteristics rated of less importance were neat personal appearance, previous business experience and level of education. Age of the manager was not considered important.

Hunting areas

The only characteristics considered very important to a manager of this type were interest and personality. Other traits were not as important but some were considered helpful. Personal appearance was not designated as being of any importance.

Riding stables

Knowledge of horses was deemed an important managerial trait along with previous business experience, individual initiative and an approximate age between 30 to 50 years. One

operator stated that to have teen-age children was almost a necessity because of the great amount of time required for supervision of the enterprise. Personal appearance and education were considered as other important assets.

Vacation farms

For these enterprises, managerial traits considered very important were some knowledge of vacation farms, previous business experience, individual initiative and patience. Other helpful characteristics were neat personal appearance and education. Age of the manager was also an important consideration due to the long working hours during the operating season.

Shooting preserves

Very important considerations for these areas were some knowledge of hunting, previous business experience and individual initiative. Personal appearance, level of education and age could be helpful traits. Older age could be restrictive because of the great quantity of work required, and a young manager might not gain the respect and confidence of the customers.

Field sports areas

Managers of areas of this type felt that major requirements were some knowledge of the recreation type, previous business experience, individual initiative and interest.

Other important characteristics varied with the actual facilities available.

Natural, scenic or historical areas

"Ideal" managers of this recreation type would need some knowledge of the facilities and individual initiative. Some previous business experience would also be helpful. Personal appearance, education and age were not considered important.

Water sports areas

For this type of recreation, an "ideal" manager would need individual initiative and knowledge about the facilities. Other traits could be helpful and older age might become preclusive.

Golf courses

Very important traits of golf course managers would be knowledge of golf, individual initiative and previous business experience. Personal appearance, and education were considered helpful and old age could become preclusive.

Characteristics of a Successful Enterprise

Every operator was also asked to indicate his opinions as to the requirements of an "ideal" enterprise of the same type. All indicated that cleanliness and a neat appearance were especially vital to the success of any recreation enterprise.

Camp grounds

These operators consider it very important to have some unique characteristical attraction, be located on a highway, have good advertising and have an area of at least 20 acres. They also say that a favorable attitude in the nearby community is helpful.

Fishing waters

Advertising, location on a highway, community attitude and having a unique attraction were considered as important attributes of successful enterprise. The minimum acceptable size was between 10 and 40 acres. Operators said that nothing would help without plenty of game-sized fish to be caught.

Hunting areas

Important assets of an "ideal" hunting area were considered to be advertising, a unique attraction and a favorable community attitude. The choices of minimum size of facilities ranged between 20 and 200 acres.

Riding stables

Operators of these enterprises considered it very important to be located within one or two miles of a highway. Other characteristics said to be important were favorable community attitude and a unique attraction. One operator said it was important to have wooded trails which were not located along a public road. The minimum size was considered to be 160 acres with trail access to other areas.

Vacation farms

It was considered very important to have some unique attraction for this recreation type. Other important assets were advertising, location on a highway and a favorable community attitude. The minimum acceptable size was between 100 and 200 acres.

Shooting preserves

Community attitude was stated to be one of the most important considerations of these areas because the hunting area usually extended onto neighboring lands by acquired access. Advertising and good public relations were considered to be other vital assets. It was said that an "ideal" enterprise would have other attractions for out of season activity and have to be located not more than 90 minutes away from a large city. The minimum size for a state license is 320 acres. However, greater size or access is an asset.

Field sports areas

Variation in actual facilities offered would require different characteristics for the enterprise. Having a concession stand, good advertising and a favorable community attitude were considered helpful. The minimal size was about 3 acres.

Natural, scenic or historical areas

Advertising and having a concession stand were stated

to be important attributes of an enterprise of this type.

Water sports areas

Important characteristics of these areas were advertising and another unique attraction. The minimum area for a successful marina was said to be about 10 acres.

Winter sports areas

This was a ski area and the operator considered community attitude, good slopes, advertising and having a snow-making machine as essential to a successful enterprise. An area of 30 acres was considered to be the minimum working size.

Golf courses

Having a concession stand or restaurant and being located on a highway near a large city were the most important assets to an "ideal" golf course. Advertising was also considered important and the minimum size was set at 160 acres and 18-hole.

Competition

Operators of natural, scenic or historical areas, winter sports areas and water sports areas did not feel that they had much competition from other recreation areas for their customers.

Hunting areas, fishing waters, camp grounds and shooting preserves received strong competition from public recreation

areas. State parks and county conservation board areas were the strongest competitors, and operators felt that this competitive area was growing.

Operators of riding stables, golf courses and natural, scenic or historical areas felt that they received competition from other types of recreation areas - both public and private.

Future Intentions and "Different Procedures if Starting Over"

Most operators intend to expand the facilities of their enterprises except where they are already limited by the availability of land. Operators of fishing waters, shooting preserves, water sports areas and golf courses all tend toward expansion of their enterprises. These intended expansions are usually in the form of an increase in the variety of facilities rather than the size of existing ones. Operators of natural, scenic or historical areas, field sports areas, riding stables and hunting areas usually intended no change in their existing facilities. Vacation farm and camp ground operators had varied intentions between expansion and no change. The operator of the winter sports area was reducing the size of his operation because it was too dependent on the weather and the enterprise would not support a snow-making machine.

A few operators indicated that they would not enter the recreation business if they were considering starting over. Others indicated that they would consider other variables

before making any decision and some stated that they would pick a different location.

Major Problems

The largest single problem indicated by every type of operator was the high cost and the difficulty in obtaining liability insurance. Many enterprises operated without this coverage and the yearly cost of adequate insurance would have been greater than their net revenue. Other problems were minor complaints such as having a few inconsiderate customers, problems in obtaining qualified hired labor and some resentment to paying a fee for recreation.

