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An Analysis of Selected Determinants of Second Home Ownership Variations Between County Residents in Nebraska, 1970

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AN ANALYSIS OF SELECTED DETERMINANTS OF SECOND HOME OWNERSHIP VARIATIONS BETWEEN COUNTY RESIDENTS IN NEBRASKA, 1970

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THESIS ACCEPTANCE

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Philip A. Pierce

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I. INTRODUCTION

This study is concerned with the function and structure of the recreational property market. It begins with a brief history, followed by a review of the literature in which other studies and theories are examined. What are believed to be the major determinants in the structure of the recreational property market are extracted from the literature. From these determinants a theory is hypothesized and proxy measures proposed to explain the variation between Nebraska counties in the percentage of households owning second homes.

Problems of unscrupulous developers, pollution and local government finances tend to be emphasized by many authors. However, recreational property is a luxury which provides enjoyment for millions of families throughout the United States. The recreational land development industry has another important aspect which I wish to emphasize. That is, that it is an industry well suited for many rural communities that are interested in moderate growth. Some controls are essential to ensure the type and quality of development desired and these controls are similar to those used to control suburban development.

The recreational property market is a dynamic, changing entity. Already in its short history it has shifted from vast, poorly planned, remote subdivisions used for mail order sales to close-in, high amenity, recreational developments with increasing numbers of primary residences. The market will continue to grow driven by America's desire to own a piece of the outdoors and their search for the healthful life. Other influences will continue to reshape ownership and use patterns of recreational property. As recently as the third week of April 1977 President Carter delivered his doomsday message and proposals on Energy. This and other developments to come will have a great impact on the future of the Recreational Property Market.

II. HISTORICAL SUMMARY

The private recreational property market in the U.S. has had a relatively short but colorful history. Before the recreational land boom of the 1960's, most of the second homes in the U.S. were built on individual, scattered lots, the simple hunting cabin or lake cottage. Public facilities seldom existed, lots were small, and most of the dwellings were not designed for year-round occupancy. But the market has shifted to mass developments that range widely in size and quality,

from unimproved raw land subdivisions to resort developments with condominiums, single-family homes and a wide variety of amenities.[1]

Unscrupulous developers have created a bad image by selling island lots that are under water, winter homes in the sun belt that are barren desert, land they do not own and the same lot to more than one buyer. The bad image created by these unscrupulous developers is one of the major problems the recreational property industry must overcome.

The increasing affluence and leisure time of the American people has brought about the tremendous growth in demand.[2] Just as with other markets, recreational property is not immune from hard times.

In 1973, recreational land development was a booming business. Since then, this industry has been hard hit by the gasoline shortage and by economic recession.

[1]American Society of Planning Officials, Subdividing Rural America: Impacts of Recreational Lot and Second Home Development, Council on Environmental Quality, 1976, p. 1.

[2]Richard L. Ragatz Associates, Inc., Recreational Properties: An Analysis of the Markets for Privately Owned Recreational Lots and Leisure Homes, National Technical Information Service, U. S. Department of Commerce, May 1974, p. 5.

Both lot sales and second home construction fell off sharply in 1974.

While subdivision platting and second home construction have slowed down considerably from the early 1970's, they have by no means stopped, and consumer demands for recreational property can be expected to rise again as the economy recovers.[3] Recreational property is a luxury item that can be classed as a superior good whose future depends on rising disposable incomes and mobility. Based on past trends and recent surveys of consumer intentions, the number of households owning recreational property in the U.S. could more than double by 1985 as the post World War II baby boom generation enters its thirties and swells the ranks of potential buyers.[4]

Not only is growth expected to continue, but the consumer's knowledge and experience with recreational property will mature. The market for recreational

[3]American Society of Planning Officials, Subdividing Rural America: Impacts of Recreational Lot and Second Home Development, Council on Environmental Quality, 1976, p. 1.

[4]Ragatz, Richard L.,"Future Demand for Recreational Properties", Urban Land, November 1974, p. 10.

property seems to be shifting away from the unimproved, speculative lot segment of the market toward a user's market of improved recreational lots and second homes. Increased consumer awareness, saturation of the speculative lot market, and increased land use regulation are all contributing to this trend.[5]

New submarkets will develop and others will die as social attitudes on property ownership, status, environmental protection and other forms of recreation compete with one another. Finally, the increased government control and regulation will have to be dealt with by developers. Data collection has not kept pace with market growth and only recently has data collection and research been started to fill information voids.

Richard Lee Ragatz pointed out that "a severe deficiency exists in an adequate data base for describing even the current situation. Definitional problems, insufficient nationwide census information, and so forth, work together to prevent a clear portrayal of the market."

[5]American Society of Planning Officials, loc. cit., p. 2.

III. DEFINITIONAL PROBLEMS

Raleigh Barlowe says that recreational lands differ more in their natural characteristics than most types of land use.[6] Some of these natural characteristics that have recreational appeal are scenic wonders, historical significance, variety of flora and fauna, water resources for boating, swimming and fishing, and a favorable climate for the type of development contemplated such as skiing and canoeing. The only somewhat unifying natural characteristic is that most recreational land is rural in nature.

There is also a wide variation in the commodity between developments and even within a given development which compound the definitional problems. The report on Subdividing Rural America distinguishes among the three following major types of recreational land developments.

Unimproved Recreational Subdivisions.

These projects are basically land sales operations in which the developer typically subdivides the

[6]Barlowe, Raleigh, Land Resource Economics, Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1972, 1958, p. 28.

property into one-fourth or one-half acre lots (often with little or no regard for their adequacy as actual home sites), installs access roads as necessary to market the property (frequently only graded dirt roads), and sells off the lots as fast as possible. Much of this property is sold sight unseen through the mail to buyers primarily interested in land speculation. If these projects are ever to be actually developed, the individual lot owners or the local community must provide the necessary improvements such as water and sewer systems and paved roads. It is common for these projects to end up with little actual development, but with very confused patterns of property ownership as buyers default on payments or property taxes.

Improved Second Home Projects.

These projects include some basic site improvements. Recreational facilities may also be included, and the projects are often sited in areas with important natural amenities such as lake or river frontage. Lot sizes are still typically one acre or less, but more care tends to be taken in site design and layout. While the developer's primary objective is

still to sell lots, installing basic site improvements lays the groundwork for a real community and buyers are more likely to be interested in eventually building homes and using their land, although speculation remains fairly common. The locations of these projects are more dependent upon good highway access and relative proximity to metropolitan areas due to the greater emphasis on a users market.

High-Amenity Resort Communities.

The planning and construction in these developments are highly sophisticated and, although far fewer in number, many are considered models of design excellence. Developers often invest millions of dollars in basic site improvements and recreational amenities (swimming pools, tennis courts, golf courses, and clubhouses), as well as developer-built housing, such as resort condominiums. Aimed primarily at higher income families, some of these projects approach the scale of new towns, and development is more likely to be carefully controlled through deed restrictions and architectural controls. The location of such develop-

ments is often governed as much by the outstanding natural amenities of the site as the location of the buyers market.

Individual Lots.

Mr. Ragatz defines recreational property from the point of view of the individual lot owner rather than that of the developer as the report on Subdividing Rural America does. He states that the four primary types of recreational property are:

1. Vacant recreational lots purchased only for speculation or investment purposes.
2. Vacant recreational lots purchased for the purpose of building a future leisure home.
3. Recreational lots occupied by a single-family, detached leisure home.
4. Resort condominium units.

These two definitions are not incompatible. It is reasonable to use the definition of Recreational Land Developments as presented in Subdividing Rural America as the major divisions between types and to

use Mr. Ragatz's definition of Individual Lots as four sub-parts to each recreational land development type.

Permanent homes in recreation land development is another aspect to be considered. The permanent home can be a sub-part of Ragatz's "recreational lots occupied by a single-family, detached leisure home". The definitional breakdown of privately owned recreational property proposed here becomes:

I. Unimproved Recreational Subdivisions.

- A. Vacant lots purchased mainly for speculation or investment.
- B. Vacant lots purchased for building a future home.
- C. Resort condominium units.
  - 1) Second residence
  - 2) Permanent residence
- D. Single-family recreational home.
  - 1) Second residence
  - 2) Permanent residence.

II. Improved Recreational Subdivisions.

- A. Vacant lots purchased mainly for speculation or investment.
- B. Vacant lots purchased for building a future home.
- C. Resort condominium units.
  - 1) Second residence
  - 2) Permanent residence
- D. Single-family recreational home.
  - 1) Second residence
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III. High-Amenity Resort Communities.

A. Vacant lots purchased mainly for speculation or investment.
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D. Single-family recreational home.
   1) Second residence
   2) Permanent residence

Some high-amenity resort communities may become confused with high-amenity suburban subdivisions. It is proposed that a resort community (or recreational subdivision) be within or nearby an important recreational land feature such as a lake, ocean, river frontage, mountain ski resort, national park or forest. Golf courses and swimming pools are not considered major recreational features for classifying a land development as "Recreational Property".

Under this definition information on the type of dwelling construction (mobile home, frame, brick) would be added to each appropriate classification as a further subdivision.

