THE PRIVATE COMMERCIAL HORSE INDUSTRY IN SOUTHERN MICHIGAN- A BASE STUDY OF ECONOMIC IMPLICATIONS

Thesis for the Degree of M. S.
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James Newton Holleran

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ABSTRACT

THE PRIVATE COMMERCIAL HORSE INDUSTRY
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By

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The objective of this study was to obtain information which would describe the basic economic situation of the Private Commercial Horse Industry within Southern Michigan. Such information is considered valuable in assisting resource specialists in their efforts to provide increase management training services to like enterprise managers as well as to recreation enterprise researchers whose assistance is needed to stimulate the economic growth of the industry.

This report describes the economic activities of the Industry by reviewing the scale and scope of its known enterprises. A review of enterprise capital investments, recreational activity incomes and major operating costs are included in support of this objectives.

The review of survey findings indicate that the industry is still relatively immature, yet steadily expanding with

large, sophisticated corporation type enterprises leading the way. The bulk of existing firms consist of small, part-time, farm-based, family operated facilities with horse related activities provided only as a supplementary source of income. A further analysis of enterprises considered to be economically successful is included to test for management related characteristics which may serve as determinants for successful enterprise operations.

The profit motivations of existing enterprise owner/managers is explored and the understanding of their rationale for providing such recreational type services helps explain the relatively low economic returns which are characteristic of the Industry in 1971.

Methalogical considerations and recommendations for future economic based research efforts needed to augment the findings of this study are included to assist such efforts.

Implications of the economic impact that the Private Commercial Horse Industry has on the rural community in Michigan is included with findings indicating that in 1971 alone, as a conservative estimate, over 15 million dollars were generated into the rural economy by the Industry.

Final comments include recommendations for further research efforts on both existing survey results left unexplored and for new efforts focused on locational considerations affecting the Industry.

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CHAPTER I

INTRODUCTION

The economic implications of the relatively unknown commercial recreational horse industry of southern Michigan were studied. The paper will look at the industry as a whole, involving single and multiple product firms ranging from one man to large corporate types. Utilizing fiscal 1971 data, a review of basic firm costs and incomes is provided for purposes of reflecting the over-all economic standing of the industry within the state. Attempts are made to identify economically successful enterprises which are explored in depth to hopefully discover various firm factors of production which may be of relative importance to current and expectant horse enterprise owners and managers. A final section of this paper focus on several economic impact implications of this industry as it affects the state's rural economy.

The supportive data collected for study was also designed and analyzed to look at the industry's management component; the managers social profile, experiences, motivations, attitudes and opinions, and most importantly, their performance skills as related to successful firm operations. Mr. John Schall, fellow graduate student who cooperated in the study, has directed his research work towards these management

concerns. Several references are made within this paper to supportive findings drawn out by Mr. Schall.

This study serves as the first research step in developing useful information on a relatively new type of rural recreation industry. The concluding findings and recommendations are limited in nature due to short-range data that was collected and analyzed. The author is concerned about trying to say "too much with too little" evidence. In accepting its limitations, it is understood that a major study objective in an initial basic research effort of this nature is to point the way for new research efforts, indicating problem experiences and noting alternative solutions.

The final test of the value of this research is the extent to which it provides information useful to existing and potential owners and managers of commercial recreation horse enterprises.

Project Authorization and Background

Supportive project funding was contracted by the Department of Parks and Recreation Resources at Michigan State University in November, 1971. The funds are administered under the Hatch formula by the Michigan Agricultural Experiment Station and received from the United States Department of Agriculture for research purposed in the state of Michigan.

The stated overall objectives of the entitled "rural development project", was to study the private recreation

enterprises in the state of Michigan as a component of rural development. The private enterprises that were studied included private campgrounds, horse enterprises and golf courses. The study of private recreation horse enterprises was established as the second phase work study of the project, designed to utilize research methods to systematically identify economic opportunities and impacts of these enterprises upon the rural community.

To re-state the purpose of the overall project, the study was designed with the intent to establish and confirm the relative 'scale' and 'scope' of private recreational horse enterprises as this sector of the industry exists within Michigan. Scale refers to the identification of major industry income producing activities and all major inputs needed to provide these activities. Scope refers to such information as the number of known enterprises in the state, the types of activities that are provided and the number and type of enterprise combinations that exist.

Recreational Implications of the Horse Industry

In the United States today, the horse is utilized predominantly as a recreational animal. Relatively little is known of the full significance of the effect of horse related activities within the recreational field.

In historical perspective, the horse has a distinct heritage in the American culture due to the fact that prior

to industrialization, the horse served as the major source of power for agriculture and transportation.

The horse can be considered as one generation removed as a necessity in much of the American economy. With the machine age came economic and population change. As the mode of transportation and agricultural production became mechanized, and as urban development swelled within the aftermath, the horse as an economic unit of production faded, until recent decades. "Paradoxical as it may seem, in our automated, computer-governed age, the horse is once again becoming an important part of American life",[1] as a major source of personal recreation. The United States Census Bureau no longer includes horses as part of their statistical report, yet the American Horse Council has estimated the present horse population as being between 7 to 10 million. This would indicate a doubling of the horse population of 4.5 million counted in 1959, and a further doubling of the present number of horses within the next ten years.

> "The estimated horse industry in the United States today exceeds an investment of $7.5 billion and it costs about $5 billion per year just to keep and feed the horses in this country. It has been estimated that the value of all horses in the United States is something more than $2 billion."[2]

The Outdoor Recreation Resources Review Commission reported that in 1960 horseback riding was ranked as the

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[1]Alampi, Philip, "Horses are a Household Word...in New Jersey", Parks and Recreation, February, 1970, p. 33.

[2]Bolt, Clark, "More Good Horses Now", The Texas Farmer-Stockman, March, 1970, p. 45.

thirteenth most popular recreational activity in the United States, ranking one below camping and ranking above water skiing, hiking and attending outdoor concerts and plays. In 1965, there were 77 million recreational horseback riding occasions experienced by Americans. This was reportedly expected to increase 44 percent to 111 million occasions by the year 1980, and to increase 132 percent to 179 million occasions by 2000. It is noted that present demands have usually been shown by more recent studies to far exceed those predicted in this report, which surveyed only non-urban public designated recreation areas of the United States.

The O.R.R.R.C. report,[1] in reviewing individual expressions of preference of a desire to participate in specific activities in the future, indicated that horseback riding received top priority. The increasing public demand for services offered by the commercial horse industry has been heralded by many recreational professionals across the country. In a recent national recreation publication a proclaiming note was included in a special section concerning horses; "although only a few of the many equestrian programs around the country are featured in this section, those included make it clear that people enjoy horses and that recreation specialists would be well advised to encourage their fullest use".[2] This article indicated a need for

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[1]Outdoor Recreation Resources Review Commission, Outdoor Recreation for America, Washington, D.C., January, 1962, p. 35.

[2]Alampi, "Horses", Parks and Recreation, February, 1970,29.

improved communication between professional recreation people and those who currently own and manage commercial horse enterprises in order to better plan for improved services and facilities required for present and anticipated participation. Hopefully research such as this will assist in this planning process.

The Commercial Horse Industry in Michigan

It was recently stated that "Michigan's horse industry could not rank with the state's auto industry, but that it was making a galloping comeback."[1] Records from the Department of Animal Husbandry, Michigan State University, indicate that in 1960, the states horse population was approximately 34,000. In 1968, a breakdown of 32,450 registered horses and 28,550 unregistered horses for a total of 61,000 horses were accounted for. In 1971, a Michigan Equine Census was conducted by the Michigan Cooperative Extension Service, which totaled 171,000 horses, reflecting an increase of over 500%.

Projections of future Horse populations in Michigan calculated by extrapolating past trends, estimate a 400,000 horse population by 1985, (Graph I) growing significantly, it was noted, due to:

1) more leisure time for vacation pursuits.

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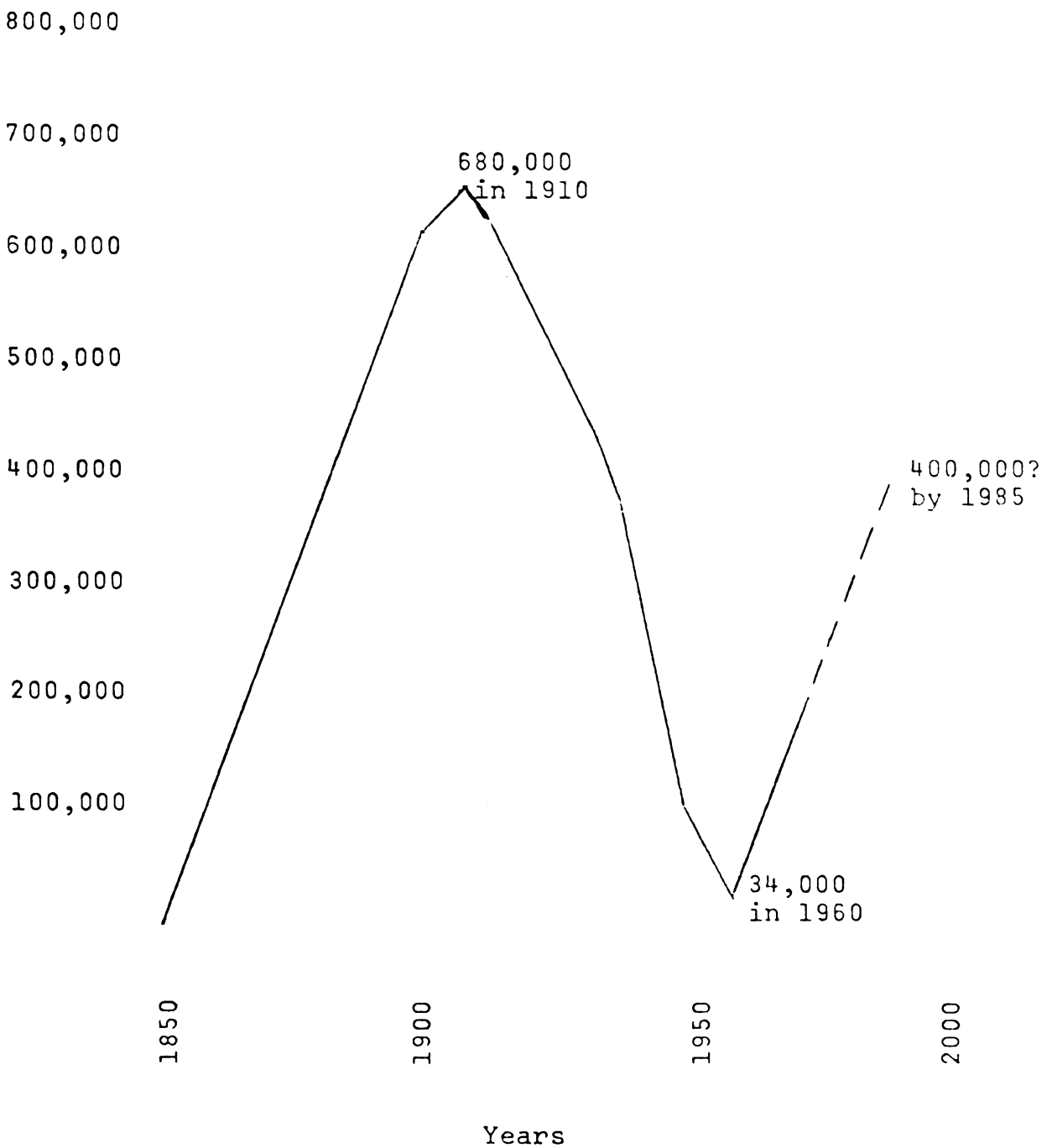
[1]Dice, Eugene, "Michigan's Horse Industry in 1985", Project '80 and 5' Preliminary Report, Michigan State University, February, 1972.

Graph 1 - Michigan Horse Numbers 1850 - 1971 and 1985 Projected Number



2) increasing trends toward suburban living.

3) greater emphasis on family togetherness.

The same study[1] provided estimates of the value of Investment in Horses and Facilities in Michigan in 1971 and 1985. (Table I-1).

The reported figures indicate a significant contribution to Michigan's agricultural economy by the horse and its man-made uses. Further implications regarding such economic impact are made later in this study.

The average commercial horse firm in Michigan is predominately one which fits the stereotype of many small rural recreation enterprises.

"Private recreation enterprises are predominately small. Only 5.6 percent of all enterprises employ five or more persons year-round, and even during the peak of the season no more than 15.4 percent have five or more employees. Over three-fourths of the establishments have no year-round full-time employees, and during the season well over half manage to run their businesses without full-time help."[2]

The following tables were determined from initial inventory studies later described in this paper. The figures reflect the current status of the industry in Michigan as reported from approximately half of all known private

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[1] Ibid.

[2] Robert R. Nathan Associates, "Recreation as an Industry", a report prepared for The Appalachian Regional Commission, Baltimore, 1968.

Table I-1 - Estimated Value of Investment in Horses and Facilities - 1971 and 1985.

Type of Investment	1971 Estimated Value		1985 Estimated Value
Horses (171,000 @ $750/head)	$128,250,000	(400,000 @ $850/head)	$340,000,000
Housing (171,000 @ $200/head)	34,200,000	(400,000 @ $250/head)	100,000,000
Tack and Equipment (171,000 @ $300/head)	51,300,000	(400,000 @ $400/head)	160,000,000
Breeding Farms (90)	13,500,000	(215)	35,625,000
Pari-Mutuel Tracks (4)	30,000,000	(6)	45,000,000
County Fair Tracks (34)	3,300,000	(40)	5,000,000
Riding Stables (90)	3,150,000	(215)	10,750,000
Boarding Stables (170)	5,950,000	(400)	20,000,000
Dude Ranches (20)	700,000	(50)	2,500,000
Arena Operations (35)	1,225,000	(85)	4,250,000
Horse Auction Facilities (5)	500,000	(5)	600,000
Other investments (fee, veterinary, blacksmith service)	2,925,000		6,275,000
TOTAL	$275,000,000		$730,000,000

Source: Estimates developed by Dr. Richard J. Dunn, Department of Animal Husbandry, Michigan State University, January, 1972.

commercial horse firms in Michigan. (See Maps I and II).

Several important factors are noted from the results of these returned responses.

1) The boarding of horses in the primary income producing activity in most of the horse related enterprises with breeding studs and riding stables being second and third respectively. (Later study results reflect some differences in these findings).

2) Of those activities surveyed, boarding was offered most,riding instructions second, and the breeding of studs was third.

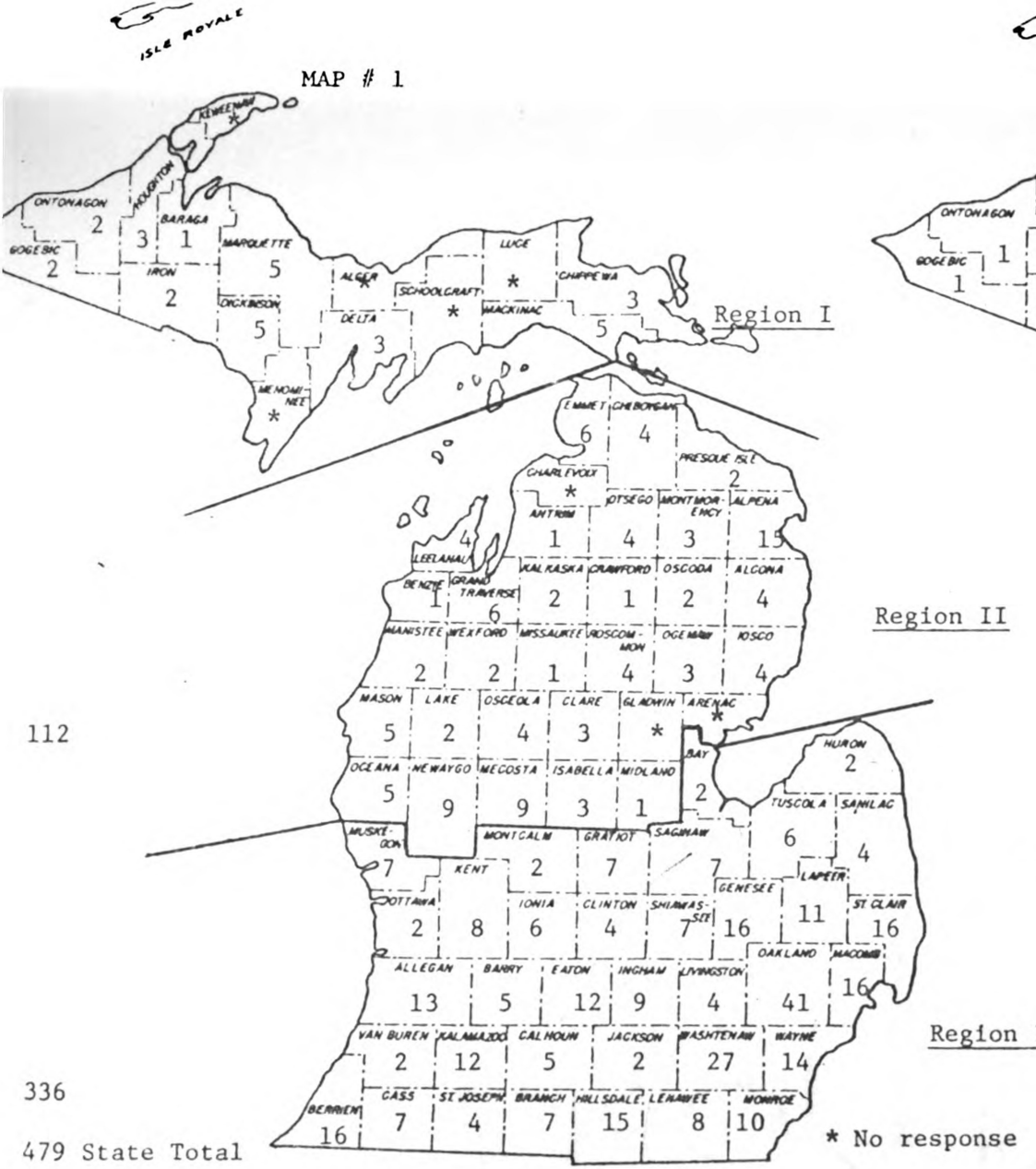
Additional Data:

Table I-2 - 1972 Michigan Commercial Horse Enterprises by Region

Type of Enterprise	Region I	Region II	Region III	State
A Riding Stables	8	15	20	43
B Boarding Service	13	22	85	120
C Breeding Stud	6	30	81	117
D Training Service	4	19	71	94
E Rider Instruction	6	14	47	67
F Arena Operation	1	8	16	25
G Tack-Gear Sales	6	8	29	43
H Selling Horses	6	31	81	118
I Horseshoeing	4	5	10	19
Total	54	152	440	646

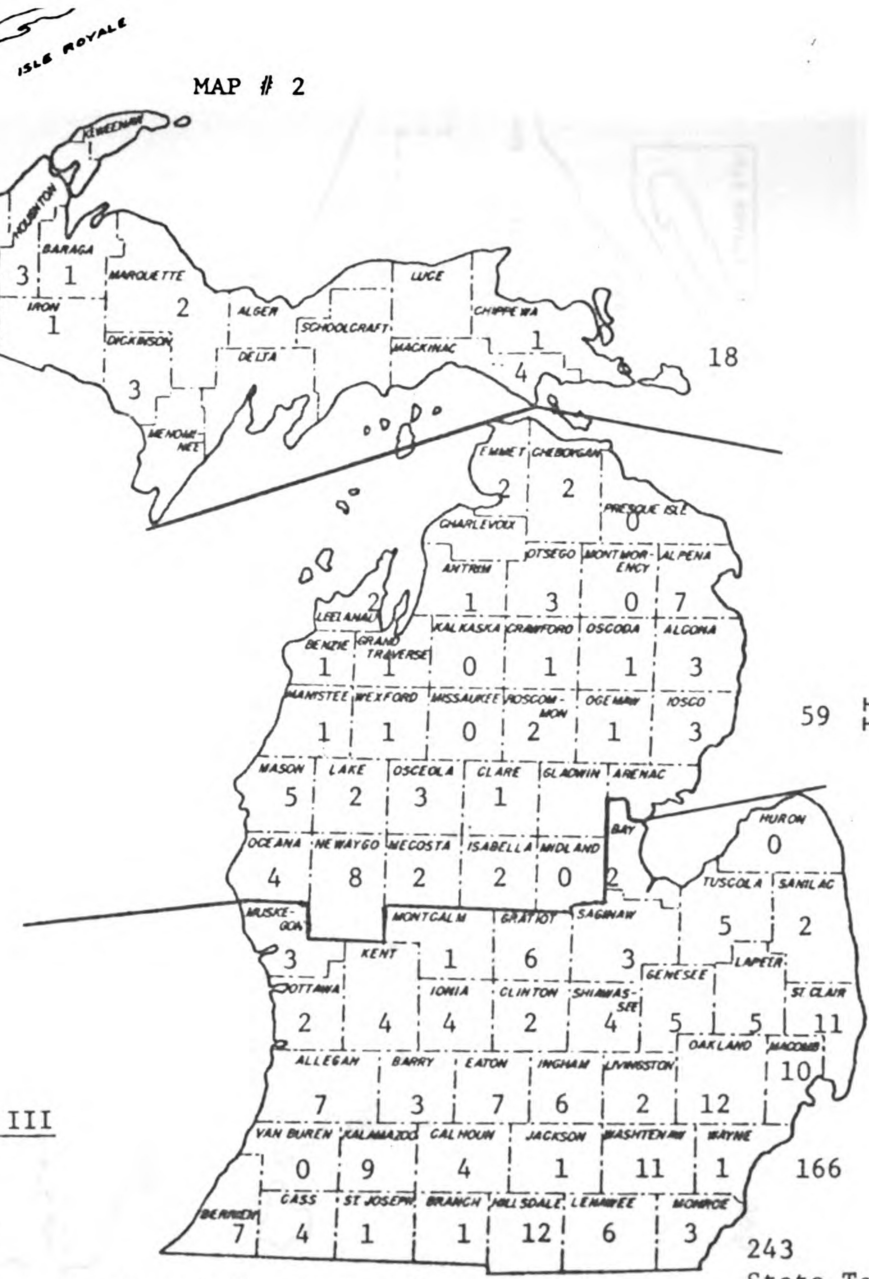
The data in Table I-2 indicates that for the 230 plus places of business for which individual enterprises (activities) were listed there were 633 enterprises. This would suggest that each place of business offers about 3 different activities to their consumers. While some places of business