CONCLUSIONS

Summary

The objectives of this study of farmer owned and operated recreation enterprises in Iowa were: (1) to determine the success and failure elements of these enterprises, something of the magnitude of these elements, and (2) to provide a basis for suggesting more detailed research in the field of outdoor recreation. Underlying the objective was a need to learn something of the role farmer owned and operated recreation areas might play in removing excess land and labor resources from agriculture.

Examination of available literature showed one limited survey which provided an estimate of the number of such enterprises and the various types of facilities provided. Thru cooperation with the Iowa Farmers Home Administration, a mail survey of that agency's area representatives indicated 45 farmer-owned and operated income producing recreation enterprises in the state which had been in operation for one complete season or longer. A personal interview with each operator was conducted and 37 usable observations were obtained.

The results of these interviews showed a wide variation in the type of facilities offered by the various recreation areas. There was also a great range in facilities of enterprises within recreation types. The fees charged by these

enterprises were quite comparable over the state and also with other regions of the United States. Average yearly number of customers varied widely. Weekly labor requirements were relatively greater for certain types of recreation while others varied in intensiveness between seasons.

The range of operating expenses varied between recreation types depending chiefly on size and amount of facilities.

Some of the recreation types had only one or two observations which made statistical analysis impossible. Multiple regression analysis was used to test correlation between 1964 net revenue and 1964 advertising expense, total investment thru 1964, locational density and total yearly labor expense. Single variable regressions were used to examine these effects by recreation type. These analyses were tested on the individual types due to the wide variation in characteristics between the different types. Examination of the correlation matrix of the multiple regression indicated a significant relationship between 1964 net revenue and first year advertising so this variable was also tested on the recreation types.

In the multiple regression, all independent variables were significant at the .05 level. The "b" values for locational density and 1964 advertising expense were negative, indicating an inverse relationship.

Total investment thru 1964 was significant at .25 level for camp grounds and at .20 level for hunting areas and shooting preserves. It was not significant for vacation farms or

fishing waters.

Advertising expense in 1964 was not significantly related to 1964 net revenue of shooting preserves, vacation farms, fishing waters and riding stables. This variable was positively significant at the .20 level for camp grounds.

Total yearly labor expense was not significantly correlated to 1964 net revenue for shooting preserves, vacation farms, fishing waters and camp grounds. This variable approached significance for riding stables even with only one degree of freedom.

Locational density for vacation farms, hunting areas, fishing waters and camp grounds was not significant. This variable was not significant for riding stables but did have a positive value. For shooting preserves the variable was negatively significant at .30 level, indicating that remoteness is an asset to this type of recreation. This recreation type draws customers from the larger urban centers and these people may be attracted to a more remote location for its aesthetic value.

First year advertising expense was significant at the .10 level for shooting preserves and camp grounds and at the .001 level for fishing waters. This indicates that initial advertising is an important consideration to these recreation types. This variable was not significant for vacation farms or riding stables.

Success traits of a good manager were indicated by each

operator and the most important was an ability and interest in meeting and helping people. Other important traits were knowledge of the recreation type, individual initiative, interest, previous business experience and patience. Operators of some recreation types considered it important that a manager have a neat personal appearance and an adequate level of education. Older age could become preclusive to a manager of a few recreation enterprises.

Success characteristics of an "ideal" enterprise were also indicated by each operator. The most important was a clean and neat appearance of the facilities. For many types, operators indicated importance in having a unique characteristic attraction, advertising, favorable community attitude and location near a highway.

Answers to questions on future intentions and "different procedures if starting over" indicated a feeling of optimism toward the future of these enterprises. Most operators were intending to expand their operations by adding other types of facilities.

An inventory of customer characteristics was compiled in an attempt to delineate the demand population for each type of enterprise. This would be of value in choosing samples for a study on demand for recreation within the state. These characteristics were classified according to age, sex, family unit and residence. Most recreation types reported a dominance of urban Iowa customers. The age, sex and family unit usually

varied according to the recreation type and facilities available. Vacation farms and enterprises along the state border reported a prominence of out-of-state customers.

The major problems of these enterprises were examined in order to see if any problem was worthy of further study. Most enterprises reported a difficulty in obtaining and a high cost of liability insurance.

State and county public recreation areas were reported as the major competition to the farmer owned and operated enterprises. This tends to indicate a competitive effect of government aid to outdoor recreation.

The analysis of these recreation enterprises did not indicate any immediate withdrawal of a significant amount of agricultural resources. However, these enterprises seem ideally suited to the characteristics of marginal lands. The labor, capital and some of the land contained in these recreational facilities would have been used for agricultural production had it not been for the recreation enterprise. Most operators expressed an intention to expand facilities and an optimistic outlook for the future. This indicates a need for more study in the areas of demand, liability, economic impact of consumption and competition of supply in order to assist these and future operators to make the best possible decisions in regard to their operation.

Recommendations

This last section of this study is devoted to the introduction of areas for further study in recreation. The need for these studies was illustrated in the results of this survey and in the references. The recommended areas of study are demand, liability, economic impact and competition in supply.

Demand

This area needs analysis to determine actual demand schedules for indication of the potential magnitude of business to a recreation type. Two approaches lend themselves to a study of demand characteristics.

The first is a user sample approach. This would be a survey of the actual users at a recreation site. This type of approach would lend itself to determining the actual origin and type of customer and obtaining reliable information about the preferences of recreation customers.

The second approach would be a population sample. The size of the population for sampling would probably be dependent upon time and funds available but possibilities would range from a city population to a regional or national basis. A study based on this approach would allow projection for the total population of such things as type and interval of participation and the percentage of the population actively participating.

Both of these approaches could collect data for determining demand schedules. To obtain the most detailed information, this data would have to be classified by various methods. It should be examined for each type of recreation and classified according to age, sex, level of education, origin, income level, occupation and possibly other characteristics such as race. The derivation of demand schedules would require either sampling at similar recreation types of different entrance fees or else asking customers about their actions at the same enterprise at different fees. Possibly both of these methods could be used and compared.