IV. CHARACTERISTICS OF THE RECREATIONAL PROPERTY MARKET.

The gasoline shortage, the economy, population growth, and social attitudes have been mentioned earlier as determinants which affect the demand for recreational property. These other determinants of demand and some other unique characteristics of recreational land will be discussed in this chapter.

People make a market and, therefore, the first determinant of demand for recreational property is population. Population is important not only in terms of sheer size, but in terms of characteristics such as age groupings, education, race, income and migratory patterns.[7]

As one might expect, the most intensively used recreational lands are found in and around metropolitan centers.[8] For the most part, there is a direct relationship between population size and the number of vacation homeowners - the more people, the more opportunities for vacation home ownership and the more vacation homes.[9]

[7]Smith, H. C., Tschappat, C. J. and Racster, R. L., Real Estate and Urban Development, Homewood, Ill: Richard D. Irwin, Inc., 1973.

[8]Barlowe, Raleigh, loc. cit., p. 28.

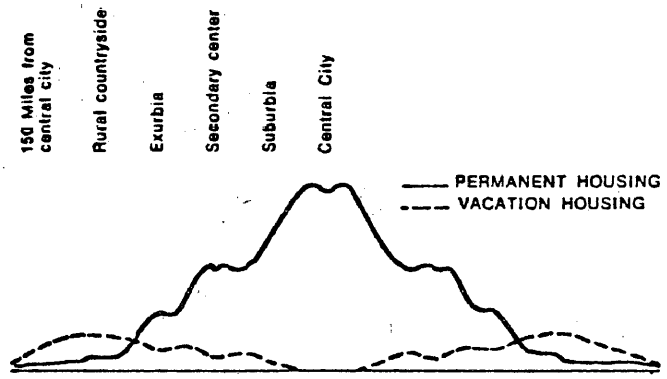
[9]Ragatz, Richard L., "The Expanding Market for Vacation Homes", Real Estate Review, Vol. 3, No. 2, Summer 1973, p. 15.

Vacation Home Location

Mr. Ragatz puts forth the following theory on the location of vacation homes which is dependent chiefly on population centers.

> "Although dispersion of vacation homes is occurring, the majority remains concentrated in areas of recreational opportunity within 100 to 150 miles of major urban centers. Vacation homes tend to be found in decreasing quantity in radiating circles from urban clusters. Their density distribution, as shown by the broken line in Figure 1, can be roughly described as a volcanic cone. The vortex of the cone is nonexistent due to the location of the central city and the immediately surrounding suburbs. At some point beyond the central core, a gray area occurs in which permanent homes in suburbia and exurbia are interspersed with vacation homes. The succeeding rings outward are where most vacation homes are located. Density then declines outward to a point about 150 miles from the central city. Unless recreational opportunities are exceedingly good beyond that point, the distance tends to be beyond reasonable weekend driving time.
>
> Rather than being evenly distributed within the individual rings, the vacation units tend to gravitate toward nuclei of various types of recreation. Primary attracting forces include water, mountains, availability of outdoor sports, scenery or low land cost. Another major factor in the degree of concentration is accessibility from permanent place of residence.

FIGURE 1
SCHEMATIC DISTRIBUTION OF
VACATION HOUSING UNITS
COMPARED WITH PERMANENT HOUSING UNITS



Thus, two series of spatial population peaks and declines can be witnessed across the country. The first is at the place of permanent residence. Here the primary peak is the central city. A second cone, volcanic in shape, of vacation homes also is present. Specific peaks occur in this cone and represent vacation home areas having recreational attractions and close proximity to the city. The two cones frequently intersect as vacation homes and permanent homes become mixed in areas at the urban fringe.[10]

Mobility

The reference to a "reasonable driving time" and "accessibility from permanent place of residence"

[10]Ragatz, Richard L., Real Estate Review, ibid., p. 2.

deal with the mobility of Americans. The technological advances in transportation, notably the car and the Interstate Highway System, have made weekend trips to a second home in rural areas feasible.

In their study of Kentucky Lake Subdivisions, Franklin and Smith consider 200 miles or a five hour driving time to be the outer limit of a "reasonable driving time" for vacation homeowners. This is the forecasted market radius resulting from a shrinkage of a 1974 market radius of 500 miles caused by "the American reaction to the energy crunch".[11] The 500 mile radius market area reflects the powerful magnetic quality of a large water resource: 257 miles of privately owned shoreline. Contrary to Franklin and Smith's conclusion, David W. Harris says that the responses in his study indicate that higher gasoline prices, especially at the current level (early 1975), have little economic or financial impact in the utilization of resort

[11] Franklin, William A. and Smith, William M., Kentucky Lake Subdivisions on the West Shore Kentucky Lake: A Geographic Analysis of the Market as a Model for Future Land Development in the Twin Lakes Region, A report submitted to the Center for Real Estate and Land Use Analysis, University of Kentucky - Monograph #4, p. 92.

condominium units for 89% of the owners and for 72% of single-family second residence owners.[12]

Although the stated reason for such a dramatic shrinkage in the Kentucky Lake service area is the energy crunch, Franklin and Smith emphasize the economic factor as the chief determinant of demand for recreational property.

Two separate sets of data were generated and subjected to factor analysis in an effort to determine what motivated owners to buy a home in a lake subdivision. The data from vacation homeowners generated seven orthogonal factors which accounted for 75.60 percent of the variance: Economic - 24.64%, Familiarity - 11.38%, Remoteness - 9.95%, Nature - 9.83%, Advertising - 7.93%, Water Sports - 6.90%, Realtor Listed - 4.94%. The second set of data which was from owners of permanent homes in the lake oriented subdivision generated nine orthogonal factors accounting for 78.09 percent of the variance: Economic - 16.45%, Amenities - 13.20%,

[12]Harris, David W., Lake Cumberland Second Residence: Implications for Kentucky Real Estate Market, A report submitted to the Center for Real Estate and Land Use Analysis, University of Kentucky - Monograph #2, pp. 22, 42.

Familiarity - 10.27%, Nature - 7.51%, Isolation - 7.30%, Site - 6.66%, Neighbor - 6.37%, Retirement - 5.17%, Fishing - 5.03%.

The energy shortage and resulting high cost are economic considerations although it was not treated as a separate factor in the analysis. The economic factor which ranked first in this Kentucky Lake study included the consideration of property tax rates, cost of purchase, investment opportunity, permanent residents nearby, and availability of public utilities. It is believed that the shrinkage of the market area projected by Franklin and Smith is a more realistic definition in light of the accumulative market constraints rather than the singular constraint of the energy shortage.

Economic Variables

Traditionally economic factors are considered the most important determinant of demand in the recreational property market. In their study on Kentucky Lake Subdivisions, Franklin and Smith performed a factor analysis on original data from interviews with 100 vacation homeowners.

It was concluded that economic factors play a leading role in influencing the decision to buy a vacation home.

Mr. Ragatz states that, "Since recreational property is not a basic necessity such as food, clothing and primary lodging, it is open to major changes in demand. Obviously, demand decreases during economic recession and increases during periods of economic expansion."[13] Therefore, a look at the national economy is warranted due to this positive relationship with the purchase of recreational property (Figure 2).