MAP # 1



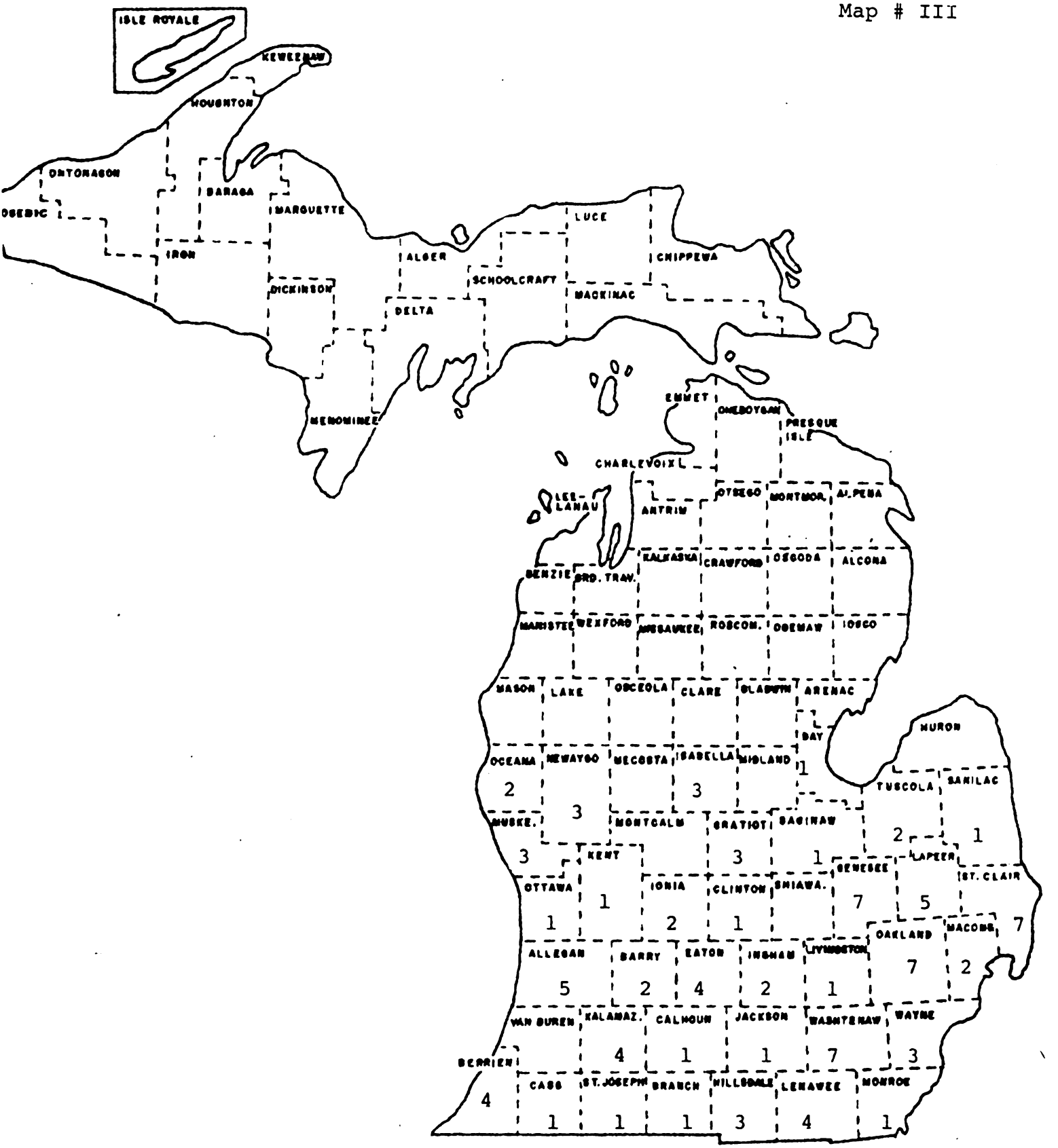
Number of different Commercial Horse Enterprises by county and region as recorded in the latest horse enterprise directory.

MAP # 2



Number of Commercial Horse Enterprises by county and region for which details of the business have been reported.

Map # III



Number of enterprises included within the studies sample - per county

specialize in one activity, as for example, selling horses or boarding horses, many are actually offering more than three activities. This correlates with the fact that in most recreation or leisure business operations it has been found that the more successful ones offer their customers a variety of purchase opportunities rather than just one item.[1]

Table I-3 - Number of Horses and Ponies Reported in Summer 1972 by region.

Region	Number of Horses or Ponies
I	366
II	1238
III	5181
State Wide Totals	6785

Table I-4 - Percentage of Enterprise - Recreation Income Derived from Commercial Horse Enterprises by Region, 1972

Region	25% or less	26 to 50%	51 to 75%	76 to 100%
I	10	1	1	3
II	22	5	7	4
III	67	10	5	17
State Totals	99	16	13	24

[1]Dice, Eugene, "Michigan's Commercial Horse Enterprises - A Directory Study", Michigan State University, Cooperative Extension Service, Department of Park and Recreation Resources, September, 1972.

Table I-5 - Employment in Commercial Horse Enterprises by Region 1972.

Region	Non Family Full-Time	Non Family Part-Time	Family Employed
I	19	23	28
II	83	48	86
III	207	137	226
State Totals	309	208	340

Table I-6 - Owner Employment in 200 Operations in 1972 by Region. (See Map II).

Region	Employed full time elsewhere*	Employed part time elsewhere*	Farming at site
I	9	3	1
II	27	7	7
III	74	14	34
State Totals	110	24	42

* Elsewhere - means away from place where horse facilities are offered.

Table I-7 - Season of Operation in Commercial Horse Enterprises Reporting in 1972 by Region.

Region			
I	0	6	12
II	5	15	37
III	9	20	115
State Totals*	14	41	164

* At some locations, part of the facilities are offered seasonally while others are year-round. The totals, therefore, do not match the number of places reporting. The above categories are continuous not inclusive.

Table I-8 - Number of Horses Found at Enterprises.

# Horses	# Enterprises Reporting	% of Reporting Enterprises
No Data Avail.	34	16.0
2 - 18	63	30.3
20 - 30	55	26.7
35 - 100	51	24.5
120 +	5	2.5
Total	208	

Average # horses reported: 35

Table I-9 - Year Enterprises Reported Initating Operations.

Year	# Enterprises	% of Enterprises
No Data Avail.	11	5.2
1900 - 1958	43	20.7
1959 - 1965	45	21.6
1966 - 1968	55	26.5
1969 - 1972	54	26.5
	208	

(In 1968 alone, 25 enterprises reported going into business, representing 12% of all enterprises reported above).

Table I-10 - Total Acreage of Enterprises*

# Acres	# Enterprises	% of Enterprises
2 - 32	53	25.3
33 - 60	53	25.3
65 - 155	51	24.3
160 - 750	46	22.0
1,000 - 5,000	6	2.9
	209	

(10 acres 4.7%
40 acres 11.4%
60 acres 5.7%
80 acres 9.0%

Average # acres - 171

*Acres used exclusively for Horse Enterprise Operations

Table I-11 - Reported # of Horse Stalls at Each Enterprise.

# Horse Stalls	# Enterprises	% of Enterprises
No Data Avail.	4	1.9
2 - 10	53	25.9
11 - 16	47	22.4
17 - 28	51	24.9
29 - 60	45	21.9
65 - 91	6	3.0
	205	

Average # reported Horse Stalls = 21.5

CHAPTER II

THE STUDY DESIGN

The first chapter of this report introduced the major objectives of Rural Development Project and more specifically, the specific objectives of this study. Restated, they are as follows:

1) To identify the scale and scope of the industry to gain a better understanding and knowledge of the numbers and types of enterprises (firms) that are currently in operation.

2) To gain information related to the economic standing of the Industry through the identification of major types of income producing activities provided and the major inputs or production costs necessary for their provision.

3) To determine the economic contribution of the industry to the rural community in the various counties and regions where such enterprises exist.

4) To develop information which will be of assistance to the planning efforts of recreational horse enterprise owners/managers, hopefully resulting in their increased income and financial well-being.

The following sections of this chapter provides information related to the design of the study.

Enterprise Inventory

One of the first steps taken in the study was to prepare a completed inventory listing of private commercial horse enterprises in Michigan within the allowable time limitations of the project. This task was made easier through the efforts of the M.S.U. Cooperative Extension Service, who had previously prepared an inventory during the spring and summer of 1971. This study identified 397 enterprises in 78 counties throughout Michigan (31 in the Upper Peninsula, 112 in the northern Lower Peninsula (north of a line from Bay City to Muskegon) and 25 in the lower southern Peninsula).

Numerous questions were asked of enterprise managers at that time to provide an initial picture of the size and scope of the industry. Sources of names and addresses were provided by Cooperative Extension Agents through a general mailing requesting their assistance. Information as to the basic operations of these enterprises was obtained from 238 of the 397 identified locations (59.9%).

In attempts to augment this initial inventory effort, new enterprise names and addresses were obtained indirectly through a contract agreement with a private newspaper clipping service, in February 1972. The Service maintained clippings of all private sale services advertised within major newspapers throughout Michigan. This method was time consuming, requiring many hours of phone service in placing addresses with listed telephone numbers. A second source of enterprise

names was drawn from directories of several professional Michigan horse associations. Telephone directory listings and advertisements were also used. Finally, a second mailing was sent out to the County Cooperative Extension agents, providing them with listings of current inventory findings, asking for additional names and addresses.

Approximately 45 new enterprises were identified from these sources. From a basic review of literature involving various rural recreation enterprises and from an analysis of the aforementioned returns, it was concluded that any sample of enterprises drawn for purposes of the study needed to be stratified. This conclusion was based on the broad range of enterprise types and sizes which were known to exist within the state.

A second mailing was made to 439 enterprise sites which included questions which responses, it was hoped, would enable us to stratify all enterprises by a type and size classification. By design, size classifications were to be determined by recorded levels of net income received from each firm's recreational horse activities as a percentage of the total gross income of the enterprise. Enterprise types were to be determined by identification of the income producing enterprise activity which produced the largest source of income.

The results of this survey following one follow-up mailing was as follows:

Initial mailing - 439 identified enterprises.

Total return - 248.

Total usable return - 200 (49%) 1st mailing - 147 returns
2nd mailing - 53 returns

Miscellaneous non-usable returns - 48

Out of business - 30

Incomplete Addresses - 18

Sixty-five originally identified enterprises did not respond to the second mailing while 27 new enterprises responded that were not previously identified.

Sample Stratification

A reveiw of the returned mail survey cards indicated a limited number of responses regarding the requested estimates on net incomes, subsequently, the size stratification of the inventory was calculated by a general observation review of the following variables:

1) Number of horses.
2) Number of acres owned.
3) Number of full-time and part-time employees.
4) Full-time or part-time off enterprise employment.
5) Length of operating season.

A later review of the 1971 inventory survey returns turned up an additional 43 enterprises responses, having sufficient information, which were added in with the 200 mail survey card returns to provide for a total of 243 enterprise listings, located throughout the state, available for stratification.

Sample Size

The initial research proposal had as its objective, a study survey which was to include the entire state of Michigan. During this phase of the study when several techniques were being explored to determine an appropriate sample size, an almost fifty percent (50%) cut in the operating budget of this project forced new limitations as to the size of the state's area to be studied and the number of enterprises to be sampled.

Funding limitations on travel expenditures for survey work and available time became the major criteria in determining a sample size of 125 enterprises, (26% of known enterprises within the state) to be drawn from those known to exist within the Southern Counties of Michigan. (See Map III). This area is representive of moderately populated densities with below average or average per capita incomes, small growth centers and large agricultural areas, as well as counties having high population densities, major growth centers, above average per capita incomes and large tracts of urban development, tourist centers, etc. As shown previously in Map I, the majority of horse enterprises identified in the state were located within this area.

It may be argued that such criteria in determining sample size may be practical but not emperically sound. In defense of this approach is noted that various techniques were tested attempting to measure expected standard deviations through

calculations of such factors as:

1) Number of animals (horses).

2) Expected levels of gross incomes.

3) Expected ranges of activity combinations.

It was determined that little correlation between such factors and what was known about enterprise scale of operations seem to appear. Such calculation, without having any advantage of prior information, would have to be treated as guesses at best. The above sample size decision was in retrospect, determined to be as reliable an estimate as possible in terms of project time and funding limitations.

Drawing The Sample

The one hundred and twenty eight enterprise samples were randomly drawn from two listings which included in total the 479 enterprises located in the southern counties of Michigan. It was noted earlier that project funding limitations required a cut back in available transportation monies, uncurtailing our survey efforts. One listing of 166 enterprises was stratified by the forementioned size and type indices and 75% of the sample, or eighty enterprises, were randomly drawn from each sample subset using a percentage ratio technique. Concerned with drawing a sample that would include a full range of enterprise sizes, seventeen (17) of the above eighty enterprise samples (10%) were randomly selective from the extreme small and large size subsets, with

9 samples drawn from each. These samples were not given a special weighting in that the resulting distribution of surveyed enterprises reflected somewhat of an equal distribution of scale of operations.

The remaining twenty five percent of the sample (31 enterprises) were randomly selected from the second enterprise listing of 313 southern Michigan, unstratified enterprises. Due to relative variances in the stratified sampling procedure, a total of 128 sample enterprises were drawn.

Reveiw of Stratification Techniques

The analysis of survey findings included in Chapter III is keyed to the use of the type and size indices previously mentioned. While the technique for typing the enterprises remained constant, a new enterprise size classification was determined. The size classes of small, medium and large were arbitrally established upon the review of reported levels of gross recreational incomes, which were found to be distributed in logical groupings which divided the sample by thirds.

The following table repacts the relative even distribution of sample enterprises obtained from this technique.

The major objective of all pre-sample work was to assure data collection from a relatively comparative sample that would be reflective of the known universe of Michigan's Private Recreational Horse Enterprises. A measure of success

in obtaining this goal is assured in that economic data was obtained for each of the pre-identified sixteen (16) recreational horse enterprise activities, described in Chapter III, in relative proportion to those known to exist throughout the state.

Table S-1 - Size Index - Number and Percentage of Sample Enterprises.

Size class	# Enterprises	% Enterprises
Small	35	36.8
Medium	29	30.5
Large	33	32.6

The Survey Instrument

Most of the preliminary research in preparation for development of the survey instrument was focused on a literature review dealing with recent studies measuring management skills and attitudes of campground and other private enterprise managers. Relatively few studies dealing with private commercial horse enterprises were available. Agricultural economic related studies were referred to in preparing survey questions dealing with firm economic data. Interviews were completed with several local enterprise managers to provide for an initial pre-test of questions prepared for survey analysis.

The instrument was pre-tested again in the field for

ten (10) enterprises resulting in some minor revisions. All enterprise managers were sent an introductory letter notifying them of our interest in including them in our study. This was followed by a personal phone call which was used to establish an interview appointment and to further define enterprise locations. Three departmental graduate students completed 97 interviews, the balance not completed due to either direct refusals, enterprises out-of-business, or problems of re-scheduling for missed appointments. An attempt was made to follow up on non-responses as such respondents directly refused to be interviewed. Usually, such refusals were due to strong personal desires to keep the accounting records of the enterprise confidential. A large allocation of time in planning interview appointments was necessary in order to both keep travel costs and expenses at a minimum and to meet late-evening time preferences of busy enterprise managers. Two of the field completed interviews were later discarded due to lack of critical necessary data, leaving a total of 95 completed survey forms, which represents approximately 20% of all enterprises that were identified by our inventory studies and 26% of known southern Michigan enterprises (363 enterprises).

The next phase of the study was concerned with the coding of survey data for preparation of computer analysis. Again, lack of available information regarding the industry resulted in the use of many open ended survey questions which required much time and effort in this coding process.

CHAPTER III

DESCRIPTIVE ECONOMIC ANALYSIS OF THE DATA

The following chapter introduces the major terms used in the study and defines their interpretation.

The second section of this chapter outlines in brief narrative and chart form, the basic findings dealing with investments, costs and revenues as reported or determined from our field survey efforts.

The concluding section of this chapter deals with the importance of management inputs as a key production factor which helps determine economic enterprise success. Various management socio-demographic indices formed through the results of Mr. Schall's research efforts (see page 1, Chapter I) are measured against those enterprises identified as being economically successful. The purpose of this section is to identify which management factors seem to be most important in determining financial success of the enterprise. Mr. Schall has further emphasized these results in total in his thesis entitled, "An Analysis of Management Skills Characteristic of Owners of Commercial Equesterian Enterprises in Southern Michigan."

Section I: Definition of Terms

General:

Private Commercial Horse Enterprises - Those enterprises or firms that are privately owned, providing at least one of the following horse related services to the general public, for which obtaining a legitimate profit is the objective of the owner and/or manager.

Income Producing Activities - The following horse related activities were identified and focused upon in the survey questionnaire instrument.

1 a) Horseback (Pleasure) Riding - The short-term leasing of horses equipped with tack and gear, usually western, for purposes of pleasure riding to trained or inexperienced people. Rates are usually based by the hour, half or whole day, for each individual or for groups and will require use of a trained trail guide, trail guards or unguided use of trails located at the enterprise. (The term does not include the provision of riding instructions.)

1 b) Pony Riding - The above retail services are the same, ponies being substituted for horses, generally provided for child use, within closed areas and usually with guide or mechanical control device.

2) Boarding - The short or long term leasing, usually on a per month basis, of stall space located at an enterprise for purposes of boarding privately owned horses. Stalls may include both box and tie stalls, and unless specified, leasing

rates generally include daily grain and pasture feeding and stall maintenance. (Grooming, exercising and training services are generally not included).

3) Riding Instructions - The rental of professionally trained services, usually by the hour and on a per individual or group basis, for the instruction of proper riding technique in pleasure riding (western saddle), society riding (horse shows, English saddle, hunting), jumping instructions (competition and pleasure), and racing (throughbreds and trotters).

4) Direct Sale of Horses (Selling) - The direct retail sale, cash and credit, of privately owned horses, usually on a per horse basis, to the general public. Horses are generally, but not always, breed by the original owner and horses are of both general and registered stock. Selling of horses does not include the retailing of tack and gear or the use of auctioneering. Unless specified, the sale does not include any transportation costs.

5) Breeding - The direct retail of stud services, generally for cash purchases, at various fees which are regulated by the quality of the breed involved and the quantities provided by the retailer within the service contract. Such guaranties range from that of a live foal to graded or special breeded foals.

6) Training - The retailing of professionally trained services, usually for cash sales and on a per horse, per job basis, for proper horse instruction for the following purposes: pleasure riding, society riding, competitive horse

showing, racing, rodeo riding (class competition, precision drills) and general halter training. The training fee, unless specified, includes the cost of board and feed. (This term should not be confused with that of riding instructions).