This study attempted to delineate the demand population for each type of recreation enterprise in Iowa. Samples based on this information would probably contain a higher percentage of active participants than a completely random sample. This could eliminate a great deal of unsuccessful interviews but would limit the projections to the sample limitations. Perhaps smaller samples of populations outside the main restrictions could be used without much loss of significance for overall projections or schedules.

Liability

A definite need for a study in the areas of liability and insurance was illustrated in the results of this study. Difficulty in obtaining adequate liability insurance or its great cost was usually stated as one of the major problems of most

enterprises.

Detailed analysis of the present liability laws and their effect on recreation enterprises should be initiated. Then determination should be made as to what the laws should be in order to serve their purpose to society and the individual. The next step would be proposals of change in the existing laws to fit this end.

Another portion of a liability study should include analysis of insurance companies as to their basis and requirements for coverage and costs. Other possibilities for coverage such as organizing a regional mutual company, organization on a principle such as workmans' compensation or organization of a government supported company should also be examined and considered. Obtaining limited liability by incorporation should also be considered.

Economic impact

A study in this area could illustrate the actual impact of recreation customers on the economy of the community. This would probably have to be based on a relatively small community. Many operators consider community attitude as being important to the success of their enterprises. Analysis on economic impact could create a more favorable attitude toward these recreation enterprises.

The approach to this study could be aimed at sampling actual customers of nearby enterprises and obtaining data on

expenditures made in the community area. This data would have to be collected on the amount spent, its locational breakdown and the type of commodities obtained. This would give other businessmen in the community an approximate effect that recreation customers would have on the different types of businesses. If this effect was a favorable increase in sales, community attitude toward recreation enterprises would probably improve.

Competition

Analysis of competition could be contained in a study on the supply of recreation facilities. Various levels of government are assisting the increase of private and public recreation facilities, which tend to compete between themselves. This study on supply of facilities and their interrelationships could lead to some useful proposals for changes in government assistance to the recreation field.

BIBLIOGRAPHY

1. Anderson, M. A. Outdoor recreation and resource development conference. Unpublished paper presented at the Outdoor Recreation and Resource Development Conf., Ames, Iowa, Sept., 1965. Mimeo. Ames, Iowa, College of Agriculture, Iowa State University of Science and Technology, ca. 1965.
2. Bird, Ronald. Income potential farm recreational enterprises in Missouri. Mo. Agr. Expt. Sta. Bul. 783. 1963.
3. Bird, Ronald and Miller, Frank. Contributions of tourist trade to incomes of people in Missouri Ozarks. Mo. Agr. Expt. Sta. Res. Bul. 799. March, 1962.
4. Bird, Ronald and Miller, Frank. Where Ozark tourists come from and their impact on local economy. Mo. Agr. Expt. Sta. Res. Bul. 789. March, 1962.
5. Bull, Al. The private role in outdoor recreation. N. Am. Wildlife and Natural Resources Conf. Trans. 24: 52-59. 1962.
6. Bultena, Gordon, Lucas, Robert and Hathaway, William. Recreation in the upper great lakes area: summary of social research. Mimeo. Minneapolis, Minn., Univ. of Minn. ca. 1961.
7. Cain, Stanley. Hunting in the United States its present and future role. Outdoor Recreation Resources Rev. Comm. Rpt. 6. 1962.
8. Churchill, Betty C. and others. Prospective demand for outdoor recreation. Outdoor Recreation Resources Rev. Comm. Rpt. 26. 1962.
9. Citizens Committee for the Outdoor Recreation Resources Review Commission. Action for outdoor recreation for America. Washington, D. C., Author. 1963.
10. Clawson, Marion. How much leisure now and in the future. Resources for the Future, Inc. (Washington, D.C.) Reprint 45. May, 1964.
11. Clawson, Marion. Issues of public policy in outdoor recreation. Unpublished paper presented at the Western Resources Conf., Boulder, Colo., July, 1964. Mimeo. Washington, D.C., Resources for the Future, Inc. ca. 1964.

12. Clawson, Marion. Land and water for recreation. Chicago, Ill., Rand McNally and Co. 1963.
13. Clawson, Marion. Methods of measuring the demand for and value of outdoor recreation. Resources for the Future, Inc. (Washington, D.C.) Reprint 10. Feb., 1959.
14. Clawson, Marion. The crisis in outdoor recreation. Resources for the Future, Inc. (Washington, D.C.) Reprint 13. March, 1959.
15. Clawson, Marion and Held, R. Burnell. Demand for rural resources in the context of long-range national needs. Resources for the Future, Inc. (Washington, D.C.) Reprint 44. Dec., 1963.
16. Clawson, Marion and Knetsch, Jack L. Outdoor recreation research: some concepts and suggested areas of study. Resources for the Future, Inc. (Washington, D.C.) Reprint 43. Nov., 1963.
17. Clawson, Marion and others. Economic studies of outdoor recreation. Outdoor Recreation Resources Rev. Comm. Rpt. 24. 1962.
18. Crews, James Frank and Bird, Ronald. Liability risks in operating a farm recreational enterprise in Missouri. Mo. Agr. Expt. Sta. Bul. 801. July, 1963.
19. Davis, Jeanne M. Farm vacation enterprises in Ohio. U.S. Dept. Agr. (Pub.) ERS-164. May, 1964.
20. Davis, Jeanne M. New England farm vacation businesses. U.S. Dept. Agr. (Pub.) ERS-60. Oct., 1964.
21. Dixon, Wilfrid J. and Massey, Frank J., Jr. Introduction to statistical analysis. 2nd ed. New York, N.Y., McGraw-Hill Co., Inc. c1957.
22. Dubester, Henry J. Outdoor recreation literature: a survey. Outdoor Recreation Resources Rev. Comm. Rpt. 27. 1962.
23. Ferriss, Abbott L. and others. National recreation survey. Outdoor Recreation Resources Rev. Comm. Rpt. 19. 1962.
24. Fine, I. V. and Werner, E. E. The tourist-vacation industry in Wisconsin. Madison, Wisc., Wisc. Dept. of Resource Development. 1961.