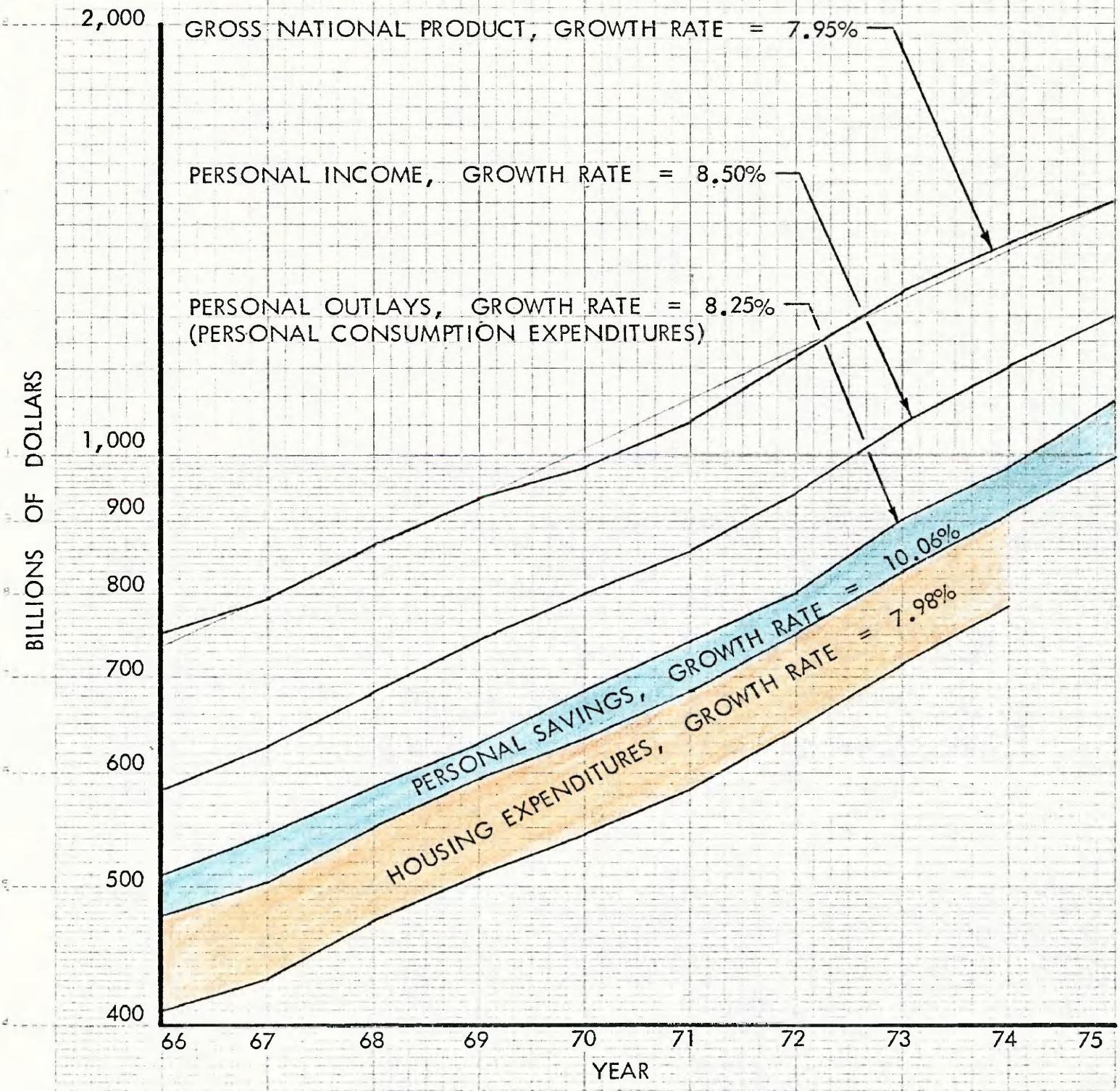
To analyze trends in the national economy, the greatest weight is placed upon the gross national product (GNP) which provides a broad picture of national production and income. "Within the GNP accounts, the services category of personal consumption expenditures has been the fastest growing component. This trend is in part a result of the growing affluence of a large part of the population . . ."[14]

[13]Ragatz, Richard L., Urban Land, loc. cit., p. 10.

[14]Smith, Tschappat and Racster, loc. cit., p. 230.

Figure 2

NATIONAL INCOME ACCOUNTS



SOURCE: U.S. DEPARTMENT OF COMMERCE

Social Variables

The identification of the major determinants of actual demand is a prerequisite to making accurate projections. It is generally agreed that population, technology, the economy, affluence, leisure time and social attitudes are determinants of demand for recreational property but there is a wide variance as to the relative importance of these determinants; much less a consensus on the indicators to use as a proxy for these determinants. As discussed earlier, population and the economy are major determinants of demand that measure a very broad spectrum of influences, and technology has increased our mobility, knowledge and leisure time. We have seen that Franklin and Smith emphasize economic factors although they also consider familiarity, remoteness, advertising, nature, water sports, site and retirement.

A common method used to uncover demand determinants is a survey of recreation property owners. Four current studies used surveys to develop a socio-economic portrayal of the recreational property owner.

David W. Harris, in his study of Lake Cumberland, Kentucky, Second Residences, concludes that the typical owner of a second residence at the time of purchase is in his forties, is married, has two children and makes a dozen trips during the summer which total 21 to 60 days per year at Lake Cumberland.[15] There is a difference between condominium and single-family residence owners: condominium owners have an average annual income of $44,000 with an average market value of $30,000 for their unit and tend to live closer to Lake Cumberland (72% live within the state and 11% live within 30 miles). Single-family second residence owners have an average income of $26,500 per year with an average market value of $17,000 for their second residence (25% are mobile homes) and 68% of them live outside the state (none live within 30 miles).[16]

William A. Franklin and William M. Smith divide recreation homeowners into vacation homeowners and permanent residents. They further divide permanent residents into commuters and retired

[15]Harris' study includes 56 responses from condominium owners and 70 responses from single-family second residence owners.

[16]Harris, David W., loc. cit., pp. 23-42.

owners. Their most complete data is on the vacation homeowner. The typical vacation homeowner is presently 53 years old, has one child, usually visits for less than a week at a time during the spring and summer and stays a total of 40 days a year.[17] The vacation homeowner has a median family income of $22,000 a year and 58% of them live within 100 miles of the lake.

A typical permanent commuter resident is presently 48 years old, has one child and a median income of $19,000. Retired residents are presently 64 years of age, have an average family size of 2.1 and a median income of $15,300. Twenty-one percent of the retired residents are less than 60 years old and several of them are former military personnel.[18]

It was also noted that residents from the same geographic region tend to cluster their vacation homes together.

Franklin and Smith also gathered occupational data and noted that over 25% of the vacation homeowners

[17]Franklin and Smith's study includes 100 vacation homeowner contacts.

[18]Franklin and Smith, loc. cit., pp. 58-67.

would be classified as professional (teachers, doctors, pharmacists, dentists or attorneys). It is also noted that 28% of the permanent residents would be classified as professional.[19]

In his investigation of the organized second home community market in Georgia, John L. H. Hammaker surveyed owners for information about what they were buying at the time of purchase and about what buyers want in a recreational home; socio-economic information was only incidental. Mr. Hammaker concludes that "more purchasers in high amenity communities tend to have incomes in higher income categories than those in low amenity communities. In general, the higher a person's income, the less likely he is to buy a second home lot for investment purposes, the more likely he is to think he would purchase a higher priced lot."[20]

Richard L. Ragatz Associates, Incorporated in their study for the report on Subdividing Rural America

[19]Franklin and Smith, loc. cit., p. 62.

[20]Hammaker, John L. H., "An Investigation of the Organized Second Home Community Market in Georgia to Determine if Property Owners Receive or Will Receive the Facilities for Which They Pay", Proceedings: American Real Estate and Urban Economics Association, Volume VI, 1971.

also includes information on recreational homeowners. Six characteristics are examined based on the 1970 Census of Population which included for the first time information describing persons who own leisure homes. The information is only available on tape. The census data was then contrasted with two independent surveys, one surveying future purchasers of leisure homes, the other surveying vacant recreational lot owners.

The growth in annual family income is stated as being the most significant factor contributing to the growth in the recreational property market. In 1970 the median family income for all households in the United States was $8,600: it was $2,350 higher or $10,950 for households owning a second home. It is explained that this difference is less than expected for two reasons: historical nature of the data and the lack of unit value determination. At the upper end of the income level spectrum 33.0% of the second homeowners have incomes over $15,000 while only 17.1% of all households exceed $15,000.

The age of the household head is an important variable because it is an indication stage in

the family life cycle when the likelihood for purchase of a second home is highest. The median age for second homeowners is 49.3 years which is just slightly higher than the 48.1 years for all household heads.

The interval between 45 and 55 years contains the largest number of second homeowners. Ragatz states that, "Persons here are in the unique situation where they still are active, have teen-age children who enjoy outdoor activities, and are in the stage of their careers when they have accumulated sufficient wealth but are not yet too concerned with retirement and a decrease in financial resources." It is further noted that a large number of persons over 65 years own second homes, and that these families are interested in a pleasant, quiet environment for retiring.

There is relatively no difference in median family size (2.6 for second home households, 2.7 for all households). However, few families with four or more children own second homes, two is the most common family size for second homeowners, and few single persons buy recreational homes.

Households headed by a husband-wife team own 75.9% of the recreational homes and a surprising 15.2% are owned by individuals. Although appearing in contradiction to the above statement, it is believed that most of these are older persons who have lost their spouse but continue to own their leisure home.

An overwhelming 94.1% of recreational property owners are of the white race, which reflects the income discrepancies and other aspects of racial discrimination. Again it is noted that this 1970 census data is historical in nature and may not reflect the current trend.

The last characteristic is not of a personal nature but rather concerns the nature of the primary residence. Seventy-three percent of the second homeowners also own their primary residence as opposed to renting and the median value is $18,800, while only 59.3% of all households own their primary residence and its median value is $14,900. Again the value difference seems small and it is attributed to the historical nature of the census data. Some 19.3% of the

second homeowners have a primary residence valued in excess of $35,000, but only 9.7% of all primary residences are valued at over $35,000. It is also stated that homeowners in general have higher incomes and tend to be older - both of which show a high direct correlation with the rate of second home ownership.

According to the census data the typical second home owning household in 1970 is a white couple, 45 to 55 years of age, making $10,950 a year with a primary residence valued at $18,800.

These socio-economic portrayals certainly emphasize affluence. The owners have worked 15 to 20 years at a high enough paying job to be able to accumulate the wealth necessary to "afford the luxury of a second home." Social characteristics are also strong: recreational property owners are family oriented, suburban dwellers who migrate to the country for three to eight weeks in the summer.

But what will cause us to seek out recreational property as opposed to other alternative uses for our time and money in the long run? "The boom in seasonal housing rests upon fundamental changes in

our attitudes toward work and play," according to Richard L. Ragatz.