7) Showing - The competitive display of privately owned horses, generally by their owners or trainers, for purposes of obtaining profits, desire to 'show off' stock, publicity, personal enjoyment, and generally, for some combination of these reasons. Horses, when professionally shown, are usually done so at established costs to the owner which include such items as entry fees, hauling and mileage, vet services, boarding and exercising and monthly service fees, in return for all or a share of the profits obtained.

8) Arena Shows and Rodeos - the organization and/or retailing of privately owned arena facilities for purposes of providing general or registered horse shows or rodeos, both with and without general admission fees. Arenas are provided with and without seating, and most arena owners provide for general area maintenance, promotion and overall management of the show.

9) Sale of Tack and Gear - The retailing of equipment and apparel specifically associated with horses and the horse industry (includes: briddles, saddles, harness, grooming supplies, boots, riding apparel, etc.). All such facilities are opened to the general public and are situated separately or in conjunction with an enterprise offering other mentioned activities.

10) Hay and Sleigh Rides - The short term leasing of both professional services (driver), equipment (wagon and horses), and sometimes hay, usually on a per hour basis for cash sales, with rates arranged for a per group or per wagon contract. Services are generally provided on the enterprise location, usually for church and high school groups, providing services year-round.

11) Leasing - The long term leasing of horses, usually for periods of several months (summer) to organized groups,such as resident camps, trail riding clubs, etc., on a contract basis. The leasee generally is responsible for the provision of insurance, maintenance and care of all horses.

12) Horseshoeing - The retailing of professionally trained services for the provision of horse shoeing and trimming. This service provides special cutting and filing tools and is necessary for proper horse care.

13) Selling Refreshments - The retailing of food and beverage services by use of a canteen, restaurant or grill facility provided as part of a horse related enterprise. Generally providing short-order menus, most such facilities are opened for the convenience of the public participating in miscellaneous horse activities.

14) Dude Ranchs - The retailing of some combination of food, board and horse related activities as typically found at resort resident and day camp facilities. Such areas generally provide other recreation activities such as camping, swimming, fishing and canoeing.

15) Sale of Horse Trailers and/or Related Heavy Equipment - The retailing of large equipment, usually including horse trailers (including horse training equipment, etc.). Most sales are usually made to specialized large commercial horse enterprises with the exception of one to four capacity horse trailers.

Interpretation of Economic Terms

The following economic analysis of the data deals with three major categories:

1. Incomes - all income figures, unless otherwise specified, deal with gross returns received from the retail of horse related services and goods as noted in the previous list. Most enterprises reported returns from three or more activities and all figures represent estimates reported directly by the enterprise owner/manager.

Gross income figures represent total revenues received from the retail of all horse related services and goods provided at each enterprise. These figures were either directly provided from the survey or calculated by totaling individually reported activity revenues.

Many enterprise operators (49%) reported no net income, reinvesting revenues back into their operations and utilizing their losses as tax shelters. Therefore net income figures reported in this study were determined by subtracting total fixed and variable costs, as were included within the survey,

from gross income.

2. Costs - Costs will be dealt with under both the following categories:

a) fixed and non-fixed (variable) costs.

b) cash and non-cash costs.

The analysis includes data on only what was predetermined to be major cost functions. It is noted that a basic study of the nature, lacking necessary background information, cannot begin to deal with total cost factors as related to production functions of each of the income producing activities previously mentioned. Costs are dealt with on the level of the total industry, while limited special cost data dealing with individual activities are mentioned separately.

All costs figures were reported directly from survey responses except for the following:

a) Labor Costs - Most managers/owners, utilizing mainly family part-time labor or relatively few young, part-time non-family employees, lacked adequate records on labor costs. Generally good data results were obtained on the following information:

1) age and number of family and non-family employees

2) length of employment and average number of hours worked per week.

Estimated average hourly rates, varying by age, were obtained through the assistance of the departmental staff of the Michigan State University Department of Agriculture

Economics. Utilizing the above data, labor estimates were calculated for all enterprises reporting the above information but not an estimated total labor cost.

Several comparisons utilizing this technique in cases where actual costs were reported reflected that estimates were generally on the low side. This is in keeping with the total approach of this study to deal with conservative vs. imaginative short-run economic returns.

b) Depreciation Costs.

1) Major buildings and facilities.

Again due to poor record accounting systems, the following data was treated to determine estimates of depreciation costs.

a) type and age of facility

b) overall size of facility

Estimated construction costs, varying by age, were obtained from the Agriculture Economic's Department on a per square foot basis. Standard percentage rates, again varying by age and type of structure, were also obtained which provided an estimated depreciation rate for each major enterprise facility. These estimates were totaled to provide an estimated annual enterprise depreciation cost on all major buildings and facilities that were constructed and utilized for the provision of horse recreation activities. As these estimates did not include facilities originally built for farm use but since converted for horse enterprise purposes, it is assumed that most estimates were again on the conservative side.

2) Major Equipment.

Most operators reported the use of various types of general farm equipment, such as tractors, manure spreaders, and hay loaders as being necessary for enterprise maintenance. From the survey data, information was obtained regarding the types and ages of equipment purchased specifically for horse enterprise operations. Again utilizing estimates provided by the Department of Agriculture Economics, initial retail costs, varying by age and type of equipment, were calculated and standard percentages of retail cost as a function of depreciation was estimated for each piece of equipment and totaled to determine an annual enterprise depreciation cost for major equipment.

c) Stock Maintenance Costs - (See Appendix I, p. 1)

3. Major Capital Investments.

The forementioned income-cost factors were based on 1971 fiscal year estimates. All major capital investment figures except the following were made at the time the enterprise owner/manager purchased the facility that he operated during the time of our survey.

a) Capital Remodeling Investments - Examples of the type of major remodeling investments are listed later in this study and total estimates are based on expenditures over a 10 year period (1961 - 1971).

b) Initial Capital Conversion Investment - These investment figures were reported by owner/manager who converted over all or some part of their major farm facilities for purposes of

operating a horse enterprise. No initial capital investment figures are reported for these enterprises.

c) Planned Capital Investment - These investment figures are available on a scaled basis only and are estimated on planned investment levels over a five year period (1972 - 1977).

d) Capital Stock Investment - These figures are based on initial allocations for horses or ponies purchased when the firm first went into operation and does not include annual new stock purchases.

Limitations of Data Analysis

Acknowledgment is made concerning the limitations of the survey data, which was obtained and the purposes for which the analysis can be utilized. Previous mention has already been made regarding the lack of adequate financial accounting systems maintained by most commercial horse enterprise owners/managers. Also, the use of estimated projections were described reflecting the need to shore up the lack of available returns that were provided. The following chart indicates the total percentages or returns that are utilized in the analysis, reflecting less than 100% responses in most categories.

Recognizing that most of the data is basically short term, one-year guess-estimates at best, and accepting the above, all concluding findings and recommendations will be scaled to reflect limited trends and will not be expressed,

Table Sum-A - Summary of Accounting Data. All Sample Enterprise.

(*=Estimated calculations)	% Responses	Minimum	Maximum	Average
1) Capital Investments:				
Land and facilities	38.9	$5,000	$100,000	$341,000
Machinery	64.2	100	110,000	9,700
Stock	87.4	100	75,000	620
Farm-Horse Conversion	29.5	1,000	200,000	27,000
Misc. Investments:				
Major capital re-investment	83.2	500	350,000	25,400
(Scaled) capital investment (past 5 years)	98.9	scaled		
Planned capital investment (next 5 years)	83.2	scaled		
2) Annual Operating Costs:				
A) Fixed costs:				
Land rental	13.7	50	4,800	1,110
Government	63.2	200	5,000	1,040
Utilities	70.5	50	5,200	780
Interests	42.1	10	9,990	1,380
B) Non-fixed Costs:				
Maintenance machinery:	65.3	50	3,000	680
Stock: general service	100.0*	130	9,990	2,150
feed	94.7	50	54,000	5,660
vet service	91.6	18	9,999	716
Labor: family	47.4	100	9,600	2,400
non-family: part-time	45.3	200	20,000	2,500
full-time	24.2	2,100	100,000	15,600
Insurance (Liability)	53.7	20	6,000	680
Advertisement	81.7	15	150,000	871
Depreciation Costs: Building's + facilities	100.0*	40	9,990	1,860
Major equipment:	100.0*	10	2,100	320
3) Incomes:				
Gross incomes (H.E. activities only)	89.5	300	218,000	18,000
Gross Family incomes	89.5	scaled	scaled	
Estimated Net incomes	91.6	scaled	scaled	

nor should they be accepted, as firm, concrete conclusions.

Upon review of the basic forthcoming analysis, one will notice the non-inclusion of opportunity costs as a major production cost factor. It is assumed that opportunity costs involved with the major inputs of family labor utilized to operate most enterprises was zero.

Comparative Data Analysis

In this researcher's review of available literature, few studies were found which dealt with a comparative economic analysis of the recreational horse industry. The study findings and conclusions from the following reports, which dealt mainly with just one type of horse related activity, were utilized for the establishment of data testing hypothesis and comparative data analysis.

1) McCurdy, Fligor, "Horseback Riding Enterprises on the Farm," Southern Illinois University, Carbondale, Ill, 1968.

2) Christiansen, Stainforth, Johnson, and Cooper, "Economic Aspects of Privately Owned Riding Stables in Wisconsin," University of Wisconsin, 1969.

3) Christiansen, Stainforth, Johnson, and Cooper, "Some Organizational and Income Determining Features of the Wisconsin Outdoor Recreation Industry", University of Wisconsin, Madison, Wisconsin.

4) Callahan, Knudson, "Economic Aspects of Commercial Outdoor Recreation Enterprise in Southern Indiana," Prudue

University, Lafayette, Indiana, 1966.

5) Bird, Ronald, "Income Potential of Various Kinds of Farm Recreational Enterprises in Missouri," University of Missouri, 1963.

Section II: Data Analysis

Description of General Indices

It was previously noted in Chapter I that due to the large range of enterprise activities and scale of firm operations that existed within the state, it was necessary to stratify the enterprise inventory for purposes of drawing a study sample. The same size and type indices were utilized in analyzing the findings. They are again as follows:

1) Enterprise type index - Keying on that activity which provided the largest reported gross income for that enterprise in 1971.

2) Enterprise Size index - All enterprises are placed within either a small, medium or large size classification, using reported gross enterprise recreation incomes as the determining variable. This index reflects the scale of the economic capacity of sample enterprises for obtaining income as achieved in a one year period of operation.

A third major index is also included which classifies the sample enterprises into either a primary or non-primary recreation category:

a) Primary Recreation Enterprises - Those enterprises reporting larger gross incomes from horse related activities than from other sources, such as from off-enterprise employment or from farming activities.

b) Non-Primary Recreation Enterprises - Those enterprises reporting larger gross incomes from other than horse related activities.

The topics included in the analysis in Section II are in the following order:

A) Capital Investments

B) Enterprise Incomes

C) Enterprise Operating Costs

A) Capital Investments:

Hypothesis: 1) Most enterprises classified as small in size will report percentages of total investment costs for land and buildings than larger size classified enterprises.

2) Most enterprise owners will report that extensive expansion and development was being planned for in the near future.

3) Most capital investments for expansion will include the following items:

a) purchasing additional land

b) livestock

c) new buildings

d) major repairs to existing facilities.

The level of investment is considered an important

characteristic of any private outdoor recreation industry, primarily because it is an indication of size, quality, and enterprise multiplicity. Other things being equal, the larger the capacity, the higher the quality of the facilities and equipment, the larger will be the required investment.

A reveiw of the forementioned studies dealing with horse enterprises in other states seem to indicate that the bulk of recreational enterprises involved in this industry were marginal, family operated types utilizing relatively small converted farm facilities for their base of operations.

In order to provide various types of recreational goods and services the level of investment tends to increase with each additional recreational activity and service offered. It was assumed, therefore, that larger facilities which generally provide multiple horse recreation services would report higher investments for the major resources needed for facility expansion, i.e. land and buildings, than the smaller, marginal enterprises.

It was also indicated in these studies that a general feeling of optimism was reflected by most enterprise managers who indicated expected increases in user demands and subsequent future levels of increased profits ahead. It is assumed that most survey respondents will indicate plans to expand and develop in the near future. With the majority of the enterprises existing on relatively small farm-converted facilities, it is also assumed that planned expansion would be focused on augmenting the basic facilities and resources needed to allow for the provision of increased

services.

Table CI-1 - Capital Investments: Average Capital Investment for Three Size Classes.

Type of Capital Investment	Average Investment by Enterprise Size ($).		
	Small	Medium	Large
1) land and facilities	25,000	26,500	52,000
2) machinery	4,600	8,700	14,800
3) stock	5,000	9,800	4,500
4) farm-horse enterprise conversion[1]	900	1,600	8,300
5) capital remodeling[2]	9,500	12,700	51,400

The above chart indicates high investment rates for all enterprise size classifications for land and facilities, with the percentages indicating support of the first hypothesis.

Of interest within these findings were the differences in average capital stock investments between the small and large classed enterprises. A review of enterprise types within each subset indicate relatively equal percentages of breeding and selling enterprises. Possible explanations may be directed to advantages in quantity purchasing, increased stock in-breeding and inventory size, and lower stock death rates by larger enterprises.

A further breakdown of land and facility investments within the Missouri study reflected that high land investment

[1]Estimated capital conversion cost reported by those operators who shifted major enterprise operations from farming to commercial horse activities.

[2]See Chart CI-9.

costs were incurred.

> "Capital Investment in the study enterprises varied from $7,200 to $40,000. The major proportion of the investment was in land. The land owned varied from 1 to 200 acres. Investment in horses and saddles was the next largest outlay."[1]

Table CI-2 - Capital Investment Expenditures - Missouri (1962)

Capital Investment types	Range	Average
Land	$ 300 - 15,000	$8,200
Buildings and Permanent Structures	500 - 2,000	1,375
Operating Equipment	1,700 - 13,500	7,538
Miscellaneous	0 - 4,500	1,125
		$20,113

Table CI-3 - Average Total Capital Investment by Size Classification.

	Small	Medium	Large	Total Average
Average total investment	$29,332	$38,472	$98,994	$166,798

The average total investment figures reported above indicate a large range dispersity between small and large enterprises which was also reflected within the results of the Wisconsin Study. Both the Missouri and Wisconsin studies of Riding Stable Enterprises reflected lower total capital

[1] Bird, Ronald, "Income Potential...", University of Missouri, 1963, p. 18.

investments then reported within this study for the Michigan Private Commercial Horse Industry.

Table CI-4 - Average Recreation Investment by Size Categories, 38 Riding Stable Enterprises, Wisconsin, 1965.

Investment size categories	# Enterprises	Average Investment	Range
Small	19	$ 4,742	$ 100-$ 9,800
Medium	14	25,421	14,000- 40,000
Large	5	76,740	50,000- 120,000
Total or average	38	$21,834	$ 100-$120,000

(Source - Riding stable survey, University of Wisconsin, 1966).

Though return rates on investments are relatively low, as indicated later in this report, the majority of enterprise operators indicated plans to reinvest capital funds within the next five years. It was to no surprise to note the higher percentage of large class enterprises within the $20,000 and over category, while it was unexpected to find 19% of the small enterprises reporting planned investments within that same investment-dollar class. This may be indicative of those new enterprises just entering into the market.

A direct comparative analysis with results of the Wisconsin study show that few enterprises in 1966 were apparently planning to reinvest major capital funds, and especially the smaller enterprises. The results indicated below seem to support the assumption stated within the second hypothesis.

Table CI-5 - Distribution of Enterprises in Scaled Investment Level Classes ($'s) for Three Size Classifications.

1) Planned Capital Investment - (1971 - 1976):

Investment level classes ($)	# Enterprises in each class by size: Small	%	Medium	%	Large	%
0 - 999	4	15.3	1	4.0	2	6.6
1,000 - 4,999	6	23.0	6	24.0	1	3.3
5,000 - 9,999	2	7.6	4	16.0	8	26.6
10,000 - 14,999	8	30.7	3	12.0	2	6.6
15,000 - 19,999	1	3.8	4	16.0	1	3.3
20,000 and over	5	19.2	7	28.0	16	53.3
	26	74.0	25	86.0	30	90.0

Table CI-6 - Anticipated Major Capital Expenditures by Size Categories, 38 Riding Stable Enterprises, Wisconsin, 1966 - 1971.

Investment classes	Size Categories: Small	Medium	Large	All
Under 1,000	2	-	-	2
1,000 - 2,999	3	-	-	3
3,000 - 4,999	1	1	1	3
5,000 - 9,999	-	2	-	2
10,000 - 14,999	-	-	-	-
15,000 - 19,999	-	-	-	-
20,000 and over	1	1	-	2
Total	7	4	1	12

Source - Riding stable survey, University of Wisconsin, 1966.

The enterprise owners were also asked to indicate their estimated previous capital investments over the past five years (1966 - 1971). The data seems to indicate that a steady level of expansion has taken place and that larger

enterprise operations have been making continually high investments necessarry to meet the growing demands of more sophisticated horse users.

Table CI-7 - (2) Previous Capital Investment (1966 - 1971):

Investment level classes ($)	# Enterprises in each class by size: Small	%	Medium	%	Large	%
0 - 999	4	11.4	-	-	-	-
1,000 - 4,999	7	20.0	4	14.2	-	-
5,000 - 9,999	5	14.2	2	7.1	-	-
10,000 - 14,999	7	20.0	5	17.8	3	9.0
15,000 - 19,999	3	8.5	2	7.1	1	3.0
20,000 and over	9	25.7	15	53.5	29	87.8

The data was analyzed to determine what type of major capital investments were being considered by the enterprise managers. It was felt that such indicators would reflect expansion trends of the industry. If the majority of enterprises were to report planned investments for buildings or additional land, instead of increased service facilities, it may be assumed that the states' private commercial horse industry is still relatively immature in terms of long range development.

The third hypothesis assumed that the response would indicate planned investment for such items as land, livestock (horses) and buildings. The results noted below support the hypothesis, with the majority of all enterprises reporting planned investments within these areas. While the largest percent of medium and large enterprises report planned-for

investments for the construction of new buildings, the purchase of additional stock is apparently a greater concern for smaller enterprises. A review of activity income sources for small enterprises indicate that the majority of firms are involved in the breeding and selling activities which may partially explain the above.

Table CI-8 - Distribution of Types of Capital Investments Planned for by Enterprises for each Size Class:

Types of Capital Investment Items:	# Enterprises reporting item for future expansion							
	Small	%	Medium	%	Large	%	Total	%of Total
Purchase of additional land	7	20.0	6	20.6	7	21.2	20	16.5
Purchase of new stock	15	43.0	10	34.4	8	24.2	33	27.3
Construction of new buildings	13	37.0	12	41.3	11	33.3	36	29.8
Major repairs to existing structures	2	6.0	8	27.5	6	18.1	16	13.2
Expansion of existing and provision of new activity services and facilities	2	6.0	7	24.1	7	21.2	16	13.2

A look at major types of past capital investments (remodeling items) also indicate that the industry has been concerned with expanding its major base of operating facilities, from barns to arenas.

Table CI-9 - Previous Major Remodeling Investments for each Size.

Capital Items remodeling*	Small	% of total	Medium	% of total	Large	% of total
1) Building new barns	12	42.8	12	46.1	8	26.6
2) Repairs to existing buildings and facilities	2	7.1	3	11.5	4	13.3
3) Building new arenas	2	7.1	7	26.9	10	33.3
4) Fencing	6	21.4	3	11.5	1	3.3
5) Roofing	1	3.5	-	-	1	3.3
6) New Stalls + repairs	3	10.7	1	3.8	3	10.0
7) Water systems + related repairs	-	-	-	-	-	-
8) New secondary structures	2	7.1	-	-	1	3.3
9) General repairs	-	-	-	-	2	6.6

* This chart lists only primary items receiving the largest percent of past capital expenditures while items not included here were reported as secondary expenditures by many enterprises.

The following two charts outline the average capital investments made by each size class of enterprises as they fall within both the pre-mentioned Enterprise Type Index and by a listing of all enterprises grouped together by common income producing activities, (i.e. Chart CI-11. All enterprises reporting incomes generated from horseback riding retailing are combined, varying by size, within that listing). The somewhat detailed analysis was provided to test for possible significant differences among the different types of enterprise classes.

Hypothesis: 1) Enterprises involved in the retailing of services directly involved with horses (i.e. horseback

Table CI-10 - Average Capital Investments by Type for each Enterprise Type Index (1971).