25. Fisher, Sherry. The need for recreation facilities. Unpublished paper presented at the Outdoor Recreation and Resource Development Conf., Ames, Iowa, Sept., 1965. Mimeo. Ames, Iowa, College of Agriculture, Iowa State University of Science and Technology. ca. 1965.
26. Foss, Phillip O. Federal agencies and outdoor recreation. Outdoor Recreation Resources Rev. Comm. Rpt. 13. 1962.
27. Frank, Lawrence K. and others. Trends in American living and outdoor recreation. Outdoor Recreation Resources Rev. Comm. Rpt. 22. 1962.
28. Gillian, James P. Wilderness and recreation: a report on resources, values, and problems. Outdoor Recreation Resources Rev. Comm. Rpt. 3. 1962.
29. Gray, James R. and Anderson, L. Wayne. Recreation economics in south-central New Mexico. N.M. Agr. Expt. Sta. Bul. 488. May, 1964.
30. Green, Bernal L. Summaries of selected publications on rural outdoor recreation. U.S. Dept. Agr. (Pub.) ERS-190. Nov., 1964.
31. Hamilton, George D. Accomplishments of an Iowa county. Unpublished paper presented at the Outdoor Recreation and Resource Development Conf., Ames, Iowa, Sept., 1965. Mimeo. Ames, Iowa, College of Agriculture, Iowa State University of Science and Technology. ca. 1965.
32. Harol, Neil E. Country conservation boards in Iowa. Unpublished paper presented at the Outdoor Recreation and Resource Development Conf., Ames, Iowa, Sept., 1965. Mimeo. Ames, Iowa, College of Agriculture, Iowa State University of Science and Technology. Sept., 1965.
33. Hewes, Laurence I., Jr. The future of outdoor recreation in metropolitan regions of the United States. Outdoor Recreation Resources Rev. Comm. Rpt. 21. 1962.
34. Holmes, John. Our experience with the vacation farm. Iowa Economic Development Conf. Proc. 3: 10-11. Sept., 1964.
35. Holmes, O. Wendell, Jr. Private outdoor recreation facilities in rural areas of western Oregon. Ore. Agr. Expt. Sta. Spec. Rpt. 173. April, 1964.

36. International Paper Company. Multiple use of the forests. New York, N.Y., author. 1961.
37. Johnson, Hugh A. Outdoor recreation and resource conservation. J. of Soil and Water Conservation 18, No. 2: 45-48. March-April, 1963.
38. Johnson, Hugh A. Private enterprise in the development of outdoor recreation. Unpublished paper presented at Western Farm Economics Assoc., Reno, Nev., Aug., 1962. Mimeo. Washington, D.C., Econ. Res. Serv., U.S. Dept. Agr. ca. 1962.
39. Johnson, Hugh A. Rural residential recreation subdivisions. U.S. Dept. Agr. Econ. Rpt. 59. Aug., 1964.
40. Johnson, Hugh A. The role of recreation enterprises in rural areas. Unpublished paper presented to graduate seminar on The Outdoor Recreation Phenomenon, Cornell Univ., Ithaca, N.Y., April, 1964. Washington, D.C., Econ. Res. Serv., U.S. Dept. Agr. ca. 1964.
41. Johnson, Hugh A. and Davis, Jeanne M. Private outdoor recreation facilities. Outdoor Recreation Resources Rev. Comm. Rpt. 11. 1962.
42. Johnson, Hugh A. and others. Potential new sites for outdoor recreation in the Northeast. Outdoor Recreation Resources Rev. Comm. Rpt. 8. 1962.
43. Jordan, Max F. Opportunities for improving rural-family income through recreation enterprises. Ark. Agr. Expt. Sta. Bul. 673. June, 1963.
44. Kimberley, Harold S. Out experience with commercial campsites. Iowa Economic Development Conf. Proc. 3: 12-13. Sept., 1964.
45. Knetsch, Jack L. Economics of including recreation as a purpose of water resources projects. Resources for the Future, Inc. (Washington, D.C.) Reprint 50. Jan., 1965.
46. Knetsch, Jack L. Potentials of water based recreation. Unpublished paper presented at Conf. on Water Resources and Econ. Development in the South, Atlanta, Ga., March, 1965. Mimeo. Washington, D.C., Resources for the Future, Inc. ca. 1965.
47. Knetsch, Jack L. Problems of appraising recreation demand. Unpublished paper presented at Water Resources Comm. of Western Agr. Econ. Res. Council meeting, Dec.,

1964. Mimeo. Washington, D.C., Resources for the Future, Inc. ca. 1964.
48. Knetsch, Jack L. The influence of reservoir projects on land values. J. of Farm Econ. 46: 231-243. Feb., 1964.
 49. Lane, Richard D. Private recreation enterprises: pie in the sky. Unpublished paper presented at Soil Cons. Soc. of Am. 19th annual meeting, Jackson, Miss., Aug., 1964. Mimeo. Columbus, Ohio, Central States Forest Expt. Sta. ca. 1964.
 50. Lerner, Lionel J. The demand-value structure of recreation. Unpublished paper presented at Western Res. Conf., Boulder, Colo., July, 1964. Mimeo. Sacramento, Calif., The Res. Agency of Calif. ca. 1964.
 51. Lucas, Robert C. User concepts of wilderness and their implications for resource management. Unpublished paper presented at Western Res. Conf., Boulder, Colo., July, 1964. Mimeo. St. Paul, Minn., Lake States Forest Expt. Sta. ca. 1964.
 52. Monthey, L. G. Wisconsin's recreation industry-its role in our economy. Mimeo. Madison, Wisc., Commerce Dept., Univ. of Wisc. 1961.
 53. Mood, Alexander McFarlane. Introduction to the theory of statistics. New York, N.Y., McGraw-Hill Book Co., Inc. 1950.
 54. Moore, Elmer J. Rural recreation enterprises in New England. U.S. Dept. Agr. Econ. Res. Rpt. 56. May, 1964.
 55. Moore, Elmer J. and others. Public expenditures for outdoor recreation. Outdoor Recreation Resources Rev. Comm. Rpt. 25. 1962.
 56. Mueller, Eva and Gurin, Gerald. Participation in outdoor recreation: factors affecting demand among American adults. Outdoor Recreation Resources Rev. Comm. Rpt. 20. 1962.
 57. Munson, Karl F. Income-producing opportunities in recreation. Unpublished paper presented at 43rd annual Agr. Outlook Conf., Washington, D.C., Nov., 1965. Mimeo. Washington, D.C., U.S. Fed. Ext. Serv. ca. 1965.
 58. Munson, Karl F. Land and water conservation fund under Public Law 88-578. Unpublished paper presented at Outdoor Recreation and Resource Development Conf., Ames,