We have noted the variety of cultural changes occurring in our society that directly affect the demand for, and participation in, various types of outdoor recreational activities. These include changes in the work effort, in attitudes toward ownership of property, and the growing concern about nature. While the implications of these trends are far from clear, they may have greater long-run impact on the outdoor recreation industry than the mere quantitative increase in leisure time and discretionary income.

It does appear that the combined effect of these cultural and social changes has sharply stimulated the demand for recreational property so that this segment of the real estate market can anticipate a prolonged and broad-based period of growth.

Recreational Property Demand Projections

People create and modify the demand for recreational property. The vacation home locational

theory lends a logical reality to the predictability of this demand, but more must be known about these people. In making his projection through 1985, Mr. Ragatz uses as a base the Bureau of the Census' projections of households for his proxy of population. Households is used because "the margin of error for projecting households is considerably less than for projecting total population, (however) limitations still occur." He notes that, "Such variables as societal changes in divorce and marriage rates, regional shifts in population distribution and economic recessions influence the rate of household formations."[21]

The critical characteristic or combination of characteristics that must be understood in order to effect a projection is the likelihood of a household to buy recreational property. Therefore, Richard L. Ragatz Associates, Inc. had an unpublished nationwide survey conducted as a part of the study on Subdividing Rural America to determine the propensity for future ownership of recreational properties. It involved a weighed sample of 7,190 households.

[21]Ragatz, Richard L., Urban Land, loc. cit., p. 10.

With this information, Ragatz makes the following projection in Table 1 and Figure 3.

Table 1
Demand for Recreational Properties in the United States*

Type of Property	1973	1975	1980	1985
Number of Households	67,430,000	70,080,000	77,000,000	84,000,000
Households Owning Recreational Property	5,732,000	7,008,000	8,855,000	11,760,000
Households Owning Vacant Recreational Lot for Speculation/Investment	877,000	1,051,000	1,155,000	1,680,000
Households Owning Vacant Recreational Lot for Future Building	1,416,000	1,752,000	2,310,000	2,520,000
Households Owning Single-Family, Detached Leisure Home	3,237,000	3,855,000	5,005,000	6,720,000
Households Owning Resort Condominium Unit	202,000	350,000	385,000	840,000

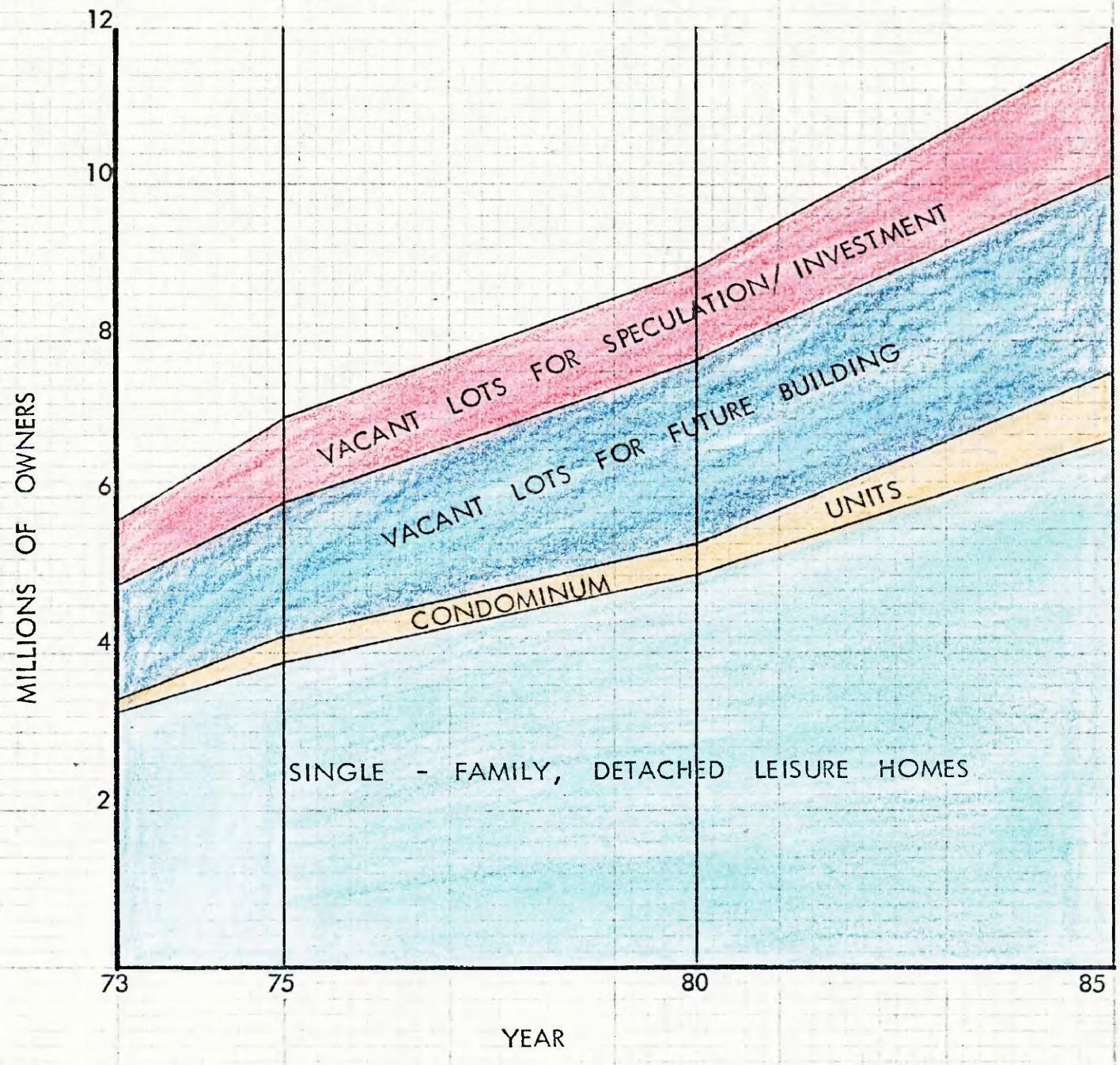
*Estimates for 1973 and projected for 1975, 1980 and 1985.

As depicted in 1973, it is estimated that about 5.7 million households (8.5 percent of the total) in the United States owned one of the four primary types of recreational property. Most of these properties (over 3 million) represented a leisure home. The type with the lowest frequency was the resort condominium (roughly 200,000).

It is projected that by 1985, the number of recreational properties will increase to 12 million, which means that about 14 percent of

Figure 3

DEMAND for RECREATIONAL PROPERTIES in the UNITED STATES



SOURCE: Richard L. Ragatz Associates, Inc.

all households will own recreational property. The most significant increases will occur between 1980 and 1985 as the post-World War II baby boom reaches the time in the family life cycle when propensity for purchase of recreational property is greatest.

In terms of the type of recreational properties to be demanded, it appears that the least increase will be realized in the demand for vacant recreational lots, especially those purchases primarily for speculation or investment purposes. Most significant increases in demand will be for recreational shelter, both leisure homes and resort condominiums.[22]

[22]Ragatz, Richard L., Urban Land, loc. cit., p. 32.

V. PROBLEM IDENTIFICATION

The recreational property market has grown tremendously in the 1960's and early 70's. Rural land is being subdivided at a rate of 650,000 lots a year[23] resulting in a complex area of direct and indirect, short and long range problems. Information is desperately needed to expand our knowledge of the working relationships of the recreational property market to better predict and cope with the growing problems associated with rural land development.

Recreational subdivisions are not unlike the metropolitan subdivision in that they are similar in design, density at full buildout, and demand for public services. As the recreational subdivision is built out, water and sewage systems must be built and maintained along with roads. Gradually second homes are converted to permanent homes and families with school age children move in demanding schools. This growth in demand for public services places a tremendous burden on rural county government.

Local governments have the major responsibility for controlling land development. It happens that recreational land development pressures are the greatest in rural

[23]Richard L. Ragatz Associates, Inc., Recreational Properties: An Analysis of the Markets for Privately Owned Recreational Lots and Leisure Homes, loc. cit., pp. 33, 62A.

areas where local zoning and building roads are the weakest. This lack of public standards coupled with small budgets and a lack of professional staff have resulted in major negative impacts from recreational land development.

Recreational subdivisions often lack basic site improvements and tend to locate on more sensitive environmental areas. They usually have dirt roads, septic tanks and private wells which contribute to water pollution and erosion. The increased crowding and traffic contribute to air pollution, water pollution, wildlife habitat destruction, litter, crime and over use of public recreation facilities.[24]

In the early life of most recreational land developments local economics are stimulated through consumer and developer spending. Local tax revenues grow more rapidly than expenditures because the buildout rate is slow so no major demand for public services accompanies the increase in land value. The initial homes are second homes that are taxed at the same rate as first homes, but because of seasonal occupancy they

[24]American Society of Planning Officials, loc. cit., p. 10.

create little burden on local school systems.[25] For a variety of reasons, recreational developments go without many of the public services which would normally be expected in a similar suburban development.

Negative fiscal impacts may result later in the cycle. If substantial permanent occupancy occurs, the local government is forced into substantial expenditures for access roads, expanded sewage and water treatment facilities, and in schools. Additional expense is required due to engineering difficulties created by the original poor planning. On the other extreme, if the area becomes only sparsely populated the cost of providing services over long distances may exceed revenues.