	Small						Medium						Large					
	Stock	Equip.	Re-invest.	Con-vers.	Ini.	#	Stock	Equip.	Re-invest.	Con-vers.	Init.	#	Stock	Equip.	Re-invest.	Con-vers.	Init.	#
Horse-back riding	-	-	-	-	-	-	2,280	4,500	7,000	5,800	4,500	5	900	-	36,667	-	-	3
Board-ing	1,806	3,150	8,387	2,130	9,310	3	1,280	1,600	9,660	-	17,000	5	3,825	7,487	79,937	31,250	5,250	8
Riding instruc-tions	-	-	-	-	-	-	-	-	-	-	-		2,700	5,000	33,667	-	25,000	3
Train-ing	450	-	-	-	-	2	300	7,250	15,650	-	9,000	2	500	3,200	16,000	-	14,000	1
Breed-ing	12,200	3,367	3,278	9,330	7,000	9	17,860	11,400	19,020	7,800	9,000	5	14,033	39,800	10,500	10,670	30,000	3
Horse shoeing	-	-	-	-	-	-	700	1,000	1,000	-	-	2	2,500	-	8,000	-	-	1
Arena shows	-	-	-	-	-	-	400	500	25,000	25,000	-	1	-	-	-	-	-	-
Sale of horse	3,417	2,967	4,700	1,170	9,170	6	16,800	7,429	10,986	7,430	11,140	7	7,867	14,333	47,833	-	71,670	3
Sale - tack + gear	-	-	-	-	-	-	-	-	5,000	-	-	1	2,850	2,000	117,000	-	20,000	2

Table CI-11 - Average Capital Investments by Type for Each Enterprise Income-Producing Activity, (1971).

Enterprise Income-Producing Activities	Small					Medium					
	#	Stock	Equip-ment	Re-invest-ment	Con-ver-sion	Ini-tial	#	Stock	Equip-ment	Re-invest-ment	Con-ver-sion	Ini-tial
Horseback Riding	1	700	10,000	800	10,000	-	5	15,940	2,500	4,100	7,000	
Boarding	4	21,350	1,250	18,650	3,750	23,750	8	12,850	6,250	4,950	9,250	8,750
Riding Instructions	7	2,000	2,643	12,986	5,000	18,570	10	1,640	3,550	7,790	6,400	9,900
Training	7	4,429	2,829	3,500	5,290	9,000	11	8,000	5,364	7,995	8,550	3,550
Breeding	10	1,480	4,510	11,190	2,900	8,700	4	9,750	7,625	12,000	-	20,000
Horseshoeing	2	3,350	10,500	5,400	5,000	4,000	3	31,700	13,000	8,333	4,330	31,670
Dude Ranch	-	-	-	-	-	-	3	6,833	5,333	12,667	-	28,330
Arena Shows	1	6,400	5,800	2,200	8,000	-	1	5,700	25,000	10,000	19,000	-
Sale of Horses	9	10,300	3,678	5,633	3,440	8,220	7	22,800	4,929	12,429	4,570	1,430
Sale - tack and gear	-	-	-	-	-	-	1	400	-	5,000	-	-
Hay and Sleigh Rides	-	-	-	-	-	-	10	9,160	35,000	6,680	4,200	12,400
Sale - horse trailers	2	900	4,150	3,500	3,500	-	-	-	-	-	-	-
Selling Refreshments	-	-	-	-	-	-	-	-	-	-	-	-

continued...

Table CI-11 (Continued)

Enterprise Income-Producing Activities	Large #	Stock	Equipment	Reinvestment	Conversion	Initial
Horseback Riding	5	4,560	5,800	29,300	8,000	20,000
Boarding	13	4,177	6,462	38,731	2,460	31,850
Riding Instructions	14	4,879	6,993	61,357	16,570	27,500
Training	16	4,087	10,156	35,844	2,000	32,870
Breeding	14	3,557	16,200	38,393	5,710	29,140
Horseshoeing	-	-	-	-	-	-
Dude Ranch	3	7,600	8,333	26,000	13,330	16,670
Arena Shows	7	3,500	13,329	31,357	4,290	37,000
Sale of Horses	13	3,892	10,269	27,500	4,770	23,150
Sale - tack and gear	10	4,000	6,450	30,200	19,000	17,400
Hay and Sleigh Rides	8	3,313	30,750	41,937	-	21,750
Sale - horse trailers	2	9,850	15,000	14,000	-	7,500
Selling Refreshments	5	3,490	10,900	47,242	16,190	23,060

riding and selling, breeding) will report relatively high investments for the purchase of horses. 2) Larger enterprises involved with specialized retailing services, such as riding instructions, training and breeding will report high initial investment costs due to the specialized facilities that are required.

Breeding and selling enterprises will vary greatly in the volume of horses they will maintain due to differences in quality of the breeds serviced. Most operators usually will deal either with high quantity, lower quality stock, or with a few, high quality breed horses, generally used for breeding purposes. Most horseback riding enterprises in order to meet peak weekend demands will maintain a large number of general stock horses. The assumption implied in the hypothesis requires little justification.

Specialized equipment such as indoor riding rinks, safety guide riggings, etc., and adapted facilities, such as padded or protected fencing for quality breed stock, are a few high cost items that are generally required by enterprises providing activities as riding instructions and the training and breeding of horses for more sophisticated recreational horse users who tend to support larger enterprises.

A review of the findings shown in Chart CI-10 seem to support the first hypothesis, noting relatively substantial capital stock investments for selling and breeding enterprise types while horseback riding enterprises were

surprisingly low. The major limitation in this analysis is that figures representing capital stock investments are for initial purchases only.

Riding instruction and breeding type facilities report relatively high initial capital investments, with the one training enterprise in the large size class reporting a much lower allocation. A review of Chart CI-11 also notes that enterprises providing these services reflect substantial initial capital investments. The second hypothesis may be considered to be partially valid.

Analysis of Investments by Major Recreational Horse Activities:

1) Horseback Riding:

Eleven sample enterprises reported offering horseback riding with eight of these noting this activity as serving as their greatest income producer. Though data is limited in Chart CI-10, a review of all enterprises providing horseback riding indicates relatively low initial stock investments for both small and large size enterprises, while noted higher for medium size class firms. This may reflect possible potential for expansion of this type of activity.

2) Boarding Enterprises:

Higher initial capital investments among smaller size enterprises may reflect a possible increase in small family operated boarding enterprises or possibly higher construction costs for barns and stalls. Substantial reinvestment returns are also noted for this class. Relatively low reinvestment

expenditures by medium size enterprises may reflect the low maintenance requirements of boarding facilities while factors of size and age may be influencing the large size class for capital reinvestment needs.

3) Training:

A large number (34) of sample enterprises reported offering the training of horses, as defined earlier, as a service but only five enterprises, reporting relatively low over all capital investments, are found in this type index. This may indicate that the training of horses is usually only a major money making activity when provided with other services by larger enterprise operations.

4) Breeding:

Seventeen (17) of the twenty-eight (28) enterprises which provide breeding services report it as the major income producing activity. Capital stock investments for these seventeen were relatively much higher than for those noted in Chart CI-11. This may indicate that full-time breeders initially invest in higher quality breed horses at substantially higher prices. With initial and conversion capital investments relatively similar for the small and medium size enterprises, one may suspect that these may be of the family operated vintage while large class enterprises may be of the larger cooperation type.

5) Sale of Horses:

A substantial number of large size enterprises (13) within the sample sell horses as a subsidary activity with

only three such enterprises reporting it as a major income producer. This somewhat differs from the small and medium size classes noting that thirteen of the sixteen enterprises have reported it as their primary income producing activity. A review of capital stock investments, for the medium size class enterprises may indicate that the selling of horses may be an activity that becomes more profitable at enterprises offering other related services.

Hypothesis: Primary recreation enterprises will report larger over-all capital investments for large class enterprises than non-primary recreation enterprises.

The assumption implied here is that enterprise operators who base their economic support on the provision recreational services will be more highly motivated to develop extensive enterprise facilities.

Unfortunately, the breakdown of capital investment types for these two classes of enterprises was not available. The following chart does reflect strong support for the above hypothesis, surprisingly indicating higher over-all capital investments for all size classes of primary recreation enterprises. This may indicate that recreation-minded enterprise managers are supporting larger investments to provide for more intensively developed facilities which can better compete with the smaller, marginal operations now existing.

Table CI-12 - Average Total Capital Investment - Primary and Non-Primary. Recreation Enterprise - by Size.

Primary Recreation Enterprise			Non-Primary Recreation Enterprise		
Small (5 ent)	Medium (8 ent)	Large (12 ent)	Small (29 ent)	Medium (21 ent)	Large (20 ent)
45,560	46,362	111,630	25,472	35,466	87,105

Analysis of the Data

B) Enterprise Incomes.

Hypothesis: Most small enterprises will derive larger percentages of their gross recreation income from horseback riding activities while larger enterprises will derive most of their recreation income from such activities as boarding, training and riding instructions.

Support for the hyperthesis was drawn from the findings of the Wisconsin study (Table In-2) which indicated that in its sample many of the marginal enterprises relied on horseback riding rentals for their chief sources of income. A review of the table indicated the differences in revenue sources of larger enterprises.

As indicated in graph In-1, the hypothesis proved to be incorrect. Smaller enterprises derived most of their income from breeding and selling activities with the balance of enterprises reporting relatively low incomes from boarding activities. Although reported incomes from horseback riding

activities are relatively high for large enterprises, selling, dude ranch operations, and breeding services were seemingly greater income sources than those of boarding and training.

In terms of all enterprises, selling horses seem to be the highest income reporting activity, with breeding activities rated second. All three dude ranch type facilities included within the sample averaged incomes of around $25,000. The chart (In-2) indicates lower gross income figures for most activities which may be partially explained by the limitation of enterprise types and size included within their sample.

Table In-1 - Incomes: Distributions of Enterprises Receiving Cash Incomes from Various Types of Enterprise Activities, (1971).

Types of income sources	# and average incomes of enterprises receiving income					
	Small		Medium		Large	
	#	$	#	$	#	$
1) Horseback Riding	1	1,000	8	5,000	5	29,300
2) Boarding	20	1,000	12	3,000	19	11,900
3) Riding Instructions	2	100	6	900	14	8,800
4) Training	8	2,000	8	1,000	14	4,200
5) Breeding	17	19,300	8	22,000	15	28,400
6) Horseshoeing	-	-	3	31,600	1	16,000
7) Dude Ranch/ Resort/Camping	-	-	-	-	-	25,000
8) Sale of Horses	13	22,800	11	43,800	15	67,000
9) Sale of Tack + Gear	1	3,000	2	5,500	7	16,900
10) Showing	6	1,700	8	600	12	2,000
11) Hay + Sleigh Rides	1	800	6	2,600	7	1,500
12) Selling Refreshments	-	-	1	11,000	6	13,200

Hypothesis: Large enterprises, reporting higher gross recreation incomes, would report higher service rates for recreational

Table In-2 - Source and Amount of Average Gross Recreation Income, by Size Categories, 38 Riding Stable Enterprises, Wisconsin, 1965.

Source of income	Small (N=19)		Medium (N=14)		Large (N=5)		All (N=38)	
	Amount $	Total income %	Amount $	Total income %	Amount $	Total income %	Amount $	Total income %
1. Horseback riding	2,755	65	4,980	39	7,840	28	4,244	41
2. Pony riding	58	1	325	3	340	1	193	2
3. Boarding horses	360	9	1,800	14	5,680	20	1,591	15
4. Riding instructions	-	-	1,455	12	4,237	15	1,094	10
5. Training horses	580	14	1,017	8	940	3	788	8
6. Hay or sleigh rides	248	6	400	3	300	1	311	3
7. Snack bar	-	-	350	3	600	2	208	2
8. Sports equipment	140	3	1,100	9	6,840	24	1,375	13
9. Horse rental, group camps	-	-	900	7	1,100	4	476	4
10. Miscellaneous income	80	2	290	2	380	2	197	2
Total recreation income	4,221	100	12,617	100	28,257	100	10,477	100

Source - Riding stable survey, University of Wisconsin, 1966.

horse activities than smaller enterprises.

The hypothesis implies that one reason why larger enterprises generate greater recreational incomes is that in the provision of a larger number of quality services, such enterprises have the production ability to charge higher service rates than smaller enterprises who generally provide fewer services.

Table In-3 - Index of Service Rates: Enterprise Size Index.

	Small		Medium		Large	
	#	%	#	%	#	%
Low	15	42.8	8	27.5	3	9.0
Medium	16	45.7	9	31.0	13	39.3
High	4	11.3	9	31.0	15	45.4
(No coding)			3	10.3	2	6.0

Service rates for all sample enterprises were rated on a scale from low to high (see Appendix I). The results noted above support the hypothesis, with the majority of large class enterprises having medium to high service rates and the small enterprises reporting low to medium service rates.

It is recognized here that many market conditions influence the range of market prices which can be economically imposed on product consumers. A follow-up hypothesis suggests one such factor:

Hypothesis: Higher activity service rates will be charged in counties having greater population densities, and subsequently greater user demands.

Time limitations within this study did not allow for detailed enterprise locational analysis, but in order to suggest the importance of enterprise location, an index of county population densities were determined (see Appendix I) for all counties included within the study. The results below indicate that the majority of large enterprises were located within counties having relatively low population densities, as were other classes, but reported the largest percentage of enterprises found within the high population density counties. A follow-up study recommended in the near future will plot enterprise locations with time-distance travel zones of various sizes of population centers. Such type of analysis is needed to indicate the importance of location decisions for this industry.

Table In-4 - Location of Enterprises by County Population Density Index.

Index of County Population Densities	Small		Medium		Large	
	#	%	#	%	#	%
Low (below state average)	21	60.0	16	55.1	14	42.4
Medium (within average range)	7	20.0	8	27.5	7	21.2
High (above state average)	7	20.0	5	17.2	12	36.3

If one were to accept as given the suggested conclusion indicated above, the following hypothesis might logically follow.

Hypothesis: Enterprise users will travel futher distances to obtain services of larger enterprises than those of smaller

enterprises.

The implied assumption indicated in the hypothesis is that larger enterprises provide a greater number of and quality of services than smaller enterprises subsequently offering greater recreational attractions to horse enterprise users.

Table In-5 - Average Distances Customers Traveled by Enterprise Size Class.

Distance traveled	Small		Medium		Large	
	#	%	#	%	#	%
1) 0 - 4 miles	4	11.7	-	-	1	3.0
2) 5 - 9 miles	5	14.7	1	3.5	3	9.0
3) 10 - 24 miles	8	23.5	5	17.8	10	30.0
4) 25 miles and over	17	50.0	22	78.5	19	57.5

Medium size enterprises reported the largest percent of users traveling 25 miles and over, which may be partially explained by their locations mostly within low population density counties (55.1%). The hypothesis is marginally supported by findings with all class sizes reporting high percentages of long-distance traveled customers.

One additional factor which must be considered in any locational analysis is that of income.

Hypothesis: The majority of large enterprises, reporting larger gross recreation incomes, will be located in counties having higher per capita incomes.

The assumption to be tested is that enterprises located

in counties supporting greater numbers of high income class populations are able to generate higher incomes, supposedly by being able to charge greater service rates.

Table In-6 - Location of Enterprises by County Per Capita Income Index: (See Appendix I).

Per capita income index	Small		Medium		Large	
	#	%	#	%	#	%
Low (below state's average)	7	20.0	4	13.7	4	12.1
Medium (within medium range)	9	25.7	6	20.6	8	24.2
High (above state's average)	16	45.7	19	65.5	21	63.6

With 63.6% of the large class enterprises are located in counties having higher reported levels of per capita incomes, supporting the hypothesis. Yet the distribution of figures in the previous set of tables indicate that such gross locational factors as implied within these indices are extremely limited and that future enterprise locational studies, as identified in chapter, are needed to answer the questions implied within this analysis.

C) Enterprise Operating Costs.

Hypothesis: 1) Feed, labor, and depreciation will be the major components of enterprise operating costs.

2) Variable costs related to the provision of various enterprise activities will be greater for enterprise than fixed cost.

3) Larger enterprises will report higher

employment costs for non-family full time personal than smaller enterprises.

The results of the 1965 Wisconsin study were again used in establishing the hypothesis indicated above. The Wisconsin study indicated that the majority of their sampled enterprises were utilizing older, converted farm facilities which subsequently were subject to increasing depreciation costs. A overview of sampled enterprises in this study were felt to be generally similar in this respect. Increasing inflation, it was also felt, would effect labor and feed costs of Michigan horse enterprise managers, as it apparently did the Wisconsin survey sample.

The above study also indicated that with the exception of depreciation costs, most enterprise managers reported relatively low fixed costs necessary to maintain their facilities. With the provision of each new unit of recreation service offered, was a corresponding increase in variable costs necessary to provide for the necessary factors of production.

The last hypothesis stated above requires little justification as has been previously stated that the majority of smaller, marginal enterprise operations are only able to maintain services by using a cheap labor force - the family.

A review of the cash and non-cash charts reflect relatively higher operating costs for labor, feed and building depreciation for all enterprises, supporting the conclusions stated in hypothesis one. Larger enterprises,

Table C-1 - Cash Costs: (Costs of purchased inputs) (Short run - 1971). Average Annual Cash Costs per Item for Size Classes.

Type of Cost	Costs per Enterprise by Size		
	Small ($)	Medium ($)	Large ($)
1) Land rental	470	840	2,530
2) Labor family	1,800	2,800	2,400
3) non-family (f.t.)	5,000	3,100	17,200
(p.t.)	900	1,800	4,000
4) Stock: maintenance	710	1,780	4,240
feed	2,180	5,040	9,730
vet service	390	497	1,235
5) Maintenance and repair machinery	630	630	790
6) Governments	740	920	1,570
7) Utilities	480	620	1,330
8) Insurance-liability	340	660	920
9) Advertisement	320	530	1,775

Table C-2 - Non-Cash Costs: Average Annual (1971)

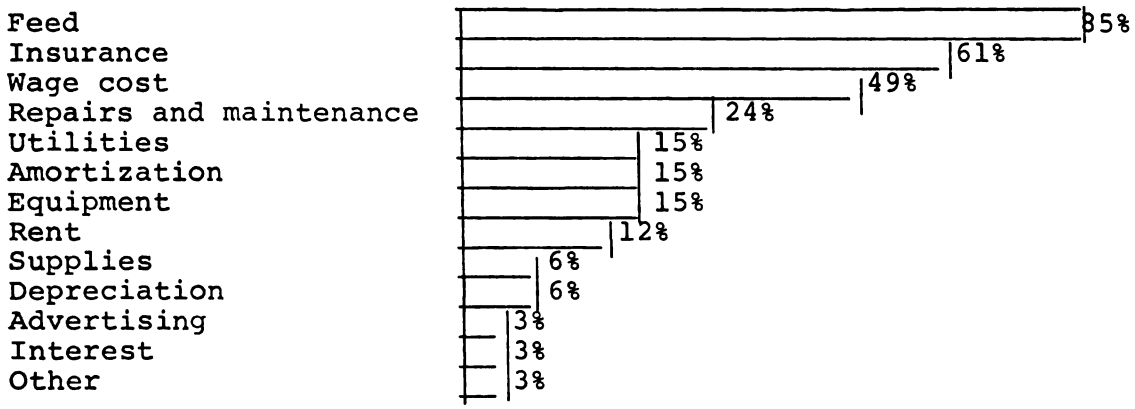
Type of Cost	Non-Cash Costs per Enterprise by Class Size		
	Small	Medium	Large
1) Building and improvement depreciation	2,160	1,070	2,200
2) Machinery and Equipment depreciation	300	270	400
3) Interests	1,010	690	2,470

generally having greater numbers of supportive buildings, seem to generate larger depreciation costs and related stock costs, apparently having larger boarding capacities.

The findings of the Illinois study seem to generally support these findings, as it was stated, "when the entrepreneurs were asked about their major expenses, 85% gave the cost of feeding the stock, 61% listed insurance premiums, and

49% gave wages and salaries. Other major operating expenses included: maintenance and repairs, utilities, amortization, equipment, rent, depreciation, supplies, advertisements, and interest."[1]

Table C-3 - Major Operation Expenses



Findings - 1968 study of Horseback Riding Enterprises - Southern Illinois University.

It was indicated above that insurance costs were reported abnormally large, differing from our findings and those from the Wisconsin study.

"Labor, depreciation, and supplies were the major components of enterprise costs. Such fixed costs as insurance, taxes, interest, and utilities seemed to be nominal and reasonably well proportioned among the size categories."[2]

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[1]McCurdy, Fligor, "Horseback Riding Enterprises," Southern Illinois University, 1968, p. 12.

[2]Christiansen, Stainforth, Johnson, Cooper, "Economic Aspects..." University of Wisconsin, p. 8.