- Iowa, Sept., 1965. Mimeo. Washington, D.C., U.S. Fed. Ext. Serv. ca. 1965.
59. McCurdy, Dwight R. Making woodland recreation pay. Unpublished paper presented at Soc. of Am. Foresters meeting, Denver, Colo., Sept., 1964. Mimeo. Columbus, Ohio, Central States Forest Expt. Sta. ca. 1964.
 60. McCurdy, Dwight R. and Mischon, Raymond. Outdoor recreation and Ohio bankers. Ohio Banker 57, No. 11: 8-9. Jan., 1965.
 61. McElveen, Jackson V. Farm outdoor recreation enterprises in South Carolina. S.C. Agr. Expt. Sta. (Pub.) AE-263. Aug., 1964.
 62. McNurlen, Keith. The layman and his responsibility. Unpublished paper presented at Outdoor Recreation and Resource Development Conf., Ames, Iowa, Sept., 1965. Mimeo. Ames, Iowa, College of Agriculture, Iowa State University of Science and Technology. ca. 1965.
 63. National Planning Association. Financing public recreation facilities. Outdoor Recreation Resources Rev. Comm. Rpt. 12. 1962.
 64. Ogg, Wallace E. Outdoor recreation and resource development budgeting and tax levy. Unpublished paper presented at Outdoor Recreation and Resource Development Conf., Ames, Iowa, Sept., 1965. Mimeo. Ames, Iowa, College of Agriculture, Iowa State University of Science and Technology. ca. 1965.
 65. Ohio Resource Development (RAD) Committee. Bibliography of outdoor recreation in Ohio. Mimeo. Columbus, Ohio, author. ca. 1964.
 66. Outdoor Recreation Resources Review Commission. Outdoor recreation for America. U.S. Govt. Printing Office. 1962.
 67. Outdoor Recreation Resources Review Commission. Proceedings of the third joint meeting with its advisory council. July-Aug., 1960.
 68. Outdoor Recreation Resources Review Commission. Progress report. Washington, D.C. Jan., 1961.
 69. Outdoor Recreation Resources Review Commission. Projections to the years 1976 to 2000: economic growth,

population, labor force and leisure, and transportation. Outdoor Resources Rev. Comm. Rpt. 23. 1962.

70. Owens, Gerald Phillip. Factors affecting demand for outdoor recreation. Unpublished abstract of Ph.D. thesis. Columbus, Ohio, Library, Ohio State University. 1965.
71. Owens, Gerald Phillip. Income potential from outdoor recreation enterprises in rural areas in Ohio. Ohio Agr. Expt. Sta. Bul. 964. Feb., 1964.
72. Owens, Gerald Phillip. Nature of investment expense and income of successful outdoor recreation enterprises in Ohio. Ohio Agr. Expt. Sta. (Pub.) AE-372. Jan., 1965.
73. Parks, Burl A. The selection and development of recreation sites. Unpublished paper presented at Outdoor Recreation Resource Development Conf., Ames, Iowa, Sept., 1965. Mimeo. Ames, Iowa, College of Agriculture, Iowa State University of Science and Technology. ca. 1965.
74. Randall, C. Kyle and Masucci, Robert H. Farm-nonfarm income comparisons. J. of Farm Econ. 45: 359-377. May, 1963.
75. Reid, Leslie M. and Barlowe, Raleigh. The quality of outdoor recreation as evidenced by user satisfaction. Outdoor Recreation Resources Rev. Comm. Rpt. 5. 1962.
76. Saupe, William E. Efficient Organization of the farm industry in the north central region of the United States in 1980. Unpublished Ph.D. thesis. Ames, Iowa, Library, Iowa State University of Science and Technology. 1965.
77. Shanklin, John F. Federal assistance in outdoor recreation. J. of Soil and Water Conservation 18, No. 2: 57-60. March-April, 1963.
78. Shanklin, John F. Multiple use of land and water areas. Outdoor Recreation Resources Rev. Comm. Rpt. 17. 1962.
79. Stoltenberg, Carl. Determining needs for local areas. Unpublished paper presented at Outdoor Recreation and Resource Development Conf., Ames, Iowa, Sept., 1965. Mimeo. Ames, Iowa, College of Agriculture, Iowa State University of Science and Technology. ca. 1965.
80. Task Force on Income-Producing Recreation Enterprises on Farm Land. Rural recreation, a new family-farm business. Washington, D.C., U.S. Govt. Printing Office. Sept., 1962.