In the private sector, recreational land development creates new jobs directly through the construction and operation of the development. Jobs are also created indirectly through the local businesses who serve the project. This means that with some proper local controls recreational land development is ideally suited to stimulate local growth in areas

[25]American Society of Planning Officials, loc. cit., p. 9.

with suitable recreational sites.[26]

Recreational land development can be viewed as a desirable industry for stimulating growth in rural areas. There is a tremendous variety of developments as discussed in Chapter III so that the local area can tailor the type of development to their needs. But what are the determinants of a successful recreational land development? Who makes up their market and do they have suitable sites for development? Finally, what are the relationships between the various components of the recreational property market?

The objective therefore is: (a) to construct several theoretical, structural relationship models of second home ownership variations between Nebraska county residents; (b) to justify the selected model determinants; and (c) to discuss the problems incurred in the selection of the data to be used for the empirical portion of the study.

The recreational home market is a small portion of the recreational home market and data on recreational property is scarce. There is much to be learned

[26]American Society of Planning Officials, loc. cit., p. 9.

about the maze of complex factors which influence the demand for second homes. However, it is known that the purchase of a second home is a luxury[27] unlike the basic necessity of a primary residence and can be classified as a superior good.

Selection of the Dependent Variable

The initial intent was to study the leisure home market in the metropolitan Omaha area by use of data on existing second homes. The search for a proxy indicator for existing second homes to use as the dependent variable was not fruitful.

The Center for Applied Urban Research (CAUR) was helpful and supplied much interesting information. Several conversations with Dr. Ralph H. Todd, the Director; William B. Rogers and Margaret A. Hein of his staff, yielded no usable data on second homes. Warren White of the Nebraska State Office of Planning and Programming suggested I contact CAUR. The Metropolitan Area Planning Agency (MAPA) is in the process of mapping the land-use classes in their 5-county region, including recreational

[27]Ragatz, Richard L., Urban Land, loc. cit., p. 10.

housing, but their available data was only by location. Bill Sweegal of the Planning Division of the U. S. Corps of Engineers said their recent study of the flood plains in the greater Omaha area might contain some usable data. However, he suggested contacting MAPA.

The Department of Housing and Urban Development (HUD) has been helpful on several occasions but mostly on national information. HUD's Office of Interstate Land Sales has 40 projects registered from Nebraska, but it does not contain enough data for a thesis. Likewise, the Omaha Board of Realtors, Metropolitan Omaha Builders Association (MOBA), National Park Service, Northwestern Bell and Omaha Public Power District (OPPD) have been helpful, but none have yielded usable data.

According to Mr. Paul Copenhaver, Manager, Customer Services, the Omaha Public Power District used to have a policy which defined different charges for several classes of property. "Leisure homes" was one of these classes and it required a higher charge due to the lower return on services. This policy was terminated in 1965 and Mr. Copenhaver

assured me that historical data on leisure homes was no longer available.

Local Developers

Since there has been a noticeable amount of recreational land development in the Omaha area it appeared likely that local developers would be a good source of information. Telephone interviews with four recreational land developers indicated that most local development was based on personal judgment rather than a study of market conditions or a comparative analysis of recreational developments.

Donald Lamp, the developer of Ginger Cove at Valley, Nebraska, stated that he has been a developer since 1952. Mr. Lamp felt that he had a good seat-of-the-pants feel for the leisure home development. What gave him the fortification to go ahead on the Ginger Cove project was his review of the Capital Beach project in Lincoln, Nebraska. Both the Capital Beach project and Ginger Cove were started as second home developments, but it soon became apparent that the market was in permanent homes for commuters.

The biggest stumbling block to developing Ginger Cove was that the land could not be purchased. In April of 1967 he signed the long term lease (70 years).

Ginger Cove and later Ginger Woods are high amenity projects - they contain only lake front lots. Paved roads and complete sewage and water systems are found throughout.

A unique feature of the site is that it contains 8,000 feet of lake along the Platte River. The lake is level while the river drops off at one foot for every 1,000 feet so that the south end of the lake is some 8 feet above the river. During the winter the lake is drained, which produces a 145 day flushing action. There is a good natural fish population and algae is a minor problem. At a certain time of the year a very stringy algae will cover the lake. Then in 3 to 4 days it is gone.

There are only two other similar projects in the Omaha area: Hawaiian Village and a project near Fremont, Nebraska. Mr. Lamp is planning a new recreational development near Plattsmouth, Nebraska.

Marvin E. Copple, the developer of Capital Beach Manor at Lincoln, Nebraska, was asked if he used any studies, other data or what was it that prompted him to develop Capital Beach Manor. Mr. Copple replied, "No. I just had the idea and did it. I was not a land developer, but Capital Beach got me into the field and I am now a land developer. If you'd like to go over Capital Beach development history, probably the best thing to do would be to come down to Lincoln and visit with me in person. I've got several developments going this year and I am awful busy."

Bill Archibald, developer of Hawaiian Village, has been a general insurance agent in the Omaha area most of his life; as such he has very little time to take a vacation. So he got a place at Hanson Lakes and it was great. After a short drive it was like being in another world and he began to dream about having his own place out there.

In November of 1973, he received a brochure in the mail from a realtor in Ashland telling him about a sand pit that was coming up for sale. This was at the same time the first energy shortage hit the U.S. Bill Archibald was very

excited about the possibility. After some confusion over finding the site, Bill didn't want to show his enthusiasm so he asked the realtor if he could get a couple of weeks option on the property.

The realtor wasn't sure, but he called back and arranged a meeting with the owner at a truck stop along Interstate 80 because of gas rationing. That night Bill drew up an option on a napkin which the owner signed in exchange for a one hundred dollar check. A new option was drawn up by Bill's attorney the next day.

Bill consulted with Don Lamp on the development of Hawaiian Village and they have become good friends.

It's been tough going these past three years with the energy shortage and the economic recession. Bill is out driving a tractor most everyday just to keep weeds down.

"Everybody likes to get wet. It's great to get up in the morning, walk out your back door and take a swim. We have something going every month - a steak

fry, a party, etc. There is a bit of a lull around October until the lake freezes and the winter activities begin. To the north there is a hill I am going to cut a path down for next winter. Oh, the fishing is great. Father Hupp from Boys Town is down here fishing all the time - I can't keep him away."

"We have thirteen houses now and there have been a few hard feelings. I just can't let anyone build a $30,000 house next to a $90,000 house. I had to sell a few lots awfully cheap to raise some cash. We screen each buyer closely to see if they can afford to build here. When they buy I just give them the lease. There is a $500 lease fee per year, but at $500 per year you couldn't get a better vacation. The owner subordinated his 190 acres on a 99 year lease. That means you own the land," said Mr. Archibald.

Skip Rempel of LDC Realty, developer of Lakeland Estates in Washington County, Nebraska, said his company has developed recreational property in other parts of the country (Kansas, Oklahoma, Iowa) where it worked and it ought to work here too.

"It's just a matter of finding the right location. We look into the size of the population so you know what size development you're talking about. The owner of the company was from around here and he looked for perhaps 10 years for an ideal location that would have things needed for a recreational development. Land development the way OILS wants it done just can't be done anymore.

The only reason there is as much development as there is here is because the majority of the local builders choose to ignore the rulings that they should be complying with. Nebraska is very limited in recreational developments as compared to Oklahoma, Missouri and Colorado where they have more to choose from."

The Dependent Variable

My data search led to the 1970 census of housing which does not accumulate data directly on recreational homes. However, a question that was asked in the census was whether or not the household "owns a second home". The data on this question was derived from a 5 percent sample questionnaire so that this data is available on a county basis

for 84 of the 93 counties in Nebraska. This count on households in the county who own a second home will be used as the dependent variable. It should be noted that the residents of a county who own a second home may own that second home anywhere in the world, and not necessarily in their county or in the State of Nebraska.

There are headings in the U.S. Bureau of the Census data which undoubtedly include much of the recreational housing in Nebraska (i.e., vacation-seasonal and migratory and other vacant), but the correlation between these heading counts and second homes is not readily apparent.

Selection of Model Determinants

The problem of predicting the number of second homes in a county much less the number of households owning second homes at a moment in time is a complex phenomenon. The pattern of land use in a county is the product of the evolution of market forces and functions. The use that is made of each parcel is the result of economic competition among alternative uses. Thus the pattern of county land

use is the product of the real property market, of which recreation is a small class of land use.

The operation of supply and demand forces are complicated by the practices and policies of social, legal and political institutions. In focusing upon the private market determinants of second home ownership, we will put aside governmental powers as a minor determinant.

"The demand for land and improvements as a direct consumer item depends upon tastes and preferences, size and distribution of personal income, prices of substitute commodities, availability of credit, population size, age-sex composition of the population, and degree of urbanization to mention the most obvious of the shift parameters." However, the problem of predicting the number of households owning second homes is further complicated because the tastes and preferences of the county residents play an even greater role as determinants. Several of these determinants will be incorporated into the models used in this study.