Table C-4 - Average Annual Recreation Costs by Size Categories, 38 Riding Stable Enterprises, Wisconsin, 1965.

Costs	Size Categories			
	Small	Medium	Large	All
Number of enterprises	19	14	5	38
Depreciation	$ 407	$1,990	$3,800	$1,437
Labor	263	1,834	7,100	1,741
Advertising	77	306	517	222
Utilities	125	240	862	264
Supplies	669	1,730	3,800	1,472
Property taxes	80	370	947	301
Other taxes	74	162	235	128
Maintenance	189	717	932	469
Interest	161	438	850	353
Insurance	210	173	900	287
Total	$2,255	$7,960	$19,943	$6,674
Percent of gross recreation income	53	63	71	64

Overall operating costs for the Wisconsin study were generally much lower than those reported by our sample. Much of the difference may be explained by variances in cost-item definitions used and inflation rates. The similarities in terms of cost ranges between the various size enterprise classifications for property taxes (governments) and costs are quite apparent.

The limited amount of data also collected within the Missouri study also indicated higher costs for equipment, supplies and labor.

As indicated within the second hypothesis, it was originally expected, given feed and labor costs, that most

Table C-5 - Annual Enterprise Operational Costs, Missouri, (1962).

	Range	Average Cost
Advertising	$ 0 - 150	$ 94
Supplies and Equipment	200 - 4,000	1,625
Repairs	0 - 100	50
Property tax and Licence	10 - 65	46
Hired Labor	0 - 1,600	1,000
Average Total		$2,815

enterprises would report lower fixed costs in terms of their overall short run variable costs. The following charts separate out what was determined to be variable and fixed costs. With labor and related stock costs apparently a function of the amount of enterprise activity generated over the short-term. The higher variable costs support the second hypothesis.

Fixed costs - (relatively fixed with respect to quantity of output). Variable costs (vary with different output volums).

Table C-6 -(1) Average Annual Fixed Costs per Enterprise for Size Classes (1971).

Type of Cost			
1) Land rental	$ 470	$ 840	$2,530
2) Governments	740	920	1,570
3) Utilities	480	620	1,330
4) Interest on loans	1,010	690	2,470
5) Depreciation: bldg. + facil.	2,160	1,070	2,200
equipment	300	270	400

Table C-7 - (2) Average Annual Variable Costs per Enterprise for Size Classes (1971).

Type of Cost	Small ($)	Medium ($)	Large ($)
1) Maintenance - machinery	$ 630	$ 630	$ 790
2) Stock - maintenance	710	1,780	4,240
feed	2,180	5,040	9,730
vet service	390	497	1,235
3) Labor - family	1,800	2,000	2,400
non-family (p.t.)	900	1,800	4,000
(f.t.)	5,000	3,100	17,200
4) Insurance - liability	340	660	920
5) Advertisement	320	530	1,775

The underlying assumption of the third hypothesis is that the private recreation horse industry, as a growing concern expanding as increase market demands allow, depends heavily on family labor for its smaller scale enterprises and on non-family labor for its more developed, larger enterprises. It was noted in Chapter I that the results of national survey[1] indicated that many private recreation enterprises are predominately small, with over three-fourths of the establishments reporting no year-round full-time employees. Also, during the season, it was noted that over half of the studied enterprises managed to run their business without full-time help.

These figures somewhat adequately describe the employment picture for many of the sampled small class commercial horse enterprises.

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[1]Robert Nathan Associates, "Recreation as an Industry", a report prepared for the Appalachian Regional Commission, 1962, p. 12.

Table C-8 - Average Annual Labor Costs by Enterprise Size Class (1971).

Labor		Small	Medium	Large
Family		$1,800	$2,800	$ 2,400
Non-family	(p.t.)	900	1,800	4,000
	(f.t.)	5,000	3,100	17,200

As indicated in the preceding table, larger enterprises supported higher non-family labor costs than either the medium or small size enterprises. The third hypothesis is tested positive. It is difficult to explain why the data noted below indicated lower full-time non-family labor costs for medium over low enterprises. Part of the reason may be based on the fact that only a 24% response was obtained from the sample on this item and of the three subsets, fewer enterprises are within the medium size class.

The following chart (C-9) summarizes the distribution of enterprise costs for each enterprise size. The average clearly indicate, as previously noted, that non-fixed and cash costs, greatly dependent on the amount of retail services provided, far exceed fixed and non-cash costs.

The earlier section on investments indicated close similarities of expenditures by small and medium size enterprises. The fixed and non-cash costs listed below seem to support the conclusion that these groupings of enterprises are comparatively the same in terms of the type of major resources used in their operations, (i.e. land and facilities).

The major differences lie in the number of recreational services provided by each, effecting revenues received and supportive costs paid out.

Table C-9 - Average Annual Enterprise Costs by Size, (1971).

Cost Index	Size Index		
	Small	Medium	Large
Fixed	$2,430	$ 3,521	$ 7,548
Non-Fixed	5,397	10,922	32,038
Cash	5,631	10,308	29,958
Non-Cash	2,987	1,662	3,666
Total operating cost	7,827	14,444	39,586

In reviewing the findings on enterprise costs, the enterprise type index and general enterprise activity listings were again used (Charts C-10, C-11) to test for possible differences among these enterprise classes.

An initial review of the findings shown on the following table reflect exceptionally high operating costs reported by medium size selling enterprises. The selling of horses was the highest income producing activity for all enterprise sizes and was the greatest income producer for a substantial number of small and medium size enterprises, providing this activity. It apparently seems that the growing recreational interest of user of horse related activities might be directed towards horse purchases. The high capital investments made by medium size selling enterprises seem to support the idea that a major segment of the industry is

gearing up to a possible boom in the horse retailing service.

Enterprises who retailed tack and gear noted higher total operating costs than those who reported activity as their major income producer (Chart C-10). This may indicate new inventory purchases by enterprises just initiating this type of service.

Hypothesis: Large primary recreation enterprises will report greater operating costs than large non-primary recreation enterprises.

The supporting rationale is that commercial horse enterprise managers/owners, dependent upon their services for supportive income, will necessarily face greater service related costs. The previously reviewed pattern of capital investment expenditures is also considered in this regard.

As indicated in the following chart, the hypothesis is proven correct, surprisingly noting the large range of disparity between primary and non-primary medium size recreation enterprises. An implication that might be drawn is that the existing potential for new growth in the industry will be from enterprises of substantial size but whose managers are only providing existing services on a supplementary basis. Financial assistance may be needed by smaller enterprise owners who are attempting to support themselves through the provision of recreation services while management information might be directed to the many enterprise owners who may only lack the necessary skills or training to convert over their existing facilities to

Table C-10 - Average Enterprise Annual Costs by Enterprise Type Index (1971) (# of Enterprises in Subset).

Activities	Small						Medium					
	#	Fixed	Non-Fixed	Cash	Non-Cash	Total Operating	#	Fixed	Non-Fixed	Cash	Non-Cash	Total Operating
Horseback Riding	-	-	-	-	-	-	5	3,596	19,852	19,134	1,886	23,448
Boarding	16	2,093	4,163	4,437	2,164	6,257	5	2,994	13,304	11,582	912	16,298
Riding Instructions	-	-	-	-	-	-	-	-	-	-	-	-
Training	2	630	1,035	1,480	220	1,665	2	1,700	7,580	8,780	2,970	9,280
Breeding	9	3,500	7,992	7,813	4,558	11,492	5	4,276	10,500	8,588	1,492	14,776
Horseshoeing	-	-	-	-	-	-	2	1,240	5,049	5,389	100	6,289
Arena Shows	-	-	-	-	-	-	1	4,700	1,325	3,545	2,620	6,025
Sale of Horses	6	2,265	6,430	6,910	3,787	8,695	7	4,688	104,110	103,482	2,570	108,799
Sale - tack and gear	-	-	-	-	-	-	1	150	2,570	2,440	-	2,720
Selling Refreshments	-	-	-	-	-	-	1	4,230	14,720	17,900	-	18,950
Dude Ranch	-	-	-	-	-	-	-	-	-	-	-	-
Sale - Horse Trailers	-	-	-	-	-	-	-	-	-	-	-	-

continued...

Table C-10 (Continued)

Activities	Large					
	#	Fixed	Non-Fixed	Cash	Non-Cash	Total Operating
Horseback Riding	3	2,543	37,035	35,108	2,146	39,578
Boarding	8	8,668	47,866	44,568	2,862	56,535
Riding Instruction	3	11,813	38,569	34,246	8,433	50,383
Training	1	5,310	15,250	13,020	1,860	20,560
Breeding	3	5,623	26,210	25,186	6,233	31,833
Horseshoeing	1	650	3,790	3,160	-	4,440
Arena Shows	-	-	-	-	-	-
Sale of Horses	3	10,573	26,256	22,310	3,480	36,830
Sale - tack and gear	2	6,975	14,065	9,760	2,825	21,040
Selling Refreshments	1	18,290	31,990	25,920	6,670	50,280
Dude Ranch	3	5,610	37,116	39,860	1,633	42,726
Sale - Horse Trailers	1	4,530	9,450	10,720	5,220	13,980

Table C-11 - Average Annual Enterprise Costs by Enterprise Activity (1971).

Activities	Small						Medium					
	#	Fixed	Non-Fixed	Cash	Non-Cash	Total Operating	#	Fixed	Non-Fixed	Cash	Non-Cash	Total Operating
Horseback Riding	1	2,730	5,212	5,522	1,500	7,942	5	3,894	15,213	14,501	1,102	19,107
Boarding	4	2,852	9,376	8,191	5,657	12,229	8	3,781	8,968	8,454	1,469	12,749
Riding Instructions	7	2,644	7,186	7,271	2,131	9,830	10	3,550	9,175	8,472	820	12,725
Training	7	2,359	4,565	4,700	2,930	6,924	11	2,864	7,533	7,254	1,434	10,417
Breeding	10	2,362	3,420	3,876	2,156	5,782	4	3,517	11,154	11,511	2,210	14,671
Horseshoeing	2	3,835	8,576	8,976	3,275	12,411	3	4,283	8,231	9,261	2,440	12,515
Dude Ranch	-	-	-	-	-	-	1	3,337	12,434	10,810	793	15,770
Arena Shows	1	1,660	4,290	4,920	2,130	5,950	1	1,090	5,648	6,748	1,780	6,738
Sale of Horses	9	2,697	5,521	5,635	2,450	8,218	7	2,304	9,259	8,441	1,256	11,564
Sale - tack and gear	-	-	-	-	-	-	1	5,090	33,576	28,946	450	38,666
Hay and Sleigh Rides	-	-	-	-	-	-	10	3,985	16,609	15,549	1,498	20,594
Sale - horse trailers	2	2,125	11,886	12,246	805	14,011	-	-	-	-	-	-
Sale - Refreshments	-	-	-	-	-	-	-	-	-	-	-	-

continued...

Table C-11 (Continued).

Activities	Large					
	#	Fixed	Non-Fixed	Cash	Non-Cash	Total Operating
Horseback Riding	5	4,710	31,864	32,722	3,412	36,574
Boarding	13	9,155	36,473	32,887	5,916	45,628
Riding Instructions	14	9,279	43,853	41,095	4,475	53,132
Training	16	10,285	43,825	39,444	5,051	54,110
Breeding	14	7,617	19,586	16,585	3,037	27,204
Horseshoeing	-	-	-	-	-	-
Dude Ranch	3	6,837	43,183	43,973	4,933	50,020
Arena Shows	7	11,955	50,926	47,032	3,847	62,882
Sale of Horses	13	9,503	36,663	33,974	5,766	46,135
Sale - tack and gear	10	9,519	46,141	44,343	2,884	55,660
Hay and Sleigh Rides	8	7,083	36,678	33,597	4,579	43,762
Sale - horse trailers	2	3,735	46,547	44,582	5,895	50,282
Sale - Refreshments	5	7,979	31,122	28,912	3,511	39,101

primary recreation enterprises.

Of personal interest in reviewing production costs of the industry were findings focused on enterprise advertisement costs and levels of enterprise indebtness. It is hoped that this analysis might provide impetus for additional research on these topics.

The Wisconsin study indicated that newspapers and yellow pages were two media sources used intensively by their sample of horse enterprises.

Advertisement:

Hypothesis: 1) The majority of all enterprises will report greater expenditures for newspaper and yellow pages advertising while average advertising costs will be relatively small for the industry.

The average cost of advertising for all sample enterprises was $ 871, which in comparison to other operating costs, represents a small annual cash outlay. Most enterprise operators reported that "word of mouth" was the most efficient technique of advertising and placed only minimal values on the use of other, more costly methods. The graph below indicates that the greatest percentage of enterprises utilized newspapers, magazines, journals and roadside advertising with the yellow pages used only by 1/3 of the large enterprises. The above hypothesis could be determined as partially correct.

Few enterprises reported advertising at professional

Table C-12 - Enterprise Costs: Primary and Non-Primary Recreation Enterprises (1971), by Size.

Cost Index	Primary Recreation Enterprises (25)			Non-Primary Recreation Enterprises (70)		
	Small (5 ent)	Medium (8 ent)	Large (12 ent)	Small (29 ent)	Medium (21 ent)	Large (20 ent)
	Ave.est.	Ave.est.	Ave.est.	Ave.est.	Ave.est.	Ave.est.
Fixed	2,394	4,620	8,835	2,290	3,102	6,997
Non-Fixed	3,818	20,332	40,178	5,616	39,441	26,777
Cash	3,892	19,307	37,635	5,957	38,983	24,808
Non-Cash	1,986	1,975	4,663	2,758	1,542	3,021
Total Operating	6,212	24,952	49,014	7,905	42,543	33,775

Table C-13 - Average annual Advertising Costs (1971)

	(1) #	(2) % use	Small (35 ent) Ave. annual cost	#	% use	Medium(29 ent) Ave. annual cost	#	% use	Large (33 ent) Ave. annual cost
Newspapers	19	54	165	15	52	130	21	64	1220
Magazines/Journals	14	40	87	13	45	910	11	33	480
Road Side Advertising	6	17	33	10	34	88	10	30	220
Brochures/Pamphlets	2	6	20	3	10	50	9	27	450
Radio/Television	-	-	-	2	7	35	10	30	380
Yellow Pages	1	3	20	4	14	380	11	33	1,190
Posters	-	-	-	1	3	20	1	3	350
Professional Assoc. Advertising	4	11	35	2	7	25	5	15	40
Special Horse Shows	4	11	520	2	7	415	4	12	1,710
Mail Follow Up's	-	-	-	1	3	-	7	21	430
Miscellaneous	1	3	30	2	7	115	4	12	130

(1) # enterprises

(2) % of total

horse shows which may be reflected of the relatively high cost entailed. Apparently larger enterprises can better support costs for the use of more expensive media, as radio and television which, in reflection to the 1966 Wisconsin data, is seemingly an increasing source for public advertising. Again the average reported advertising costs noted within the Wisconsin study are relatively much lower but similarities between results indicate higher costs for Sport Show advertisement and larger percentage of use of newspapers and roadside advertising.

Table C-14 - Amounts Spent on Advertising; Riding Stable Survey, University of Wisconsin, 1966.

Method	Operations Reporting #	%	Average Cost $
Newspaper	16	42	65
Individual Brochures	12	32	40
Roadside Advertising	9	24	44
Recreation Association	8	21	26
Radio and Television	6	16	46
Sports Shows	4	11	320
Magazines	3	8	376
Mail Follow-ups	2	5	30

The following hypothesis deals with levels of enterprise debt, with perhaps its most important aspect is that it necessitates an interest payment -- a profit limiting, out of pocket cost. It can also serve as a reflection of the financial standing, or borrowing ability, of the industry.

Hypothesis: Large enterprises will report higher levels of

indebtness while the majority of smaller enterprises will report having incurred investment loans for support of their operations.

The above hypothesis suggests that larger enterprises, supporting larger capital investments, will be carrying extensive loans. The majority of smaller enterprises samples, being marginal[1] in nature, will support investment loans on a much smaller scale.

The study produced a limited amount of data involved with supportive enterprise investment or operating loans (See Appendix I). Mr. Schall will refer to problems indicated by the enterprise operators regarding the obtainment of loans, average interest rates, etc. Of concern here, as suggested above, is a focus on the relative scale of reported indebtness.

The first significant finding was that only a small number of surveyed enterprises, representing 38% of the sample, reported any supportive enterprise loans. Apparently most enterprise managers invest monies into the business on a earn-as-you-go basis. As noted below, the first portion of the hypothesis was supported, with the average level of

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[1] A possible definition of a 'marginal' or 'scavenger' commercial horse enterprise, assuming to include many sampled enterprises within our "small classification, is one which tends to only use resources which are not profitable (saleable) and which would otherwise not be used to good advantage. These enterprises are also not likely to be profitable if they are enlarged to a point where they begin to compete for the use of productive land and/or labor which are used in producing the existing economic rent of their enterprises.

indebtness for the reporting 39% of large enterprises being three fold that for small enterprises. A non-surprising result.

The medium size enterprises had the highest percent of reported loans, possibly further indicating the stage of growing development characteristic of this industry. Slightly over a third of the small class enterprises reported loans, averaging less than $10,000, disapproving the remainder of the hypothesis. These findings assist in further defining the nature of these marginal enterprise operations.

Table C-15 - Estimated Enterprise Indebtness by Enterprise Size Class:

Small			Medium			Large		
#	%	Ave. Amt.	#	%	Ave. Amt.	#	%	Ave. Amt.
37.2		$9,600	41.4		$12,400	39.4		$31,700

Though the reported amounts, as expected, were again smaller in scale for the findings of the Wisconsin study, the comparative relationships between enterprise sizes were relatively the same.

Table C-16 - Average Amounts of Credit Outstanding,(Wisconsin, 1966).

Size Category	# using credit	Ave.Amt. of credit outstanding	Ave. interest rate paid
Small (19)	5	3,400	6
Medium (14)	6	3,750	6
Large (5)	2	8,750	6

Summary of Findings

A) Capital Investments:

The majority of all size classes of enterprises reported relatively intensive initial capital investments and major remodeling re-investments. Large corporative type enterprises reported averages of over $50,000 in these categories with the smaller and medium size enterprises, the 'family-operated' type facilities, noting less than 50% of those estimates. The relatively high percentage of enterprise owner/managers indicating future capital investments of over $10,000 reflects the sense of optimism and expansion of what may be considered a still immature recreation industry.

Plans to purchase new land areas, buildings and new stock may support the above assumption of a growing industry which is still increasing its base of operations to provide for an expected increased user demand. Enterprise operators of primary recreation facilities who have either initially purchased their facilities, or have converted over farm based facilities, for purposes of generating maximum profits seem to be investing greater funds toward this goal.

B) Commercial Horse Activity Incomes:

It was noted in Chapter I that the results of our pre-study research indicated that the boarding, breeding and horseback riding activities were reportedly generating the largest incomes for a sample of approximately two hundred (200) enterprises. Results of this survey indicated larger

revenues from breeding, selling and horseback riding retail services. One may logically conclude that in a growing recreation industry of this nature, larger revenues may initially be expected to be generated by enterprises from such basic services while such activities as dude ranch operations, riding instructions and training of horses offers potential for a future, more sophisticated recreationist.

The survey reviewed in Chapter I also indicated that the majority of enterprise operations provided at least three different income producing activities reflecting the growing trend of multipurpose, multi service recreation based enterprises expanding across the nation. Chapter IV will further discuss the importance of needed research designed to review maximum efficiency combinations of commercial horse enterprise activities.

C) Commercial Horse Enterprise Operating Costs:

The feed and maintenance of horses, the ever increasing cost of labor and the necessary remodeling of old, depreciating facilities, such as barns and stalls, are some of the major costs facing the industry. The average enterprise operator is generally faced with relatively low fixed or overhead costs in maintaining his base of operations. Yet, variable costs seem to expand quickly with the provision of each unit of additional recreation service.

A review of the data findings on labor costs which reflects the dependency of smaller enterprises to rely on family based labor in order to continue operations, focuses

the question as to the long term durability of these types of enterprises in standing up against the growing competition of larger, corporative type enterprises. It would seem, at least at the present time, the inbalance between what is known of the horse enterprise supply and demand situations may reflect room for such marginal type facilities.

Section III: A Determination and Review of Economically Successful Enterprises.

Introduction

It was originally proposed within the research design to identify all major investments, incomes and costs of the industry in order to accomplish a number of objectives. One, in particular, was the calculation of returns on investment. It was proposed that all enterprises reporting rates of return over and above 5%, estimated a 1971 current market interest rates on savings, would be classified in terms of this project as being economically successful.