81. Tharp, Max M. Economic considerations in establishing outdoor recreation enterprises. Unpublished paper presented at Am. Camping Assoc. 28th annual Conv., Pittsburgh, Pa., March, 1964. Mimeo. Washington, D.C., Econ. Res. Serv., U.S. Dept. Agr. ca. 1964.
82. Tharp, Max M. How farm recreation fits into farm business. Unpublished paper presented at Farm Recreation Business Seminar, Urbana, Ill., April, 1965. Mimeo. Washington, D.C., Econ. Res. Serv., U.S. Dept. Agr. ca. 1965.
83. Tharp, Max M. Mobility and outdoor recreation. Unpublished paper presented at Assoc. of Am. Geog., Mid-Atlantic Div. meeting, Washington, D.C., Jan., 1965. Mimeo. Washington, D.C., Econ. Res. Serv., U.S. Dept. Agr. ca. 1965.
84. Tharp, Max M. Qualifications of the successful owner-operator of a commercial outdoor recreation enterprise. Unpublished paper presented at Va. Outdoor Recreation Symposium, Blackburg, Va., Feb., 1964. Mimeo. Washington, D.C., Agr., Econ. Res. Serv., U.S. Dept. ca. 1964.
85. Tharp, Max M. The recreation potential of the South. Unpublished paper presented at Assoc. of Southern Agr. Workers, Memphis, Tenn., Feb., 1963. Mimeo. Washington, D.C., Econ. Res. Serv., U.S. Dept. Agr. ca. 1963.
86. Tharp, Max M. The role of recreation in solving leisure-work problems. Unpublished paper presented at Assoc. of Southern Agr. Workers, Dallas, Texas, Feb., 1965. Mimeo. Washington, D.C., Econ. Res. Serv., U.S. Dept. Agr. ca. 1965.
87. Tharp, Max M. and others. List of public outdoor recreation areas--1960. Outdoor Recreation Resources Rev. Comm. Rpt. 2. 1962.
88. Tharp, Max M. and others. Public outdoor recreation areas--acreage, use, potential. Outdoor Recreation Resources Rev. Comm. Rpt. 1. 1962.
89. Timmons, John F. Land and water resource policy. J. of Farm Econ. 45: 95-108. Feb., 1963.
90. U.S. Bureau of Outdoor Recreation. The land and water conservation fund program. Washington, D.C., U.S. Dept. of Int. Oct., 1964.

91. U.S. Bureau of Sport Fisheries and Wildlife. Sport fishing: today and tomorrow. Outdoor Recreation Resources Rev. Comm. Rpt. 7. 1962.
92. U.S. Chamber of Commerce. Conservation and use of natural resources: policy declaration, 1961-1962. Washington, D.C., author. ca. 1961.
93. U.S. Department of Agriculture. Conservation of natural resources on privately-owned land. Washington, D.C., U.S. Govt. Printing Office. May, 1962.
94. U.S. Department of Agriculture. Land and water resources: a policy guide. Washington, D.C., U.S. Govt. Printing Office. Sept., 1962.
95. U.S. Department of Agriculture. Markets unlimited: outdoor recreation, a major product of American farms. Washington, D.C., U.S. Govt. Printing Office. March, 1962.
96. U.S. Department of Agriculture. Rural areas development handbook. U.S. Dept. Agr. Handbook 245. June, 1963.
97. U.S. Department of Agriculture. Rural recreation. U.S. Dept. Agr. Misc. Pub. 930. June, 1963.
98. U.S. Department of Agriculture. Rural recreation enterprises for profit. U.S. Dept. Agr. Info. Bul. 277. Oct., 1963.
99. U.S. Department of Agriculture. Outdoor recreation on the Nation's farmland. U.S. Dept. Agr. Picture Story 140. ca. 1959.
100. U.S. Department of Agriculture. Outdoor recreation: opportunity for farm and city. Washington, D.C., White House Conf. on Conservation. May, 1962.
101. U.S. Department of Agriculture. The role of the Department of Agriculture in accelerating rural outdoor recreation on public and private lands. Washington, D.C., U.S. Govt. Printing Office. 1964.
102. U.S. Department of Interior. Bureau of outdoor recreation manual. Rev. ed. Chaps. 9-10. Original not available; reprinted in U.S. Dept. of Int. Release 241-2. March, 1965.
103. U.S. Department of Labor. Manpower report of the President. Washington, D.C., U.S. Govt. Printing Office. March, 1965.

104. U.S. Economic Research Service. Farm Cost Situation FCS-14. Nov, 1965.
105. U.S. Economic Research Service. The hired farm working force of 1964. U.S. Dept. Agr. Econ. Rpt. 82. Aug., 1965.
106. U.S. Farmers Home Administration. Loans to family farmers for recreation enterprises. U.S. Dept. Agr. Pam. 563. June, 1963.
107. U.S. Federal Extension Service. Guide for assessing recreation possibilities on private land. U.S. Dept. Agr. (Pub.) PA-642. ca. 1961.
108. U.S. Forest Service. Forest recreation for profit. U.S. Dept. Agr. Info. Bul. 265. 1963.
109. U.S. Forest Service. The American outdoors, management for beauty and use. U.S. Dept. Agr. Misc. Pub. 1000. May, 1965.
110. U.S. Geological Survey. Water for recreation: values and opportunities. Outdoor Recreation Resources Rev. Comm. Rpt. 10. 1962.
111. University of Illinois. Land use controls. Ill. Agr. Expt. Sta. Special Pub. 7. Nov., 1963.
112. Vollmar, Glen J. Budgeting farm and ranch recreation enterprises. U.S. Dept. Agr. (Pub.) ESC-559. Nov., 1964.
113. Wagar, J. Alan. Management of multiple use resources for recreation. Unpublished paper presented at Western Res. Conf., Boulder, Colo., July, 1964. Mimeo. Logan, Utah, Intermountain Forest and Range Expt. Sta. ca. 1964.
114. Whyte, William H. Open space action. Outdoor Recreation Resources Rev. Comm. Rpt. 15. 1962.