Research Questions

The relevant research questions to be examined are:

1. Why does the number of households owning recreational homes differ between Nebraska counties?

2. How much of the variation can be explained by scalar influences (i.e. number of people, county size)?

3. How much of the variation can be explained by economic influences?

4. How much of the variation can be explained by taste and preference influences?

5. How much of the variation is explained by other influences?

General Hypothesis

The following general hypothesis has been formulated to arrive at the major determinants of differentials of second home ownership between Nebraska counties.

It is hypothesized that differences between counties in the number of households owning second homes is a function of differences between counties:

1. in scalar influences
2. in economic activity
3. in tastes and preferences

VI. SELECTION OF PROXY MEASURES

Model Characteristics

The use of "households owning second homes by county" as the dependent variable places two significant constraints on the selection of data to be used as a proxy measure of the independent variables and the interpretation of the results of this study. First, although the households owning second homes do in fact reside within the Nebraska county, their second home may not be in the same county nor even in the state. In other words, it is important not to confuse "demand for recreational homes located in the county", which we are not predicting, with "demand for second homes by resident households of the county", which we are attempting to predict.

Secondly, this is a comparison of the differences between counties in 1970. It is a cross-sectional analysis which is ill-suited for factors which fluctuate with time. For instance, economic recessions and booms significantly affect the demand for leisure homes and can be studied using a time series analysis. However, the economic condition

at the point in time at which a cross-sectional analysis is made is of little consequence. Rather it is the accumulative effect of the economic history of the county which affects the accumulated total of households owning second homes.

Cross-sectional analysis will also be insensitive to fluctuation over time in the availability of credit and relative price differences.

Time is accounted for in cross-sectional analysis on an accumulative scale. If one county's resources were more favorable to economic growth than another, then at a point in time economic indicators would be accentuated for that county (i.e. population in Douglas County versus other Nebraska counties) due to the accelerated accumulation caused by the favorable resources.

Population

Population size is accepted as a major determinant of demand for recreational housing. This is also true for Nebraska. The twelve largest counties which had places containing over 10,000 inhabitants in 1970 rank in the top fifteen for the most house-

holds owning second homes in absolute terms. The two counties containing the largest cities (over 50,000 inhabitants), Omaha and Lincoln, rank one and two respectively in number of households owning second homes.[28]

Because the dependent variable is expressed in "households" owning second homes rather than "people" owning second homes, our data will be more comparable by using "households" as the proxy for population. From the review of the literature and the above preview of the Nebraska data, we already know that there is a direct, positive relationship between number of households and number of households owning second homes. Therefore, the percentage of households owning second homes will be used rather than the absolute number.[29]

Changing the dependent variable to a common denominator such as percent facilitates comparability between counties. For example, when grocery

[28]See Appendix A.

[29]An equation which included the number of households as a sixth independent variable was run on the computer, but it provided no significant improvement in the variation explained. See Appendix C.

shopping, it is difficult to tell which bag of popcorn is the best bargain - the small one for 99¢, the one with the red label for $1.69 or the giant economy size for $3.19. Even when you know the small one contains 8 oz., the red label contains 1 lb. and the economy size contains 24 oz., it is still not readily apparent which is the best buy. But by reducing the price to a common denominator, such as cost per ounce or cost per pound, the choice becomes obvious.

The tremendous influence of population on the quantity of second homes has been discussed several times earlier and must obviously be an integral part of the model. It is felt that population can be handled best, indirectly, as the common denominator for several of the determinants. The use of population (households) as the denominator for the dependent variable was discussed above. Households is also used as the denominator with the social security income factor and the professional occupation factor. The use of population in this way modifies the connotation of the model. If the model used only raw numbers for second homes, households, individuals with social security income and individuals in profes-

sional occupations, we would find that counties with large populations have more households owning second homes. By using population indirectly we have a social science model in which we are trying to identify the population characteristics that cause a greater percentage of a group of residents to own second homes.

County Area

A second scalar variable is the size of the county in square miles. This frequently used variable would be significant in determining the number of second homes located within a county since in the larger counties there is more land available for each land use class, especially recreational property. However, in determining the percentage of resident households who own second homes, the second homes need not be within the county so that the availability of recreational property in the county is not a major constraint.

Owners of second homes in general tend to purchase this property within a reasonable travel distance from their primary residence, and R. L. Ragatz defines this as between 50 and 150 miles. If Mr.

Ragatz's locational theory for recreation homes holds true for Nebraska, then this 150 mile radius from population centers becomes the primary area constraint and the relationship between county size in square miles and the percentage of county households owning second homes is indeterminant and insignificant. The determinant is therefore not tested.

Availability of Suitable Recreational Sites

The pecuniary costs of owning a second home are directly related to the decision of buying or not buying a second home. The decision to purchase a second home, other things being equal, is greater when a suitable recreational site is located a desirable distance from the primary residence. This proposes the two major opposing characteristics of distance to the site and qualities of the site.

The location of the second home, expressed in miles between the two residences, is a measure of the pecuniary costs of time, money and aggravation involved in making use of the second home. Therefore, the relationship between distance to the second

home and the purchase of a leisure home tends to be an inverse one.

With respect to site qualities, it has been shown that general features are more important than specific features. Features such as large bodies of water and topography imply the availability of recreational activities and thereby exert a much greater attractive force for second homes than do a golf course, clubhouse or swimming pool.

The following scheme is a simplification of the trade-off between distance and site qualities. A one-zero dummy variable is employed to represent counties which have access to suitable recreational sites and counties which do not. This scheme considers site availability from the point of view of the major recreational site and the distance over which it can attract second home buyers. In other words, the better the recreational site qualities and quantity, the greater is the distance a second homeowner is willing to travel to use that site. Three classes of recreational sites are recognized: National (150 miles), Regional (65 miles) and Local (county).

Two national recreational areas affect Nebraska: the Colorado Rocky Mountains and the Black Hills. Without attempting to discuss quality it is obvious that the Colorado Mountains have a lot more land suitable for second homes. Therefore, Denver will be used as the center for the 150 mile radius of influence on Nebraska counties while the middle of the Black Hills is used as the center of the 150 mile radius of influence from the South Dakota area. One hundred fifty miles is used because it is the outer limit expressed in Mr. Ragatz's second home locational theory. Figure 4 illustrates the circle of influence exerted by these national recreational areas.

Lake McConaughy (Figure 5) and Lewis and Clark Lake (Figure 6), the two largest lakes in Nebraska, both containing over 30,000 surface acres of water, are the two regional recreational sites. The regional sites exert a strong attractive force for a distance of 65 miles. Sixty-five miles is the sphere of influence depicted for these two lakes by the Nebraska Outdoor Recreation League, Inc. in the publication "Pennies for Your State Parks, 1977". Figure 4 illustrates the influence exerted by these regional recreational areas.