The following chart summarizes the accounting information for each enterprise size class. The negative net incomes[1] and rates of return on investments may be partially explained by the greater survey response rates received on

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[1](net incomes as shown in table Sum-1 were calculated by subtracting operating costs from reported revenues - no measure of enterprise reporting negative incomes was made).

cost expenditures than on revenues. It was noted earlier that approximately 49% of enterprise managers interviewed reported no net incomes, writing off their apparent losses as tax shelters.

Net incomes and rates of return on investments should not be confused with the concept of net worth. A review of the following table indicates that the majority of sample enterprises are in relatively stable financial condition in terms of net worth.

Table Sum-1 - Average Enterprise Net Worth by Enterprise Size Class.[1]

Small		Medium		Large	
#	Ave.Amt.	#	Ave. Amt.	#	Ave. Amt.
32	$98,000	28	$173,000	31	$472,000

The above figures represent equity estimates comparative to those reported in both the Wisconsin and Illinois studies.

Table Sum-2 - Estimated Enterprise Net Worth. Wisconsin (1966).

Small		Medium		Large		Total
(39%)	1,831	(67%)	16,909	(80%)	61,240	15,239

The differences in net worth between the small and medium class size enterprises was approximately only $75,000 while between medium and large class size enterprises, a difference of about $300,000 was reported.

[1]Estimates were reported by sampled enterprise operators.

Table Sum-3 - Estimated Enterprise Net Worth, Illinois.

Range	% of sample
Less than $10,000	15
11,000 - 25,000	21
26,000 - 50,000	33
51,000 -100,000	18
101,000 or more	12

Table Sum-4 - Summary Account - Private Recreation Horse Enterprises - by Size (1971) - Size Index.

Average Estimates	Small (35 ent)	Medium (29 ent)	Large (33 ent)
Fixed Costs	2,430	3,521	7,548
Non-Fixed Costs	5,397	10,922	32,038
Cash Costs	5,631	10,308	29,958
Non-Cash Costs	2,987	1,662	3,666
Total Operating Costs	7,827	14,444	39,586
Gross Recreation Income	3,704	8,013	41,677
Total Capital Investment	29,332	38,472	98,994
Net Cash Enterprise Income	-2,581	-3,677	10,548
Net Income	-4,770	-7,812	921
Rate of Return on Investment	- .25	- .06	.08

The data points up the relatively high investment - low return nature of most of the recreation horse industry. Net cash incomes appear generally low, especially for the large number of smaller enterprises. From the standpoint of the

Table Sum-5 - Summary Account - All Sampled Private Commercial Horse Enterprises, (1971).

Account Variables	Minimum	Maximum	Sum	Mean
Fixed Costs	-	22,600	420,010	4,421.16
Non-Fixed Costs	510	124,915	1,494,524	15,731.86
Cash Costs	1,380	124,785	1,421,517	14,963.34
Non-Cash Costs	-	19,980	263,400	2,772.63
Total Operating Cost	1,560	142,245	1,914,537	20,153.02
Gross Recreation Income	-	218,000	1,546,300	18,000.00
Net Cash Enterprise Income	-98,785	189,580	130,183	1,370.35
Net Income	-116,245	189,590	-362,837	-3,819.34
Total Capital Investment	100	559,100	5,187,800	54,608.42
Rate of Return on Investment	-	4.0	-	.13

Michigan horse enterprise user, it appears that related recreation resources are being supplied at fairly reasonable prices, and that 'excess' profits to the industry are quite low.

Yet, it should be remembered that these figures are industry-wide averages. There may be many high-return firms in the various enterprise types, as well as low-return operations. A more important question than adequacy of these recreation horse enterprises might be whether or not these smaller firms can continue to operate in view of their generally low returns. From an economic standpoint, the previous information of the preceding tables suggests

Table Sum-6 - Summary Account - Primary and Non-Primary Recreation Enterprises by Size (1971).

	Primary Recreation Enterprises			Non-Primary Recreation Enterprises		
	Small (5 ent)	Medium (8 ent)	Large (12 ent)	Small (24 ent)	Medium (21 ent)	Large (20 ent)
Fixed Costs	2,394	4,620	8,835	2,290	3,102	6,997
Non-Fixed Costs	3,818	20,332	40,178	5,616	39,441	26,777
Cash Costs	3,892	19,307	37,635	5,957	38,983	24,808
Non-Cash Costs	1,986	1,975	4,633	2,758	1,542	3,021
Total Operating Cost	6,616	24,952	49,014	7,905	42,543	33,775
Gross Recreation Income	2,440	4,137	58,154	3,134	7,581	26,195
Total Capital Investment	45,560	46,362	111,630	25,472	35,466	87,105
Net Cash Enterprise Income	-1,452	-15,169	20,158	-2,823	-31,403	1,386
Net Income	-3,772	-20,814	9,139	-4,771	-34,963	-7,580
Rate of Return on Investment	-.11	-.08	.13	-.26	-.06	-.05

adequate returns for resources employed in this recreation industry are not being realized in many cases. However, it must be remembered that this industry was found to be largely made up of part-time enterprises. Also, because social, cultural, and other noneconomic motives enter into the decisions made to go into or remain in this industry, it would seem hazardous to predict any movement of resources out of the commercial horse industry.

This type of judgment needs to be weighed against additional information not previously discussed. The motivations and primary objectives of small enterprise owners, noted later in this section, as well as other information, needs consideration before one can 'write-off' the commercial horse industry. A review of findings noted for primary recreation enterprises reflect somewhat greater net incomes and returns on investments, indicating a potential for more efficient enterprise operations once management is committed to provide services geared to and for the recreationist.

As previously indicated, the lower than expected percentage of valid responses provided by enterprise operators provided for an incomplete accounting record which generated many negative to low return ratios. To account for the missing data, the following procedure was utilized to calculate an index of economically successful enterprises.

1) All enterprises reporting extremely low percentages of responses to economic study questions were discarded within

this consideration.

2) Using calculated rates of return as a guideline, comparisons were made to the income and cost data reported for each enterprise, eliminating cases where discrepancies so required.

The enterprises included within the economically successful index reported rates of return averaging from .25 to 4.0%. Within this realm, it can be stated that the use of this index is justified solely for purposes of data analysis within this report and resulting statements must be considered in view of these limitations. The following section briefly looks at several management factors related to economically successful enterprises while a more detailed analysis of potentially determinable variables are included within Mr. Schall's work. The final portion of this section outlines the results that were obtained in a test of hypothesis generated from the following analysis.

Management Related Factors

"One can hardly overemphasize the key role of management in the success or failure of most businesses. It certainly is true of farming. And it is equally true in recreation -- whether one is operating it as a single enterprise or as part of a larger business."[1]

The objective of this section is to acknowledge the importance of key management-related factors, such as

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[1]Johnson, Hugh, "The Enterprise Analysis - The Man in Management", Paper prepared for presentation for Soil Conservation Service, February, 1968. New Mexico.

motivation, education, experiences etc., and to suggest how these factors may relate as socio-economic determinants of economically successful enterprises. Utilizing correlation analysis, the pre-determined economically successful enterprises will be matched with the management related factors as noted below. (Mr. John Schall, as part of his research efforts, has provided the definitions and classifications for the following socio-economic index (see Appendix I).

Key Management-Related Factors:

1) Education
2) Age
3) Experience
4) Motivation

1) Education.

Hypothesis: Operators of successful enterprises will significantly more often have higher formal education backgrounds than will operators of unsuccessful enterprises.

The implied assumption needs little justification. The basic management skills necessary today to successfully operate any business require a good formal educational background.

Table Man-1 - Education Index - All Sample Enterprises.

	# Enterprises	% of Total
Average education levels	47	49.4
Above average education levels	46	48.4

As indicated above, the distribution of the sample was relatively equal above and below the average reported education level (obtainment of high school diploma).

Table Man-2 - Education Index - Correlation with Economically Successful Enterprises.

Index categories	Non-Successful #	Non-Successful %	Successful #	Successful %
Average Education Level	45	95.7	2	4.3
Above Average Education Level	32	71.1	13	28.8

Correlation = .339
Chi square = 12.227
Significant at .01

As indicated in the above chart, the hypothesis was proven correct at .01 significance with the majority of the successful enterprise operators within the above average education index level. One might conclude from such an analysis that an above high school formal education background might be an important asset to a potential horse enterprise manager, possibly increasing the probability of his financial success.

2) Age.

Hypothesis: Operators of successful enterprises will not significantly fall within any one age category.

The above hypothesis suggests that age alone will not be an important variable in determining economic success. Yet, if it can be assumed that experience is a function of age, it may be expected that more successful managers will

fall within the older age category.

Table Man-3 - Age Index - All Sample Enterprises.

Type: years of age	Owners/# Ent. Managers	% of total
23 - 35 - below average	29	30.4
36 - 48 - average	42	44.2
49 - 82 - above average	24	25.2

Table Man-4 - Age Index - Correlation with Economically Successful Enterprises.

Index classifications	Non-Successful		Successful	
	#	%	#	%
Below average	21	75.0	7	25.0
Average	37	90.2	4	9.8
Above average	20	83.3	4	16.7

Correlation = .235
Chi square = 5.437
No significance

There was no significant correlation, as expected, between age categories of enterprise managers and economically successful enterprises. Of interest in the analysis was that a higher percentage of successful enterprise operators were within the 25-35 age group, although the majority (44.2%) of all enterprises were within the average age group (36-48). This may be a reflection of the growing status of the industry, which may increasingly expand under a more youthful management whose new skills may be a necessary ingredient for assuring

financial stability.

3) Experience.

Hypothesis: Operators of successful enterprises will significantly more often have formal educational experiences than will operators of unsuccessful enterprises.

New skills and abilities are required to profitably introduce and manage recreation enterprises and as indicated above, it may be expected that acquiring these capabilities often will entail training or retraining of a formalized nature to provide for drastic changes in managerial philosophies and attitudes common among many rural, non-people oriented enterprise farm managers.

> "Special requirements exist when one is to serve the public satisfactorily. The recreation product, unlike the usual farm product is unstandarized and unpredictable. The operator will have to meet a variety of people -- who often exhibit less than their best behavior -- and he must be willing to cater to their whims. He will have to keep his guests happy while keeping them from wrecking his facilities and, at the same time, try to make a profit. The recreation product is marketed in a very personalized situation."[1]

Various measures of experience were obtained from each of the sampled enterprise owners/managers. The range of responses was extremly large, but a breakdown was provided dependent on the amount and type of practical vs. formal education-type[2] experiences reported.

Little significance in the correlation between success and type of experience was determined, while percentages in table Man-6 indicate that two-thirds of the successful

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[1] op.cit, Johnson, "The Enterprise Analysis," p. 5

[2] Involves both school training and apprentice types of experience working with skilled managers, etc.

Table Man-5 - Experience Index - All Sample Enterprises.

Type	# Enterprises	% of Total
Practical Experience	61	64.2
Formal Education Experience	34	35.8

Table Man-6 - Experience Index - Correlation with Economically Successful Enterprises.

Index Type	Non Successful		Successful	
	#	%	#	%
Practical	55	91	5	9
Formal	22	68	10	31

Correlation = .311
Chi square = 10.008
Significance at .25 only

managers had formal educational experience.

4) Motivation.

Hypothesis: Operators of successful enterprises will significantly more often report higher profit motivation than will operators of unsuccessful enterprises.

Recreation Horse Enterprises owners/managers were asked to indicate their reasons for being in business in terms of generating enterprise profits. An index of responses was determined covering the range of enterprises who reported operating strictly for reasons of personal or family enjoyment to those whose sole purpose of operation was that of generating income.

With the large range of family type operations within this industry, the question of profit motivation is an interesting one.

> "One way of viewing the total returns to these small firms is to consider the organizational theory concept of 'satisficing' described as 'looking for a sharp enough needle in the haystack, rather than the sharpest'. In other words, one assumes that the operator's objective is an acceptable level of profit rather than the maximum attainable."[1]

This begins to focus on the base consideration of why some people operate recreation enterprises. The profit motive, as stated above, is not necessarily the answer.

> "Some operators are willing to maintain their small recreation facilities at cash cost to themselves simply because they believe in conservation, because members of their families want the recreation, or because this is one way for a gregarious retired person to keep active and have people around. These reasons often are more significant to the individual than whether or not he breaks even financially."[2]

The above statement more or less describes the typical windfall or social enterprise operation which collects what revenues it can without additional investments for producing new recreation products. A sequential category of enterprises includes what may be termed a 'supplemental' operation whose differences are involved within their scale of operations, degree of capital involvement, contractual responsibilities, and level of profit motivation. The large

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[1]Baldwin, W. L. "The Motives of Managers, Environmental Restraints, and the Theory of Managerial Enterprises," Quarterly Journal of Economics, 78:2 (May, 1964) 238-256.

[2]Johnson, Hugh, "The Enterprise Analysis - The Man in Management," Paper prepared for presentation for Soil Conservation Service, February, 1968, New Mexico, p. 9.

size class of enterprises involved within this study includes large income producing types of operations which can be considered as major recreation oriented enterprises. It may be assumed that for this group as a whole, profit motivations are at the maximum.

Table Man-7 - Motivation Index for All Enterprises.

Types	# Enterprises	% of Total
Low Profit Motivation	44	46.2
Medium Profit Motivation	18	18.9
High Profit Motivation	33	34.7

In terms of testing the proposed hypothesis, the following table shows that the majority of successful enterprise operators were reported within the high motivation group, but the correlation was only significant at .25.

Table Man-8 - Index of Motivation/Correlation with Economically Successful Enterprises.

Index Type	Non-Successful		Successful	
	#	%	#	%
Low	39	92.8	3	7.1
Medium	15	83.3	3	16.7
High	24	72.7	9	27.3

Correlation = .257
Chi square = 6.565
Significance at .25 only

Summary of Findings

Formal education in and of itself would seemingly have questionable advantages in terms of providing a commercial horse enterprise manager with all the necessary management resources needed. Yet, the findings indicate that apparently such an educational background is an important asset to the manager. Age and experience are closely related but one might suggest from the findings that possibly more progressive thinking and willingness to experiment, as stereotype factors related to youth, may have a bearing on the potential economic success of an enterprise. This is also carried over into the type of working experience a manager brings to his enterprise. The findings indicated that a high percentage of manager/owners falling within the economically successful category had formal training and experience backgrounds, (i.e. college courses, professional training experiences). A possible indication here is that improvements in the technology related to the feed and care of horses, in marketing practices, and in specialized methods of related activity production may necessarily require improved technical backgrounds than what is provided by 'good-old' practical experience.

Finally, motivation seems to be an important key in determining the potential for economic success of an enterprise. Managers/operators of major recreation oriented enterprises, concerned about the quality of their user

oriented services will generally increase their potential for economic success.

CHAPTER IV

CONSIDERATIONS FOR FUTURE ANALYSIS

Introduction

The objective of this chapter is to outline a rationale for research. The first section includes a descriptive economic comparison of returns on investments for various firm categories which reflect various firm scale of operations. The concluding section develops a supportive augment for the noted recommendations for future research.

Section I: The Implication of Size as Related to Efficiency of Operation.

The managers of recreation horse enterprises must be concerned with such basic economic concepts as marginal revenue and costs, economies of scale and diminishing returns if they are to be economically successful in managing their recreation resources. The focus of this section is to test the assumption that economies of scale in the private recreation horse industry exist in respect to greater utilization of fixed resources, such as land and facilities, machinery and labor.

Table Ex-1 - Gross Enterprise Activity Income Per Unit of Various Inputs.

Input Item: Gross Recreation Income per:	Small		Medium		Large	
	% of Ent	$ Ratio	% of Ent	$ Ratio	% Ent	% Ratio
Utilized acres	80	160.31	83.0	436.93	97.0	772.90
$1,000 - initial investment in land and buildings	2.8	.02	3.4	.03	24.0	.30
$ 1,000 - Farm - Horse Enterprise Conversion	31.0	.74	3.4	.03	9.0	.45
$1,000 - initial investment - major equipment	20.0	1.51	35.0	1.17	82.0	3.39
$1,000 - initial investment - stock	49.0	6.02	66.0	8.13	81.0	28.87
$1,000 - capital re-investment (remodeling)	38.0	.42	25.0	1.37	49.0	4.42
$100 - cost - family labor	43.0	1.60	69.0	5.72	81.0	17.81
$100 - cost - non-family labor	63.0	2.85	83.0	5.65	86.0	8.36

If a manager of a commercial horse enterprise is able to gain a greater return for the sale of his horse enterprise goods and services to the public, using basically the same resources, he will be able to spread his fixed costs over a greater number of horse activity inputs, and in so doing, reduce the unit cost of production.

The following chart noting the relatively large number of diverse income-producing goods and services offered by those enterprises defined as being economically successful is included to further indicate that multiple-enterprise activity combinations are apparently crucial for successful enterprises. Research on this type of recreation industry to follow will need to focus its efforts on developing that information which can be used to indicate maximum efficiency in enterprise activity combinations. Section II will further augment this point.

Table Ex-2 - Index of Activities/Successful Enterprises - Index of Horse Enterprises[1] and Activities.

	Successful Enterprises		Unsuccessful	
	#	%	#	%
High	9	60	39	49
Medium	3	20	18	22
Low	3	20	23	29

[1] See Appendix I for index definition.

Table Ex-3 - Income-Producing Activities/Index of Economically Successful Enterprises.

Type of Activity	Total # Enterprises Reporting Activity	Successful Enterprises #
Horseback riding	11	2
Pony riding	2	1
Boarding	25	6
Riding instructions	31	5
Training	33	10
Breeding	28	5
Horseshoeing	5	-
Dude Ranch/Resort	6	2
Arena shows	9	3
Sale of horses	29	8
Sale of tack and gear	11	4
Hay and sleigh rides	18	3
Leasing to groups	5	3
Selling refreshments	5	-

Section II: Recommendations for Future Research

As a base study, the industry was reviewed to identify its major income producing activities and production costs. The preceding section indicated that economies of scale are apparent varying by both the type and number of income producing activities provided by each firm. Before one can deal with more specific questions as to what is the perfect combination of activities and at what relative scales of output, a follow-up study will be necessary to collect sufficient data to identify production functions for each horse enterprise activity.

The study will first need to define production units for each production activity, i.e. boarding defined by # boarded horses per stall per day, or horseback riding, defined by #

riding rentals per hour, per horse, per day.

Once so defined, it would be necessary to identify as many inputs as possible which are required to produce each of these units of production. A process of categorizing these inputs into cost account classifications, which are practical as well as efficient, is extremely important. The completed accounting system should then be reviewed by known successful commercial horse enterprise owners. The establishment of a state organization of private horse enterprise managers, similar to the campground association, might provide a willing source of experts. After its final pre-test, the system should be programmed for computer analysis with outputs which are easily comprehended and useful.

Using the information provided by this study, identification of enterprise types and sizes should be made to determine a sample of enterprises which reflects the scale and scope of the industry. To promote the use of the computerized accounting system, it should be designed to produce an output similar to the telefarm system (computerized farm accounting system, M.S.U.) outlining the data needed by the operator to complete his annual tax return. The service should be provided free in its first experimental year, with possible future service rates attached when it has proven its value and can be promoted for sale to the industry.

In terms of recommending a methodological approach for a follow-up study, it has been apparent that most studies

conducted in the past concerned themselves with estimating productivities of inputs and investments on specializing farms. Relatively few research workers have attempted to obtain productivity estimates of production factors in individual enterprises of multiple enterprise activities. There appears to be several reasons why they have been neglected.

1) It was recognized by a number of emperical workers that fitting of one aggregate function to data from multiple enterprise firms would yield a general function which is frequently not applicable in any one activity on that firm.

2) Accounts which were detailed enough to allow fitting of independent enterprise functions were not generally available.

3) Conceptual knowledge regarding the dependence or independence of individual production functions was vague.

To answer the forementioned questions, one may conclude that what is needed is an aggregate function, defined as a production function estimated for the enterprise from input-output data from the entire firm, which reflects the number and type of activities that should be provided as well as the quantity of each activity that would produce the maximum return possible.

One problem indicated above in use of an aggregate function is generally found if the nature of the fitted input-output data reflects different returns to scale in the individual enterprise activities such that some of them

would show increasing and others decreasing returns to scale. The resulting estimate would be an average function which would not be specifically applicable in any one of the enterprise activities.

A case in point would be a commercial horse enterprise which has reached its maximum production level for boarding, given the limitations of his fixed resources while the production of his horseback riding activities is operating below a point of maximum efficiency. In the application of an aggregate function to such a firm, the estimates of the regression coefficients determined in a least squares analysis of such a function, would be somewhat meaningless if the true MVP of the factors for which the regression coefficients are estimated are not equal for the various enterprise activities for the firms studied. Estimates of marginal productivity resulting from such regression coefficients would not yield specific information about where in the enterprise the use of the factor should be changed. In concluding from this example, fitting of an aggregate function should be avoided if the aggregation of inputs and outputs increases the standard error of the regression line and/or the correlation among the independent variables.