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APPENDIX A

Iowa Agricultural and Home Economics Experiment Station
Iowa State University, Ames, Iowa
Research Project 1094
RECREATIONAL USES OF AGRICULTURAL LAND RESOURCES

FF1
4-10-65

A. NAME OF OPERATOR: (please print) _____

B. ADDRESS: _____ C. COUNTY: _____

D. TYPE OF RECREATION: (check those which apply)

1. Fishing _____ 2. Boating _____ 3. Swimming _____ 4. Water Skiing _____ 5. Golf _____
6. Skiing _____ 7. Hiking _____ 8. Horse Riding _____ 9. Camping _____ 10. Marina _____
11. Farm Vacation _____ 12. Picnicking _____ 13. Hunting _____ 14. Shooting Range _____
15. Other (please specify) _____

E. CHARACTERISTICS OF RECREATION ENTERPRISE:

1. Operated in addition to farming (a) Yes _____
(b) No _____
2. (a) Outdoor _____ (b) Indoor _____
3. Income Producing (a) Yes _____
(b) No _____
4. (a) Privately Owned _____ (b) Publically Owned _____
5. (a) Privately Managed _____ (b) Managed by Public Employee _____
6. (a) Managed by Farm Operator _____ (b) Owned by Farm Operator _____
7. Open to Public (a) At a Fee _____
(b) Membership only _____
(c) Free _____
(d) Not Open to Public _____
8. Length of time in Existence (a) One complete season _____
(b) Less than one year _____
(c) More than one year _____

F. REMARKS: _____

Please return the completed form to: Mr. Leonard Bull
Department of Economics
East Hall
Iowa State University
Ames, Iowa 50010

APPENDIX B

Iowa Agricultural and Home Economics Experiment Station
 Iowa State University, Ames, Iowa
 Research Project 1043
 RECREATIONAL USES OF AGRICULTURAL LAND RESOURCES

FF2

1. NAME: _____

2. ADDRESS: Post Office: _____ RFD or Street: _____

County: _____ Telephone: _____

3. TYPE OF RECREATION:

- | | |
|----------------------------|---|
| a. Camp grounds _____ | f. Winter sports area _____ |
| b. Fishing waters _____ | g. Vacation farm _____ |
| c. Water sports area _____ | h. Field sports area _____ |
| d. Hunting area _____ | i. Natural, scenic, or historical _____ |
| e. Riding stable _____ | j. Golf course _____ |

4. LIST ALL CITIES OF 10,000 OR MORE POPULATION WITHIN 30 MILES AND DISTANCE TO EACH:

- | | |
|---------------|----------------------------|
| a. City _____ | b. Distance in miles _____ |
| _____ | _____ |
| _____ | _____ |

5. OPERATING SEASON: From _____ thru _____

6. SERVICES PROVIDED AND FEES: Fee and basis

- | | |
|--------------------------------------|-------|
| a. Camping space (trailer) _____ | _____ |
| b. Camping space (tent) _____ | _____ |
| c. Electrical hookup _____ | _____ |
| d. Firewood _____ | _____ |
| e. Water hookup _____ | _____ |
| f. Sewage Hookup _____ | _____ |
| g. Concession stand _____ | _____ |
| h. Fishing privilege _____ | _____ |
| i. Fishing equipment _____ | _____ |
| j. Bait _____ | _____ |
| k. Cleaning and packaging fish _____ | _____ |
| l. Guide service _____ | _____ |

6. SERVICES PROVIDED AND FEES: (continued)Fee and basis

m. Boats _____	_____
n. Motors (and other equip) _____	_____
o. Water skis _____	_____
p. Boat storage and service _____	_____
q. Motor service _____	_____
r. Gasoline and service _____	_____
s. Other water sports equipment _____	_____
t. Hunting privilege _____	_____
u. Dogs _____	_____
v. Game cleaning, packaging _____	_____
w. Ammunition _____	_____
x. Riding privilege _____	_____
y. Riding instruction _____	_____
z. Boarding _____	_____
aa. Skating privilege _____	_____
bb. Skiing privilege _____	_____
cc. Sledding & tobogganing _____	_____
dd. Ski instruction _____	_____
ee. Equipment rental _____	_____
ff. Equipment sales and repair _____	_____
gg. Ski tow _____	_____
hh. Lodging _____	per day _____
	per week _____
ii. Meals _____	_____
jj. Farm vacation privilege _____	_____
kk. Golfing privilege _____	_____
ll. Golf instruction _____	_____
mm. Other entrance fees _____	_____
nn. Other (SPECIFY) _____	_____

7. CUSTOMERS:

a. Number per year.

1st year _____

Date _____

1960 _____

1961 _____

1962 _____

1963 _____

1964 _____

b. Type of group.

Check all
that applyCheck one
most prevalent

family _____

men _____

women _____

mixed _____

children _____

c. Age group.

below 10 years _____

10 thru 15 _____

16 thru 20 _____

21 thru 35 _____

36 thru 50 _____

51 thru 65 _____

over 65 _____

All ages _____

d. Origin.

urban _____

rural _____

local _____

out of state _____

8. LABOR:

a. Family.

Operator & wife.

hours per week (in season) Service _____

(off season) Maintenance _____

Children.

hours per week _____

time period from _____ thru _____

pay (total) _____

unpaid _____

b. Hired.

number of people _____

time period from _____ thru _____

hours per week _____

pay (total) _____

9. ADVERTISING:

a. Signs.

total expenditure 1st year _____ estimated life _____

total expenditure 1964 _____

total expenditure other years _____

b. Brochures.

value used 1st year _____

value used 1964 _____

c. Radio, newspaper, other mass media.

value used 1st year _____

value used 1964 _____

9. ADVERTISING: (continued)

d. Other (SPECIFY)

value used 1st year _____

value used 1964 _____

e. Do you plan to increase your use of advertising in the future?

yes _____ no _____ undecided _____

f. Toward whom is your advertising directed?

residents within 30 miles _____

larger urban centers more than 30 miles distant _____

transients _____

other (SPECIFY) _____

10. OPERATING EXPENSES: (NOT CAPITAL ADDITIONS)

a. total 1st year _____

b. total 1964 _____

c. average _____

11. GROSS INVESTMENTS:

	<u>1st year</u>	<u>date</u>	<u>Total to date</u>				
			1960	1961	1962	1963	1964
a. Land (acres)	_____	_____	_____	_____	_____	_____	_____
b. Capital	_____	_____	_____	_____	_____	_____	_____
c. Labor (capital)	_____	_____	_____	_____	_____	_____	_____