Figure 4

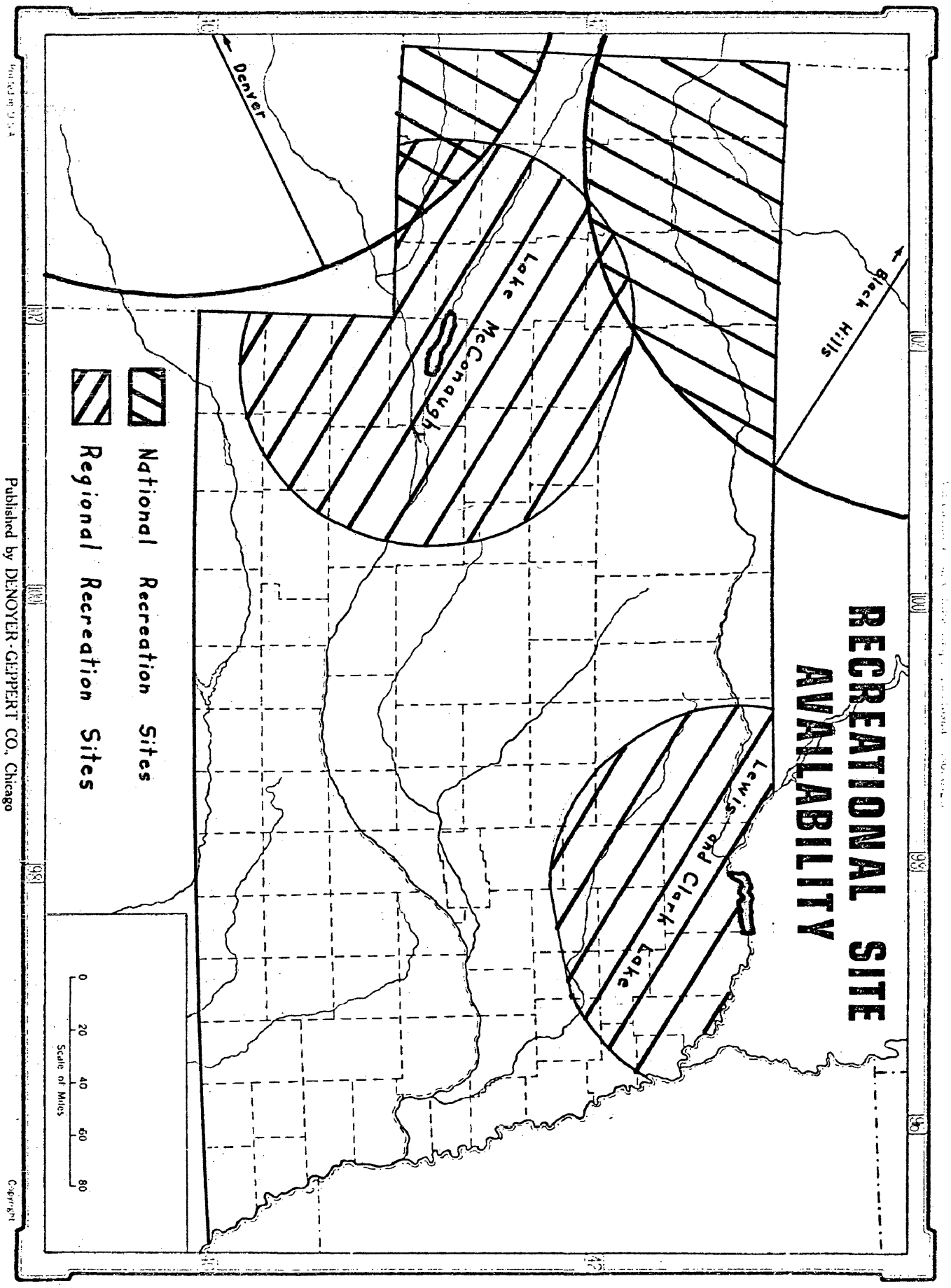
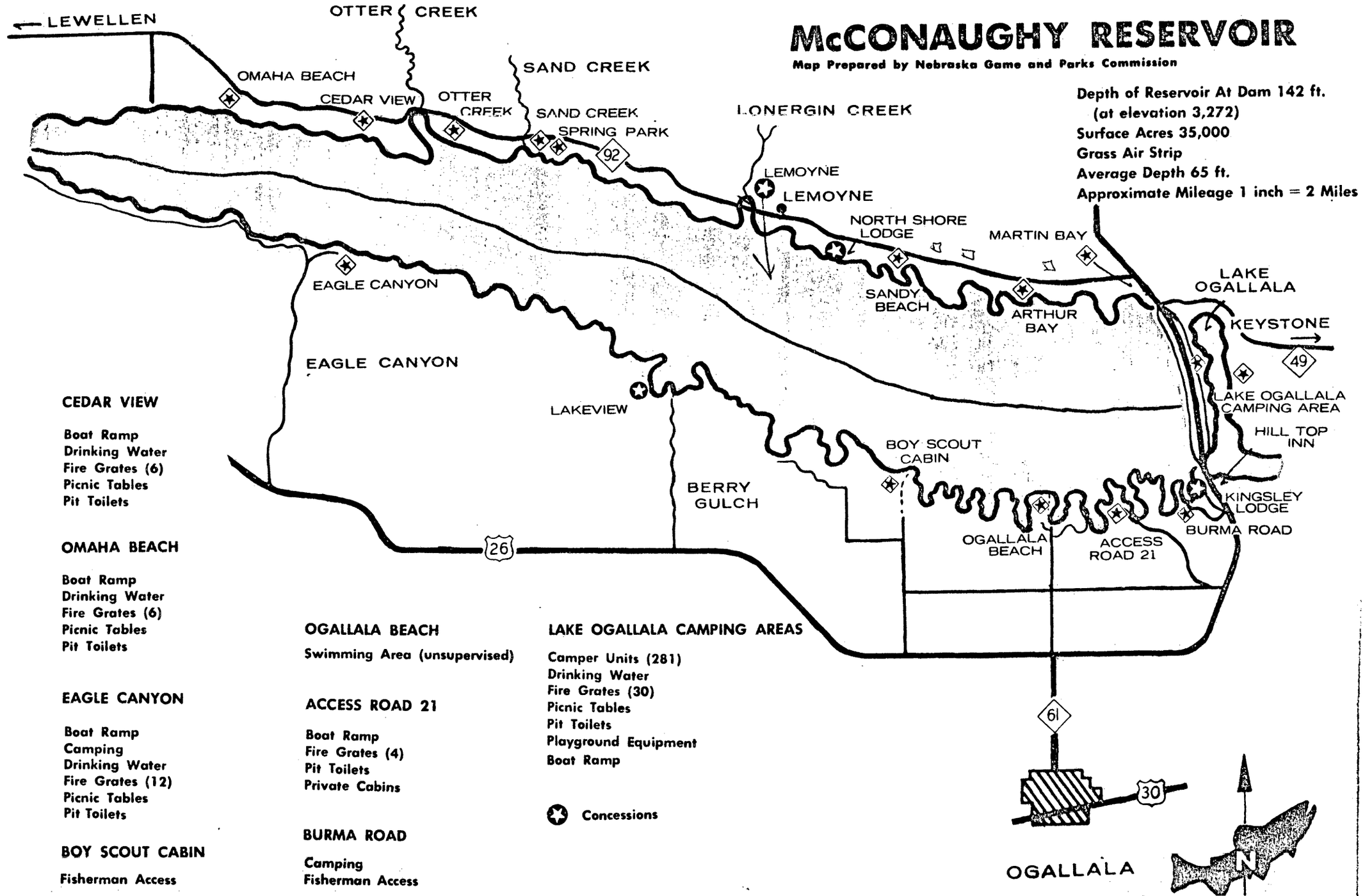

RECREATIONAL SITE AVAILABILITY
Denver
Black Hills
Lake McConaughy
Lewis and Clark Lake
National Recreation Sites
Regional Recreation Sites
0
20
40
60
80
Scale of Miles
Published by DENOYER-GEPPERT CO. Chicago
Copyright

Figure 5



MARTIN BAY

Camper Units (100)
Drinking Water
Fire Grates (25)
Modern Restrooms (3)
Picnic Tables
Playground Equipment
Shelter Houses (5)
Swimming Beach

ARTHUR BAY

Picnic Tables
Pit Toilets

SANDY BEACH

Picnic Tables
Pit Toilets
Boat Ramp

SPRING PARK

Drinking Water
Fire Grates (12)
Picnic Tables
Pit Toilets
Playground Equipment

SAND CREEK

Pit Toilets

OTTER CREEK

Boat Ramps (3)
Concession
Fire Grates (20)
Picnic Tables
Pit Toilets
Picnic Tables

CEDAR VIEW

Boat Ramp
Drinking Water
Fire Grates (6)
Picnic Tables
Pit Toilets

OMAHA BEACH

Boat Ramp
Drinking Water
Fire Grates (6)
Picnic Tables
Pit Toilets

EAGLE CANYON

Boat Ramp
Camping
Drinking Water
Fire Grates (12)
Picnic Tables
Pit Toilets

BOY SCOUT CABIN

Fisherman Access

OGALLALA BEACH

Swimming Area (unsupervised)

ACCESS ROAD 21

Boat Ramp
Fire Grates (4)
Pit Toilets
Private Cabins

BURMA ROAD

Camping
Fisherman Access

LAKE OGALLALA CAMPING AREAS

Camper Units (281)
Drinking Water
Fire Grates (30)
Picnic Tables
Pit Toilets
Playground Equipment
Boat Ramp