One might suggest a plausible solution for the multiple enterprise problem. This would be the fitting of one independent function to each enterprise activity for each firm and then comparing the resulting coefficients. Such a comparison would enable one to determine in which enterprise

activity the application of any factor, X_1, is most profitable. An emperical question arises centering around the accounting problem and asks if it is possible to devise an accounting scheme which is able to separate inputs which were used in enterprise activity Y_1, (i.e. boarding) from those used in enterprise activity Y_1, (i.e. horseback riding) in the case production functions on multiple enterprise activity firms are not independent of each other.

Assuming that the forementioned accounting system is able to separate the product inputs necessary for the production of each activity, it would then be necessary to determine in which of the following categories the enterprise activity combinations fit:

1) Joint enterprise activities in (a) fixed proportions or (b) variable proportions.

2) Competitive independent enterprise activities with (a) constant or (b) increasing rates of substitution.

3) Complementary enterprise activities.

4) Supplementary enterprise activities.

Determination of the above classification is dependent upon the varying marginal rates of substitution which occur between the enterprise activities. The term marginal rate of substitution refers to the absolute change in one product associated with a change of a unit in a competing product.

It seems apparent that many services provided by the private commercial horse industry are relatively supplementary in nature as the common unit of production - the horse -

requires similar inputs necessary for its various uses. Besides identifying how horse activities fit within the above classifications, it will be important within the next study to fully identify the relationships between resource requirements and necessary inputs for production.

If, for example, we assume a horse enterprise having riding, western store retailing and breeding activities, one must look beyond the net returns for each activity unit to determine the operator's maximum enterprise combination. It may be expected that breeding activities usually provide the highest net return per unit of input required, but the complementary nature of riding and western store retailing need be fully determined before an accurate analysis can be made. "Production functions which relate factor input and product output when some resources are fixed (regardless of the number of fixed resources and level at which each is held fixed) can be termed 'short-run' production functions. Those input-output relations which involve variation in the input of all factors (none is fixed) can be termed 'long-run' production functions."[1]

It was indicated before that a horse enterprise operator faced with limited resources of land, labor and capital, needs information which will indicate the optimum combination of the use of his resources to produce a given quantity of horse activity services.

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[1]Heady, Earl, Economics of Agricultural Production and Resource Use, New Jersey, 1952, p.32.

These limitations on activity production, which would include labor, land and capital inputs, are generally referred to as linear inequality constraints in a Linear Program Model.

"Linear programming is concerned with the determination of the optimal solutions to problems. As a result, it is well suited to the analysis of rational behavior. It has, therefore, like the marginal analysis, been somewhat less successful in describing what is then in indicating what (given some per assigned goals) ought to be."[1]

The second major ingredient in the model is the objective function which identifies an optimal per unit activity combination, for either profit maximization or cost minimization, which is to be tested. A final ingredient is the establishment of a non-negative requirement which merely states that an optimal activity production combination should not produce negative quantities.

Prepared with these ingredients:

1) the function (profits or costs) whose value is to be maximized or minimized (objective).

2) the activity capacity restraints and

3) the non-negativity conditions on the variables.

A researcher would be ready to use a linear programming model to determine by a systematic trial and error procedure, the desired problem solution. This technique is systematic

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[1]Baumal, William, "Linear Programming," Economic Theory and Operations Analysis, New Jersey, 1965, p. 70.

in that within the model are mechanical rules which determine, after each step, exactly what the next step is to be on the basis of the results of the trial just completed. A well designed model will guarantee that each trial will yield values which are closer than the preceding one to the correct answer, up to the point of acceptable error.

CHAPTER V

ECONOMIC IMPACT OF PRIVATE COMMERCIAL HORSE ENTERPRISES

Introduction

One study objective was to attempt to measure the economic impact of the private recreation horse industry in Michigan. The first section of this chapter briefly entails a suggested methodological approach needed within future studies to determine one measure of economic impact. The objective here is to indicate direction for needed follow-up research. The following section of this chapter provides an outline approach, utilizing limited available data, to indicate a suggestive value of economic impact. It is noted that the approach used falls far short of the model indicated in Section I but attempts only to provide indications of expected impact values. As a conservative approach, the results indicate that the industry, as a growing concern, has significance in terms of influencing the state's rural economy.

Section I: An Input-Output Model of a Recreation Oriented Economy

Rural community economic systems are composed of

microunits, consisting generally of people, their businesses and governmental units, who correspondingly act both as consumers and producers of goods and services. Community economic activity involves exchanges among these local microunits, and between the local units and with units outside the community in the form of imports and exports. Location factors such as the quantity and quality of community natural and human resources flavor the character of economic activity that takes place within a community. Basic industries tied in some manner to the availability of special natural resource characteristics are often quite different from community to community while people supporting activities (retailing, wholesaling, personal service industries) usually vary more as a function of community size.

Each defined community microunit, specializing in their production efforts must exchange goods and services, or their dollar values, with each other resulting in a complex economic system and a full recognition of these interrelationships is necessary to determine the impact that any one unit, such as commercial horse enterprises, has in the community. Major changes in a local economic system usually result from alterations in the pattern of imports and exports with exports representing new dollars coming into the community and imports representing leakages of dollars from the community.

For each unit of trade which takes place between microunits, both within and outside the community, dollar expenditures result in exchanges of economic activity greater than

its original value. For example, a private commercial horse enterprise may make $150 in daily sales to its out-of-town facility users which represent an export of services for an import of sales dollars. The enterprise management pays $30 per day for wages to local workers, who may spend it for local food stuffs and on a trip outside the community. This continual process of dollar expenditures is commonly referred to as the multiplier effect of expenditures and can be computed given adequate data. It is derived from the aggregation of the economic activity of all the microunits within the community.

"Basically input-output analysis requires the construction of a matrix of industries represented in an economy, together with sectors representing demand from outside the community (exports), and inputs brought into the community from outside (imports)."[1]

Basic techniques are used to develop dollar value input coefficients and related multiplier values which are easily interpreted and necessarily excluded here. Using this basic input-output model, one can gain a more complete picture of a local economic structure and can better determine the impacts of changes in increased numbers of, or demand for, individual industries as well as for the local economy.

Though generally criticized for its large requirements

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[1]Strang, William, "Recreation and the Local Economy," University of Wisconsin, Madison, 1970, p. 6.

of obtaining accurate data and its resulting costs, the input-output analysis has been used to study small economies by researchers who have stated that its data requirements may not be more expensive than seemingly simpler approaches.[1]

"Few economists have been critical of the input-output technique when it is used for describing the structure of an economy at a given time...input-output projections, which are highly disaggregated, are at least as accurate as those made by other techniques which project only a limited number of variables."[2]

In terms of using this input-output model to determine what impact, if any, the private commercial horse enterprise has on the state's rural community, data as previously suggested, would need to be collected on the dollar values of imports and exports that are generated by the industry. Following a case study approach, the would-be analyst must look both at dollars spent by the enterprise as well as total dollars spent by enterprise users while traveling to, around and from the site.

The basic recommended procedure would be: 1) establish control totals of gross sales for each enterprise; 2) obtain survey data about inter-enterprise transactions (economic

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[1]Muinyk, William, The Elements of Input-Output Analysis, New York, 1965, p. 106.

[2]Harmston and Lund, Application of an Input-Output Framework to a Community Economic System, University of Missouri Press, 1967, p. 23.

activity of managers (laborers, etc.) and facility users; 3) expand the inter-enterprise transactions data to the control totals; 4) balance the transactions data totals so that enterprise inputs equal outputs; 5) calculate proper regression formulas for determination of a valid input coefficient matrix and inverse coefficient or multiplier matrix; 6) and finally, from data analysis, determine the enterprise's local economic impact. Surveys of several basic enterprise types and sizes as identified within this study could result in impact values which could then be projected relative to known enterprise types to calculate a projected economic impact statement for the state's Private Commercial Horse Industry.

Section II: Implications of the Economic Impact of Private Commercial Horse Enterprises In Michigan

The model just described requires specific data involving an intensive single purpose survey while the following analysis was derived from limited data found within this initial study.

Information regarding the location, relative to enterprise site, where major production goods and services were purchased was obtained. Though, as previously indicated, the representation of sale dollars for such items only reflects a small portion of the economic impact of the industry, it does provide some insight as to expected total values.

The following graph lists total dollar sales for various

Table EI-1 - Total Direct Purchases of the Commercial Horse Industry as an Estimate of Economic Impact on the State (1971).

Selling Factors	Total Purchase Amt. by Sample Enterprises	Total Purchase Inside County Location of Enterprise	Total Purchase Outside County of Enterprise	Total Purchase Outside of Michigan
Purchase of Maj Equipment	588,600	456,900	111,700	20,000
Maint. of Maj. Equipment	41,690	34,660	3,350	3,680
Major Stock Investment	542,500	38,300	44,100	460,100
Feed Costs	290,720	245,740	8,840	36,140
Veterinary Costs	62,277	41,246	19,918	1,113
Stock Maint. Costs	201,060	155,150	24,080	21,830
Liability Insurance	15,450	9,420	1,260	4,770
Const. and Remodeling Costs	1,285,600	982,300	288,000	15,300
Special Retail Costs*	139,800	25,800	20,400	93,600
Total Purchases by Location (Sample Enterprises)	3,167,697	1,989,516	521,648	656,533
Projected increase in Purchase by the Industry		$9,947,580	$2,608,240	$3,282,665
Estimated Dollar Value of Partial Economic Impact of Horse Industry in Michigan		$12,555,820		

* Includes purchases of tack and gear and other special retail items.

goods and services for the sample enterprises included in the study. (The list of selling factors does not include all enterprise cost items due to problems with data coding). Purchase locations were broken into three zones: 1) the first zone is all sales made within the county where the enterprise was located; 2) the second zone includes sales outside the county but within the state; 3) the third zone is purchases made for goods and services outside the state. (Total sales figures for zone 3 represent a potential market demand for supplies (listed items) whose quantities within the state may later increase or be made available).

The number of sample enterprises represented approximately 20% of the total known number of enterprises, though it is expected that a future complete listing of enterprises would greatly increase this estimate. By adding total sale dollars for zones one and two, and by multiplying it by five(5), one can project the total dollar value of goods and services purchased by the private commercial horse industry in 1971.

The projected 12.5 million dollar figure, which represents only a small segment of sales dollars generated by the industry in 1971, reflects the contribution to Michigan's rural economy which is made by this seemingly small but steadily expanding business.

It was previously mentioned that it would be necessary to measure all the important activities functioning with the community economy before one can begin to determine the full impact caused by any industry. A study of horse enterprise

user expenditures was not obtained but a rough estimate of basic user travel costs is provided here for purposes of further indicating the relative impact of the Industry.

The U.S. Department of the Interior, Bureau of Outdoor Recreation cooperated with the Bureau of the Census in 1970 in obtaining a survey of outdoor recreation activity participation of 46,450 persons for 14 major activities. Within its first Preliminary Report[1], the B.O.R. listed the following regarding the activity of Horseback Riding.

For E. North Central Census Division:
(Ohio, Indiana, Illinois, Michigan, Wisconsin)

No. Participants	Percent of Population	Days Per Person
3,190,000	9.3	0.8

Assumption number one used in this model is that the percentage of Census Division population participating in Horseback Riding will be the same for the State of Michigan. Accepting this assumption, an estimate of user participation days in 1970 can be calculated as follows:

1970 Michigan Population	Estimate Part. Rate	Estimated Part. Days/Person
8,879,862	9.3%	0.8

Estimated 1970 User Participation days for Horseback Riding Activities: 660,661.

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[1]Bureau of Outdoor Recreation, "The 1970 Survey of Outdoor Recreation Activities, February 1972, p. 40.

Appendix II outlines a descriptive profile of Study Enterprise Users which was obtained in an experimental research effort along with this study. (Minor problems with user sample distribution procedures were encountered and have prevented a complete write up of study results at this time). From this profile, average distance zones traveled by users were obtained.

Assumption # 2: The percentage of sample distribution per travel distance zone for the sample population will be the same for the estimated number of state users.

The following chart lists the travel distance zones along with the percentage of sample population calculated by zone. By using the mean of each zone range and a $ .10 mile estimated mileage travel cost, (Michigan State Accepted Mileage rate for in-state travel), one can estimate a mileage cost for Michigan Horseback Riding Activity Users.

Table EI-2 - Estimated Enterprise User - Mileage Expenditures.

Range of Miles Traveled	Average Distance	% of Sample per Zone	Est.# Pop. Traveled per Zone (x $.10/mi)	Total
0 - 5	2.5	10 %	66,066	16,517
6 - 10	8.5	20	132,132	112,312
11 - 15	13.0	21.6	142,703	185,514
16 - 20	18.0	22.3	147,327	265,189
21 - 30	25.5	11.5	75,976	193,739
31 - 40	35.5	4.7	31,051	110,331
41 - 50	45.5	4.7	31,051	141,282
51 - 75	63.0	1.4	9,249	58,268
76 +	100.0*	3.4	22,466	224,660
			Estimated Total Mileage Cost	$1,307,812

* Estimated Average.

Again using Michigan State Accepted Travel Costs for meal expenditures, and study data collected for type of trip involved with the use of Horse Enterprise Activities, an estimate for user travel-meal costs can be obtained:

Assumption # 3: The percentage of sample population per type of user trip will be the same for the estimated number of Michigan Horseback Riding Activity Users.

Table EI-3 - Estimated User - Travel - Meal Expenditures.

Type-User Trip	% of Sample Population	Est.# Mich. Part. Users	Type Meal Expend.	Est. Cost Meals	Est.Travel Meal Cost
Half-day trip	40.53	267,765	(no meal)	-	-
Full-day trip	43.30	286,066	(lunch)	$2.50	715,165
Part of over-night weekend	5.33	35,213	(lunch + dinner)	$7.00	246,941
Part of Major vacation	10.73	70,888	(3 daily meals)	$8.50	602,548
		Estimated Total Travel Meal Costs:			$1,564,654

A total estimated mileage and meal travel cost figure of $2,872,466 represents a rough calculation of dollars spent by users traveling to Horse Enterprises throughout Michigan. Accepting the limitations of the assumptions used, and acknowledging that the costs represent participation within only one of many user activities provided by the Industry, the objective is obtained in indicating a partial amount of the economic impact which is generated by the Industry on the State's rural economy.

The above has indicated through several rough models that in 1971, well over 15 million dollars were generated by the Private Commercial Horse Industry. From these estimates, one may safely predict that a future research effort following guidelines established in the first section of this chapter would conclude that over 3 or 4 times the above figure may better represent the real impact effected by the industry.

CHAPTER VI

COMMENTS AND RECOMMENDATIONS

It is not the intent of this chapter to review in sum the bulk of data analysis included within Chapter III. It was felt that further analysis or recommendations based solely on the descriptive data provided would serve of marginal use. Section I outlines a series of recommendations for potential additional research which might be focused on portions of the data collected within the survey and currently unexplored. Section II includes a brief description of basic considerations which are recommended for a future locational analysis of private commercial horse enterprises.

In the final section of this Chapter, I have pulled together some basic comments and reflections that have been drawn out from my research efforts on the study which I felt may be of some value.

Section I: Recommendations for Additional Analysis On Existing Survey Data

It was noted earlier in this report that two separate studies using the results of this survey data were being compiled. Mr. Schall, companion graduate student, has not

completed his report at the time of this writing so the below recommendations are dependent upon my understanding of the material Mr. Schall will review within his report.

This report used several types of enterprise indices to breakdown the survey data into workable form. It is recommended that in dealing with any of the below topics, an additional enterprise index, looking at sample enterprises by the type and number of activities offered, may prove to be beneficial. For example, survey findings indicate a reassurance of specific activity combinations. A grouping of enterprises providing the recreational activities as noted below may indicate potential optimal activity combinations.

Major Income Producing Activity	Supporting Activity
Horseback Riding	Boarding, Training, Hay and Sleigh Rides
Boarding	Riding Instructions, Breeding and Selling
Selling	Breeding and Showing

A basic profile of enterprise users, as outlined in Appendix II, was obtained from a small number of sample enterprises. Similar user related questions were included within both the user and management studies and several possibilities for direct correlation analysis exist. Information obtained on horse breed types may be reviewed by types of enterprises to test for similarities by use. Detailed enterprise facility data, i.e. facility types, sizes and ages, was obtained and may be utilized to indicate

possible facility structure requirements for various enterprise activities. Related to this topic is the data obtained on major capital remodeling expenditures which may further indicate types of facility needs by enterprise type of operation.

Supplementary recreational facility offerings provided by enterprises were reviewed within the study and analysis of how these offerings may effect enterprise users or activity incomes might be of interest. Though additional information may be required in terms of actual per horse-use, data related to types of horse feed purchased and feeding patterns may be utilized to suggest optimal horse maintenance programs.

It was noted earlier that enterprises vary in their labor employment patterns. Data was obtained on the number and type of labor employed, its cost, age categories, job responsibilities and the types and times of peek labor months. Patterns of labor-use among different types of enterprises may exist. Management working requirements may also be similar in terms of the types of activities provided. Limited responses were obtained on the average number of hours worked per week, broken down by enterprise activity, by each manager, and this may be tested for similar patterns.

Additional analysis in advertising methods and costs from both the user and management surveys might be useful to determine which methods seem to work best and why. Advertising techniques, along with other user related

management skills, i.e. keeping attendance and user records, may serve as indicators in reflecting user patterns, i.e. percent of return customers and average distance traveled to an enterprise.

Enterprise activity incomes are effected by various management skills. A review of such factors such as; 1) methods of determining service rates, 2) managers motivations, 3) methods of financial accounting and others may be reviewed in terms of their potential effects on enterprise operations.

Mr. Schall will include within his study an analysis on the type of management related problems that were indicated as important to our sample managers. Additional questions were asked related to both the special services provided and those desired by managers. Patterns may exist among operators of similar types of enterprises which may indicate further management training and education materials they may be of importance.

A logical continuation from this type of base study would involve a series of detailed enterprise activity surveys focusing on one type of horse recreation service. Chapter IV is referred to in reviewing my recommendations for future economic studies, noting that the above approach may be useful in analyzing management skills unique to each activity type. It is recommended here that a close review of survey data included in this study identified for each enterprise activity be completed to indicate possible future

survey directions. (Note - data not identified within the survey code book was obtained and manually coded on the following activity areas):

a) Arena shows and rodeos
b) Sale of tack and gear
c) Hay and Sleigh rides
d) Leasing of horses
e) Horseshoeing
f) Selling refreshments
g) Dude ranch operations

Section II: Considerations for Future Locational Analysis

Several attempts were made in this report to reflect on the importance of enterprise location as a factor effecting the economic success of the enterprise. The locational measures were somewhat gross and consequently subject to criticism. The objective in their use was to suggest future considerations for research in this area. The following discussion is provided to augment the forementioned recommendations.

One of the first locational factors which must be considered is that of climate. Eighty-three percent of the enterprises surveyed reported year-round operations while remaining seasonal enterprises were generally warm-weather oriented. Future enterprise surveys should focus on seasonal operations in terms of state climatic zones.

Every industry attempts to situate its enterprises in optimal locations where transportation costs for production inputs and outputs are minimized. Little, if any, major

transportation costs are involved in the acquiring of needed production inputs for the commercial horse industry. Labor is usually provided by the enterprise manager and his family. Though it was indicated in survey findings that supportive operating capital was sometimes difficult to obtain, many enterprises reported local commercial banks as the major provider. The average sampled enterprise reported ownership and use of thirty horses which were generally obtained by suppliers from local, state and national sources. (21% local, 13% within the state and 14% from midwest states). Transportation costs for horses are usually minimal as most operators report use of their own trailers as the major transport mode.

Fifty-seven percent of the sampled enterprise managers indicated that they grow their own feed while the majority of remaining managers reported generally easily accessible, local feed purchases. Stock grooming supplies were reported to be usually available from local distributors. Veterinary services were generally acquired within a 25 to 50 mile radius of most enterprises (69%) or within the immediate surrounding counties (25%). Major machinery needed for supported work requirements are basically farm types, (i.e. pickup trucks, manure spreaders, wagons, posthole diggers, tractors, hayloaders, etc.) and most sampled operators again reported local purchases. Finally, enterprise 'plant' utilities were generally either supplied by the county or self-furnished.