12. CAPITAL INVESTMENT BY FACILITIES: (TOTAL TO 1964)

a. Pond or lake	_____
b. Electrical system	_____
c. Water system	_____
d. Sewage disposal	_____
e. Concession stand	_____
f. Boats	_____

12. CAPITAL INVESTMENT BY FACILITIES: (continued) (TOTAL TO 1964)

- g. Motors _____
- h. Horses _____
- i. Land preparation _____
- j. Ski tow _____
- k. Snow machine _____
- l. New buildings _____
- m. Remodel buildings _____
- n. Other equipment for rental _____
- o. Swimming beach _____
- p. Advertising _____
- q. Beautifying landscape _____
- r. Other (SPECIFY) _____

13. CREDIT:

- a. Amount _____
- b. Source ASC _____
 FHA _____
 Bank _____
 Insurance Co. _____
 Other (SPECIFY) _____
- c. Interest rate _____%
- d. Term _____

14. REVENUE:

- a. Gross. 1st year \$ _____ date _____
- 1960 \$ _____
- 1961 \$ _____
- 1962 \$ _____
- 1963 \$ _____
- 1964 \$ _____

4. REVENUE: (continued)

b. Net.

1st year	\$ _____
1960	\$ _____
1961	\$ _____
1962	\$ _____
1963	\$ _____
1964	\$ _____

c. Operators estimate of net return from same land, labor and capital applied to his farming operation instead of recreation.

\$ _____

5. OPERATOR VIEWPOINTS ON REQUIREMENTS OF A SUCCESSFUL MANAGER:

	Very Impt.	Impt.	Little Impt.
a. Ability & interest in meeting and helping people	_____	_____	_____
b. Some knowledge of recreation type	_____	_____	_____
c. Personal appearance	_____	_____	_____
d. Business ability and experience	_____	_____	_____
e. Initiative	_____	_____	_____
f. Education	_____	_____	_____
g. Age	_____	_____	_____

6. OPERATOR VIEWPOINTS ON REQUIREMENTS OF A SUCCESSFUL ENTERPRISE OF SAME TYPE:

16. OPERATOR VIEWPOINTS ON REQUIREMENTS OF A SUCCESSFUL ENTERPRISE OF SAME TYPE: (cont)

	Very Impt.	Impt.	Little Impt.
a. Cleanliness and appearance	_____	_____	_____
b. Advertising	_____	_____	_____
c. Concession stand	_____	_____	_____
d. Located on highway	_____	_____	_____
e. Unique characteristic attraction	_____	_____	_____
f. Community attitude	_____	_____	_____
g. Minimum number of acres required _____			
h. Time spent per week in season _____			
i. Hired labor time per week in season _____			

17. COMPETITION:

- a. Do you have competition for customers? Yes _____ No _____
- b. If yes, what type? Other private facilities _____
- Public recreation facilities _____
- Other (SPECIFY) _____

18. FUTURE INTENTIONS:

- a. Abandon _____
- b. Expansion _____
- c. Contraction _____
- d. No change _____

19. IF YOU WERE STARTING OVER AGAIN, (THINKING OF ENTERING RECREATION BUSINESS) WHAT WOULD BE YOUR COURSE OF ACTION?

20. PROBLEMS RELATED TO ENTERPRISE: (SPECIFY)

a. No major problems _____

b. Capital _____

c. Customers _____

d. Labor _____

e. Other _____

21. REMARKS:

APPENDIX C

Table 12. Questionnaire data used in the analyses

Type of enterprise	Observation	1964 net revenue (dollars)	Total ^a thru 1964 (dollars)	Advertising expense		Locational density ^b
				1964 (dollars)	1st year (dollars)	
Camp grounds	1	1245	26187	15	20	2035
	2	45	2471	0	0	1287
	3	610	600	15	0	1129
	4	270	5474	2	2	4644
Fishing waters	1	1700	8191	25	175	2047
	2	40	50	0	0	9090
	3	0	3565	0	0	339
	4	15	10	0	0	10079
	5	10	182	0	0	4999
	6	70	141	0	0	5101
	7	40	80	0	0	2419
	8	400	1611	100	50	4781
	9	40	818	0	0	20709
	10	-500	13050	150	0	8709
Hunting areas	1	175	0	0	0	1911
	2	0	255	0	0	427

^aI = investment.^bLocational density is defined on page 25.

Table 12. (Continued)

Type of enterprise	Observation	1964 net revenue (dollars)	Total thru 1964 (dollars)	Advertising expense		Locational density
				1964 (dollars)	1st year (dollars)	
Riding stables	3	100	0	0	0	5110
	4	1100	510	12	12	1609
Vacation farms	1	7000	^c	5	5	11171
	2	1500	7212	20	62	432
	3	0	5474	50	50	10042
Shooting preserves	1	723	8878	103	3	1702
	2	760	1056	68	60	5774
	3	5000	26500	75	50	4354
	4	-35	31700	1075	0	8500
	5	2000	6150	90	0	947
	6	200	13351	203	233	28512
Field sports areas	1	5000	42096	8	608	553
	2	0	1025	180	0	13676
	3	6000	17332	253	450	2399
	4	500	4300	50	0	43274
Field sports areas	1	200	2000	100	0	751
	2	1500	6253	214	0	256

^cNo observation available.

Table 12 (Continued)

Type of enterprise	Obser- vation	1964 net revenue (dollars)	Total thru 1964 (dollars)	Advertising expense		Locational density
				1964 (dollars)	1st year (dollars)	
Natural, scenic or historical areas	1	1000	2727	295	215	1287
Winter sports areas	1	-700	3990	9	0	1195
Water sports areas	1	150	38080	720	275	2972
Golf courses	1	13000	102812	0	70	211372