"The location of the enterprise is important in determining demand for the facilities offered. That is, the trip to the recreation site can be considered as a cost in terms of time, effort and money; the shorter the distance the user must travel, the less costly the trip. Thus, recreation enterprises near population centers are better located to serve users than a similar firm located in sparsely settled areas apart from population centers."[1]

It may be suggested that as accessibility and transportation cost of production inputs for most enterprises in the commercial horse industry are relatively accessible and cheap, a key enterprise location factor is that of distance from the consuming market. A review of Map I in Chapter I, noting existing locations of inventoried enterprises by county, will indicate the large number of enterprises in the higher density population areas in the southern half of the lower peninsula.

Survey findings indicate evidence of product differentiation in this industry. The majority of surveyed enterprise managers reported that they offered a different product than their competitors. Differences in service quality, combinations of activities offered, information available, and the degree of hospitality offered are among the factors indicating product differentiation. Each enterprise provides what could be considered personal services at retail prices, focusing on the individual recreation user. Sixty-one percent of the sample reported that the individual was the most common user group size with 22% noting family size groups of 4-6 persons as the mean.

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[1]Johnson, Hugh, "The Enterprise Analysis", a paper presented to national S.C.S. Workshop, New Mexico, February 1968, -. 18

Located in generally non-urban environments, travel by highways is crucial in transporting the would-be recreationist to the enterprise site. Seventy-one percent of the sample enterprises were located within four miles of a state or interstate highway with 19% within nine miles. Offering primarily day use activities, the user market of most firms were apparently quite locally concentrated, as 23% of the sample enterprise managers reporting average customer travel range of 10-24 miles and 62% from 25 miles and over.

One way to approach the locational question would be to survey enterprise owners who have purchased their facilities for the provision of horse related activities. The survey should focus on the identification of key factors utilized to make the location decision and comparative economic returns could be used as a measure to weigh successful locations. The following factors may be considered in such an effort:

1) Land prices
2) Expected increases in land values
3) Nature of existing land and facilities
4) Accessibility to major highway
5) Location near other major public land areas (i.e. state parks and forests)
6) Location of nearest urban center
7) Previous success of farmer owner (established goodwill)

Data generated by such a survey might be used in establishing a predictive model, using multiple regression analysis, which may suggest the relative importance of such

external factors as location and accessibility to other determinants of enterprise success. The following variables may prove to be important in determining internal success factors:

1) Size and capacity of recreation facility
2) Financial inputs for the physical plant and operation
3) Labor inputs by operator and family
4) Location and accessibility
5) Personal characteristics and motivations of operator
6) Quality, type and combinations of activities and services offered
7) Age of enterprise
8) Fees and charges - product price

It is assumed that item # 4 will be critical in such an analysis and the measures noted below may serve as indicators of observed variations in the above suggested model.

1) Traffic counts on nearest major highway
2) Distance to state and interstate highway
3) Population of nearest city.
4) Index of urban travel-distance zones to various size high population density centers from 10,000 to 250,000 in size.

To make this recommended study complete, a carefully selected random survey of enterprise users would be needed to determine estimates of user demand and user characteristics unique to locational factors effecting choice of enterprise. Obtaining such information as the amount of user travel costs and user origin destinations, a Clawson-type demand curve for the industry can be calculated. Additional

data, such as user motivations and objectives of trip, reasons for choosing enterprise site, enjoyment of travel to and from site, etc., might allow for a more sophisticated enterprise locational analysis.

Section III: Comments and Reflections

In review of both the pre-study and subsequent survey findings, several basic reflections of the private commercial horse enterprise industry becomes readily apparent. First of all, it is a small but seemingly growing industry supported by mostly non-sophisticated, family operated facilities. Only an estimated one third of the inventoried enterprises have paid employees, with most of these being seasonal workers. As an important land user, initial survey estimates show that approximately 35,000+ acres are currently being utilized with experimental projections indicating possible increases to about 80,000 acres by 1985. One hundred and thirty-five (135) acres was reported as the average enterprise size with a large amount of this land used for purposes of growing farm crops or feed, riding trails, outside training arenas and grazing areas. Of this acreage, an average of 105 acres were being used directly in the production of horse enterprise activities. Most enterprise facitilities consist of converted dairy barns, pole stables or barns, indoor and outdoor arenas, paddocks, storage sheds, etc., with only a small percentage of

enterprise facilities having been built for horse activities per se.

"The well managed family enterprise offers good use of marginal land resources and available labor supply with moderate returns. The conversion of non-productive land and unemployed available labor to marketable products through recreation businesses strengthens the economic position of the family, helps generate dollars for the rural community, and provides facilities for the recreational public."[1]

Twenty-eight percent of the owners reported having converted over farm operations either partially or completely to horse enterprise activities while 45% reported having purchased existing facilities initially for such purposes. Thirty percent of the sample were still actively involved in some farming. Eighty-nine percent of the sample enterprises were managed by the owner of the facility while the remaining 11% reported either separate ownership and management (9%) or corporation type establishments (2%).

Shifting from the full or part-time farming to full-time recreation enterprise represents a substantial change and should only be considered after serious consideration. Being generally production plant and animal oriented, one must question the suitability of most farmers as private recreational horse enterprise managers. Practically all potential managers of recreation enterprises need various types of management training which should cover the basic principles and practices of business management and more

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[1]Dice, Eugene, "Consideration of the compact of Leisure and Recreation Upon the Rural Community and the Rural Resident in the Next 14 Years," Project 80 and 5, Michigan State University, February, 1972, p. 16.

specifically, training in personal management or human relations, the details of recreational law policies and other related subjects.

In a projected change over as described above, considerable uncertainity is involved over such considerations as: the carrying capacity of existing facilities for the various numbers and types of horses involved, consideration of what major type of existing equipment and buildings are adaptable for the proposed new users, what capital remodeling investments will be necessary for both adapting old and building new buildings, what environmental changes in local land and water uses are necessary and their related costs. It can easily be seen that accelerated depreciation and technological obsolence caused by this kind of proposed change are a substantial part of the would-be managers underlying cost. Subsequently, once the conversion of facilities is completed, the new recreation manager must be able to absorb the fixed costs of his new enterprise while supporting all the variable costs of a much expanded facility operation.

Pricing practices in the industry are generally competition oriented. Operators are mainly price takers or price followers; that is, they find out what others are charging and charge the same, or a little bit more or less. This pricing behavior may be characteristic of automatic industries or those of low concentration.

As indicated throughout this report, most commercial horse enterprise managers cannot afford to develop a single activity operation. Boarding and horseback riding may

potentially be considered compatible as long as the facility accommendations utilized in the production of both services are properly allocated. Related comments indicated in Chapter IV further indicate that considerations of various complementary enterprise activities may be an essential management decision, in attempting to calculate what ever the addition of each new service will pay for itself of increase overall enterprise net income. It is understood then that chances for ultimate success of any firm operation may be enhanced by the select variety of complimentary operation services which profitably use the same basic resources. The incidence of large overhead costs such as depreciation, labor and interest can then be cushioned by such activity combinations.

One reflection of the relatively low income producing aspects of the smaller units of the industry noted from survey findings is that 49% of the enterprises managers reported off-enterprise employment. As indicated in Chapter III, prespectives on the industry's revenue generating capabilities must consider the objective functions of enterprise managers. Less than 25% of the enterprise managers sampled indicated that their major operational goal as "primarily to provide income to support the family." The majority of remainder managers reported goals of obtaining only a supplementary income or only as a personal hobby or interest, as their objective functions.

"Small recreation operations are like small farms and

other small businesses. We can demonstrate that they are unprofitable -- but the fact is that they can continue in business for many years. Similarly, small recreation enterprises and small farms exist year after year in the face of small or negative net returns. Profits are essential in their place, and balance sheets are necessary for viable business. But the contents of balance sheets and if profit and loss statements differ according to circumstances.

The actual profit may be low, returns to capital may be non-existent and the net returns may be entirely psychic. The operator needs to consider his competitive position as a basis for valid decisions. However, he may choose to ignore this factor in favor of maximizing satisfactions unrelated to cash returns."[1]

One might conclude from the above descriptions that the private commercial horse industry in Michigan is basically atomistic in nature, with over 500 enterprises on the supply side and an unknown but potentially growing user population in Michigan and some of the surrounding states on the demand side.

In terms of increased leisure time projected within the next few decades, highlighted but such items as the proposed 4 day 40 hour work week and year-round school programs, one can safely predict increasing user pressures for rural recreation enterprises. Many noted recreation experts have predicted that with increased leisure time will some increased travel tolerances of recreators. As stated of Michigan, "the longer weekend will increase demands for outdoor recreation in general and bring some of the more remote attractions within weekend distance of the larger midwestern population centers...the effect will be to

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[1]Johnson, Hugh, "The Enterprise Analysis", a paper presented before the S.C.S. Outdoor Recreation Workshop, New Mexico, February, 1968, p. 7.

increase the market areas of outdoor recreation enterprises, both public and private, in the Upper Peninsula and the more remote sections of the Lower Peninsula."[1]

With the requirements of relatively low capital investments, basic technical knowledge and the potential of operating on a part-time, seasonal basis, assumingly make the commercial horse industry and easy market to enter. As basically a marginal, family oriented business, may have begun with nothing more than a few horses and a hand lettered sign. It appears that the only prerequisites to entry are ownership of land, limited facilities, horses and an access road. However, it becomes apparent that it takes time to become established in the business. Nearly all the operators surveyed indicated that they had developed their facilities and improvements gradually, using funds as they became available. It appears from initial, pre-study data analysis that three or more years were usually necessary to establish a supportive clientele.

From my limited view of the new trends taking place among the current generation of American's tourist recreation public, increased levels of service quality are being demanded by the convenience minded recreationist. A final comment would be to incourage would be horse enterprise operators to attempt to provide for these user demands of

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[1]Hadgson, Ronald, "New Leisure Patterns to Revolutionize Rural Land Use by 1985", Project 80 and 5, M.S.U., February, 1972, p. 8.

comforts, services and personal attention in order to be able to successfully compete with the growing numbers of varied and new recreation enterprises developments.

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APPENDICES

APPENDIX I

Description of Miscellaneous Variable Indices and Calculations:

A) Calculations of Projected Economic Variables:

1) Stock maintenance costs -

A determination was calculated for total maintenance costs per enterprise for the number of horses reported at site for such items as shoeing, trimming and grooming. The estimates were calculated by using the following formula:

$$(A \cdot B) \cdot (C) + (4A) \cdot (D) + E = G$$

G = Estimated total stock maintenance costs per enterprise

A = Average number of horses owned and used for income producing activities

B = Average number of horseshoe sets used per horse per year*

C = Average cost of showing, per horse*

D = Average cost of trimming, per horse* (most enterprises reported average of 4 trimmings per year)

E = Annual costs for grooming supplies*

2) Annual depreciation costs on enterprise buildings and facilities -

The above estimates were made of enterprise buildings and facilities used in the operation of horse enterprise activities. The calculations were based on the following data generated from the survey:

a) major types of buildings and facilities used
b) sizes of above in sqare feet and their age

* Estimates either provided by enterprise owner/manager, or overall sample average was substituted when data was missing.

Using estimated construction costs figures for the above facilities as provided by Dr. Hoglund, Professor, Department of Agricultural Economics, Michigan State University, and estimated percentages of construction cost relative to facility type and age as a measure of annual depreciation costs (Dr. Hoglund), an estimated annual depreciation cost was calculated for each major facility and totaled to determine a total annual depreciation cost per enterprise.

3) Annual depreciation costs of major equipment -

The majority of enterprises reported use of a major farm related type of equipment in the operation of their enterprise activities. Survey data provided information on the types and ages of equipment used. Estimates, again provided by Dr. Hoglund, were used to determine original equipment purchase costs and percentages of these, relative to type and age of equipment, were used to determine annual depreciation cost per item. As with the building and facility depreciation estimates, each calculated annual equipment depreciation cost was totaled for a enterprise basis.

4) Estimated levels of enterprise indebtedness -

The above was calculated for each enterprise in the following manner:

$$\frac{A}{B} \cdot C = D$$

D = Estimated dollar amount of outstanding loans used for enterprise activities, per enterprise

A = Reported amount of interest paid on outstanding loans used for the support of horse enterprise activities.

B = Reported annual interest rate paid.

C = Reported number of years still outstanding on the loan.

B) Description of variable indices:

1) Index of enterprise service rates -

The service rates for each enterprise activity were averaged out and each enterprise was given one of the above rankings for each horse enterprise activity provided, depending on if the serve rate either fell below, above or was within a medium

range of the overall average service rate. Each enterprise then received a total index score depending on how the majority of its individual service activities were scored. Emphasis was placed in the scoring of the primary income producing activities in cases of difficult determination.

2) Index of Population density of enterprise location by county -

1 = low
2 = medium
3 = high

Using the state of Michigan's average population density figure, the determing variable, each county where sample enterprises were located was scored as having either below, above or within an immediate range of the state's average population density per square mile (1970 Census Data).

3) Index of per-capita income of enterprise location by county -

1 = low
2 = medium
3 = high

As for the above index, the state's average per-capita income figure was used to rate each county in the above classification.

4) Education index -

Mr. Schall used the mean education level of all enterprise owner/managers to determine the index levels.

1 = average education level (high school graduate)

2 = above average education level (post high school to Ph.D. levels).

5) Age index -

Mr. Schall, after reviewing the destribution of enterprise owners/managers reported years of age, determined the following index levels.

low - 23 - 35 years of age
medium - 36 - 48 years of age
high - 49 years of age and older

APPENDIX II

User Profile

Introduction

A subsidary portion of the study was involved in the preparation of an experimental study design which would approach the problem of obtaining valid user information on the various types of individuals who participate in private commercial horse enterprise activities. To this end, a brief user questionnaire was prepared and distributed to approximately ten commercial enterprises of various types and sizes. The design called for random distribution to users by means of a user-activity sign-up sheet, with questionnaires to be handed out by enterprise staff and self-deposted in boxes that were designed, furnished and posted by project workers.

The major objective of this portion of the study was only to provide necessary data that would indicate a more complete research design that could later be used in administrating a detailed user study on commercial horse enterprises. The limited data obtained and the problems occurred in attempting to arrange for sample distribution as documented in other reports should serve towards this desired end. Provided within this brief report is a basic

profile of private commercial horse enterprise users which was included to broaden the perspective of interested parties who may induce from earlier findings presented in this report, many suggestive correlative hunches as to how the industry is geared towards its consumers.

The data was compiled by use of percent and frequency counts on 168 usable user completed questionnaires sampled from six different enterprise locations. (Six counties where enterprises were located: Oceana, Newavco, Mecosta, Isabella, Midland and Bay.)

User Profile

1) The average type of group making use of enterprise activities:

Type	No. respondents	%
One person alone	19	11.3
One couple only	29	17.3
Two or more couples	2	1.1
One family with children	21	12.5
Two families with children	4	2.3
Groups of friends	81	48.5
Organized groups	6	3.5
Special instruction-group	5	2.9
	167	

2) a) Number of males attending within group:

No. Males	No. respondents	%
1	33	20.7
2	20	12.5
3	8	5.0
4	4	2.5
5	3	1.8
6	3	1.8
7	2	1.2
	65	

b) Number of females attending within group:

No. Females	No. respondents	%
1	30	18.8
2	41	25.7
3	32	20.1
4	18	11.3
5	17	10.6
6	7	4.4
7	2	1.2
8	1	.62
	148	

3) Ages of Males and Females attending:

Age Group	No. Males	No. Females	% Males	% Females
5-12	23	49	27	22.6
13-19	36	108	36	49.8
20-29	18	46	18	21.1
30-45	12	11	12	5.1
46-55	7	3	7	1.4
	100	217		

4) Type of visit made by group:

Type	No. respondents	%
One day outing or trip	69	43.3
Part of major annual vacation	14	8.8
Half day outing	64	40.2
Part of average weekend	5	3.1
	152	

5) Location of permanent residence:

Location	No. respondents	%
Locally (within the same county)	73	44.5
Regionally within bordering counties)	64	39.0
Northern-lower peninsula	9	5.4
Midwest U.S. (other than Michigan)	14	8.5
Western U.S.	2	1.2
Eastern U.S.	2	1.2
	164	

6) Average sample time spent traveling to enterprise:

within 15 minute drive - 46 residents - 29%
within 16-30 minute drive - 71 residents - 44.3%
within 31-45 minute drive - 18 residents - 11.1%

average time traveled = 19.7 minutes
average miles traveled to site = 29.7 miles

7) Description of head of household of respondents:

Sex: male - 133 (85.8%)
female - 22 (14.1%)
Average age - 41.5 years

Occupation:

Type	No. respondents	%
Professional, technical	47	35.3
Farmers, farm managers and laborers	1	.75
Managers, officials and proprietors	26	19.5
Clerical and kindred workers	13	9.7
Sales workers	3	2.2
Craftsmen, foremen	23	17.2
Operative laborers	11	8.2
Retired	2	1.5
Service workers	7	5.2
	133	

8) Number of days respondent has used the enterprise previously:

No. days Index	No. respondents	%
First visit	56	36.6
1 - 4 days	43	28.1
5 - 8 days	13	8.4
9 -12 days	10	6.5
13-16 days	5	3.2
17-20 days	7	4.5
21-24 days	19	12.4
	153	

9) Reasons for choosing enterprise:

Type Reason	No.	%	No.	%	No.	%
Received personal recommendation, having reputation for good instructors and friendly managers	40	27.5	11	19.6	-	7.1
Provides all desired services and in particular, the one I desire most	15	10.3	6	10.7	-	-
Considered best enterprise in area, having best selection of facilities and stock	21	14.4	13	23.2	4	28.5
Closest location	24	16.5	8	14.2	2	14.2
Most economical prices	4	2.7	5	8.9	1	7.1
Doesn't require trail guides	12	8.2	8	14.2	5	35.7
The only enterprise I've known about	7	4.8	-	-	-	-

Was invited to attend	6	4.1	1	1.7	1	7.1
Board my horses there	3	2.0	4	7.1	-	-
	132		56		13	

10) Hours spent at enterprise during visit:

No. hours	No. respondents	%
1	35	22.5
2	74	47.7
3	30	19.3
4	6	3.8
5	5	3.2
6	5	3.2
	310	

Average length of stay = 2.2 hours

11) Types of activities that were participated in:

Type Activity	No. respondents	%
Horseback or pony riding	127	75.1
Receiving riding instructions	17	10.0
Purchase of tack, gear, miscellanous goods	17	10.0
Riding own horse boarded at site	11	6.5
Grooming own horse	7	4.1
	169	

12) Method respondent learned about enterprise:

Method	No. respondents	%
Word of mouth	99	68.7
Newspaper	25	17.3
Passing by enterprise site (roadside advertising)	8	5.5
General advertisement	12	8.3
	144	

13) Enjoyed most during visit:

Item	No. respondents	%
Good quality stock, equipment	29	28.4
Friendly managers - good instructors	5	4.9
Brousing around tack shops and areas	3	2.9
Receiving good lessons	8	7.8
Beautiful trails and surroundings	11	10.8
Riding horses without a guide	21	20.6
Enjoyable atmosphere (Friendly people)	25	24.5

14) Kinds of additional recreation opportunities or facilities that you would like to see added to this horse enterprise:

Item	No. respondents	%
Additional equipment/stock	12	17.4
Additional bridal paths	10	14.5
More open areas for riding	3	4.3
More trail riding experiences	6	8.7
Longer rental hours	2	2.9
Newer or additional rest rooms	4	5.8
Hayrides	8	11.6
Restaurant	5	7.2
Swimming pool	8	11.6
Additional pasture for grazing	2	2.9
New arena shows	7	10.1
Additional horse leasing operations	2	2.9
	69	

15) Have used this enterprise before:

Yes: 102 (60.7%)
No: 66 (39.2%)

Plan to use this enterprise again:

Yes: 155 (94.5%)
No: 9 (5.4%)

Synopsis of the Typical Private Commercial Horse Enterprise User:

The average user is a female, age 13-19, who arrives at the enterprise with a group of 2-9 female friends. Traveling approximately 16-30 minutes from a residence location neighboring the enterprise site within 30 miles away, Miss Average User is usually on a one day outing. The head of her household, a father, 47 years of age, who works in a Professional job, provides an annual income between $15 and $19.000. Having either used the enterprise before or at least on one previous occasion, Miss Average User will stay

about two hours at the site, participating in some horseback riding. She chooses the enterprise through personal recommendations of her friends as the enterprise had a good reputation for having good riding instructors and friendly management. She usually enjoys most the good quality tack and gear and quality horses that she finds at the enterprise along with its friendly atmosphere. In terms of improvement, she recommends some additional equipment and stock, new bridal paths and/or possibly even a swimming pool at the site that she attends.