Concessions

Figure 6

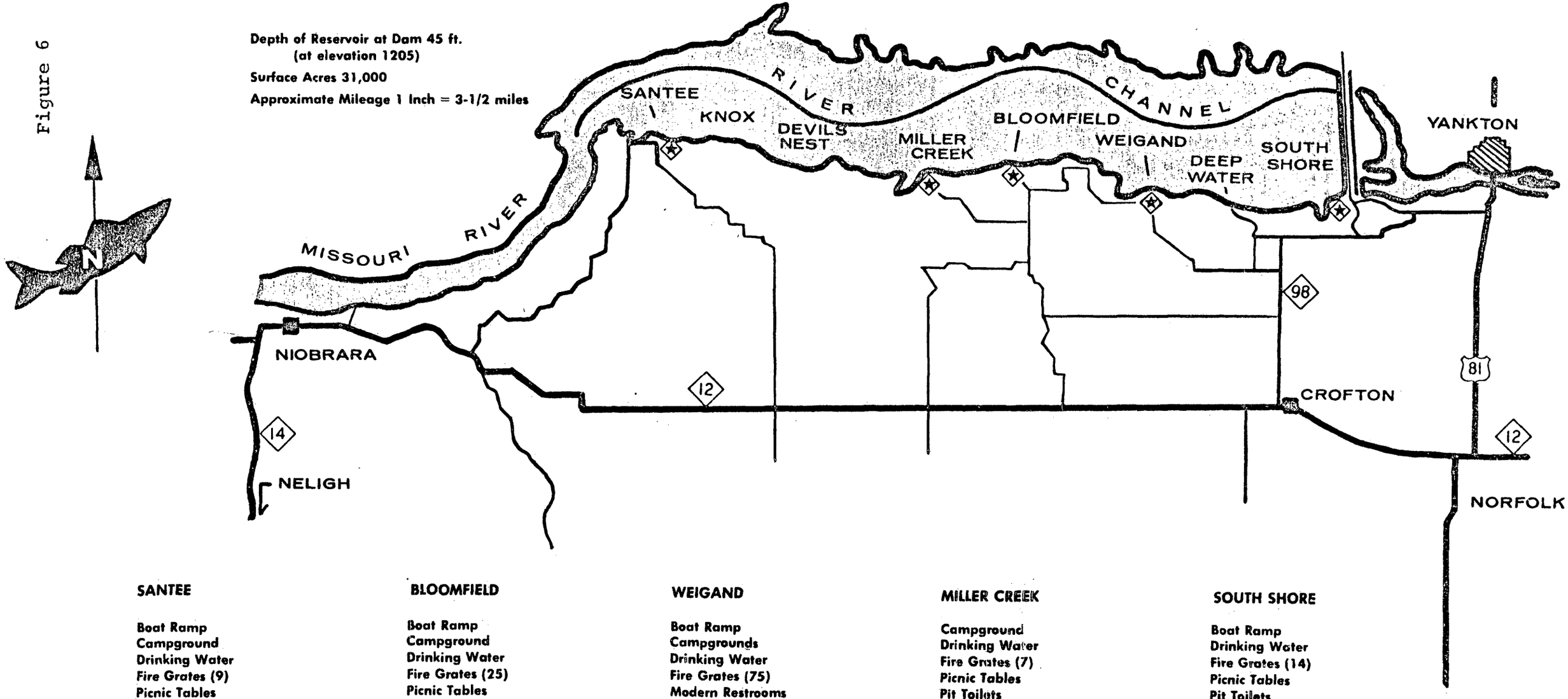
LEWIS and CLARK RESERVOIR

Map Prepared by Nebraska Game and Parks Commission

Depth of Reservoir at Dam 45 ft.
(at elevation 1205)

Surface Acres 31,000

Approximate Mileage 1 Inch = 3-1/2 miles



SANTEE

Boat Ramp
Campground
Drinking Water
Fire Grates (9)
Picnic Tables
Pit Toilets
Playground Equipment

BLOOMFIELD

Boat Ramp
Campground
Drinking Water
Fire Grates (25)
Picnic Tables
Pit Toilets
Playground Equipment
Swimming Beach

WEIGAND

Boat Ramp
Campgrounds
Drinking Water
Fire Grates (75)
Modern Restrooms
Picnic Tables
Pit Toilets
Playground Equipment
Swimming Beach
Trailer Spaces (Concession)

MILLER CREEK

Campground
Drinking Water
Fire Grates (7)
Picnic Tables
Pit Toilets

DEEP WATER

Picnic Tables
Pit Toilets

SOUTH SHORE

Boat Ramp
Drinking Water
Fire Grates (14)
Picnic Tables
Pit Toilets
Playground Equipment

Local recreational sites are lakes that are less than 30,000 water acres but more than 10,000 acres and Nebraska National Forests. Each local recreational area is said to affect only the county in which it is located. Since the distance for county residences to local sites is short, the local recreational areas are believed to have little positive affect on the purchase of second homes.

Symbolically this is expressed as:

Model A $$\frac{d\,R}{d\,D} > 0$$

Where R = the percentage of resident households owning second homes, D = the availability of suitable recreational sites and the subscript "c" signifies the county.

The availability of suitable recreational sites is positively related to the percent of households owning second homes according to this model's specifications.

Family Income

The relationship between median family income and the purchase of a second home is a direct one. Median family income to a large extent represents the economic ability of the population to satisfy its needs and desires. The capacity to purchase a second home, other things being equal, depends upon income, although credit may be utilized. The ability to acquire credit, however, depends to a large extent upon the ability to repay a loan which in turn depends to a large extent upon income. Therefore, increases in median family income result in increased demand for second homes both in quantity and quality.

This is expressed symbolically as:

Model B $$\frac{d\,R}{d\,I} > 0$$

Where R = the percentage of households owning second homes, I = the economic activity proxy of median family income and the subscript "c" signifies the county.

Model B specifies that county differentials in the percent of households owning second homes is positively related to median family income.

Assessed Value Per Acre

The relationship between wealth and the purchase of a second home is also a direct one. More than family income, wealth represents an established track record of being able to satisfy needs and desires but still have something left over. The use of total assessed real property value per acre for the county as a measure of wealth reflects population, but more so it reflects the economic activity of the area as the aggregate result of the market process.

Americans find land ownership desirable for many reasons; a major reason being the durability and appreciation of the investment. By using property value as a measure of wealth, the model gains this propensity of Americans toward land ownership in our variable.

This is expressed symbolically as:

Model C $$\frac{d\,R}{d\,V} > 0$$

Where R = the percentage of resident households owning second homes, V = the county's assessed property value per acre and the subscript "c" signifies the county.

This model specifies that total property value per acre (wealth) is positively related to second home ownership.

Tastes and Preferences

Tastes and preferences encompass a complex area of motivational and opportunity factors which affect the purchase of recreational property. The major opportunity factor in this category is "leisure time" which provides the opportunity to consider alternative recreational pursuits. Motivational factors are subtle and deal with personal notions of value and individual well being. They deal with such feelings as a desire to escape the poor amenities associated with city living,

status achievement, familism, and a desire to participate in outdoor recreation.

Leisure Time

Without leisure time there would be no incentive to own a second home. As leisure time increases, provided there is sufficient finances and recreational sites, the proportion of families owning second homes will increase, other things being equal. Increases in free time are due to: 1) more and longer paid vacations, 2) shorter working hours, 3) increases in paid retirement, 4) a decrease in the retirement age, and 5) an increase in longevity. Data on the average work week and paid vacations is not available on a county basis according to Mr. Les Johnson of the Nebraska Department of Labor, Research and Statistics Section.

The number of persons on social security income will be used as a proxy for leisure time since it is a reasonable indicator of the number of retired persons in the county. Persons on social security income account

for increases in longevity since social security income generally continues until death. This number understates the number of retired persons since it does not include those who retire at less than 62 years of age, such as military personnel. Yet the figure is overstated in that widowed family members are counted since they receive social security income. These two categories have a cancelling out effect and therefore the number of persons on social security income is believed to be a good indicator of retired persons.

This is expressed symbolically as:

Model D $$\frac{d\,R}{d\,L} > 0$$

Where R = the percentage of households owning second homes, L = the percentage of resident households receiving social security income and the subscript "c" signifies the county.

This model specifies that an increase in persons receiving social security income

(leisure time) is positively related to the percentage of households owning second homes.

Professional Occupation

The subjective nature how one's taste and preferences motivate them to purchase a second home creates a range of interpretation difficulties with any proposed indicator. The literature search aided in the selection of those in "professional occupations" as the proxy for several reasons. Professionals as enumerated by the 1970 census include physicians, dentists, other health workers, engineers, teachers and other technicians. They appear to exhibit more and a greater intensity of the motivational factors that are positively related to second home ownership.

Professionals tend to live in urban areas that are plagued with increasing crime rates, noise, water and air pollution, congestion, suburban sprawl and decaying central cities, all of which increase the desire to escape to the country for a weekend or holiday stimulating change of pace.

They are middle and upper-middle class Americans who are trendsetters and status achievement takes a high priority in their life. Simply being able to mention "the summer cottage" has connotations of affluence. In a broader sense there is a general desire to own land. Property ownership has been traditionally of great importance to American society. Owning a piece of the outdoors has been viewed as owning a piece of America. Also there is emotional security and a sense of independence connected with property ownership as well as the potential for equity appreciation. Land is a tangible and symbolic substance which can be passed on to one's children. Certainly these motivational factors are not unique to professionals, however, professionals seem to epitomize them as elaborated here and in a Michigan study.

This is expressed symbolically as:

Model E $$\frac{d\,R}{d\,P} > 0$$

Where R = the percentage of households

owning second homes, P = the percentage of households with a professional in residence and the subscript "c" signifies the county.

This model specifies that professional occupation and second home ownership are positively related.

Hypotheses Summary

The foregoing hypotheses are summarized in the general hypothesis, "It is hypothesized that differences between counties in the number of households owning second homes is a function of differences between counties in scalar influences, economic activity and tastes and preferences." Thus far the discussion has concentrated on one-to-one relationships between the dependent and independent variables. An aggregation of these presents the subtle inter-relationships between all of the factors and is expressed symbolically as Model F.

$$R_c = f_c\ (D_c,\ I_c,\ V_c,\ L_c,\ P_c)$$

Where R = the percentage of Nebraska county resident households owning second homes

D = availability of suitable recreational sites

I = median family income

V = assessed property value per acre

L = percentage of households with social security income

P = percentage of households with a professional in residence

and the subscript "c" signifies the county.

This model states that the percentage of households in a county who own second homes is structurally correlated with the availability of suitable recreational sites, the median family income of county residents, the county's total assessed property value per acre, the percentage of county resident households receiving social security income and those with professional occupations. The testing of these hypotheses to determine the significance of each determinant and the relative importance of each as it is affected by other determinants is discussed in the following chapter.

VII. REGRESSION ANALYSIS

The analysis of the model provided two good factors which together explain 18.9% of the reasons why a higher percentage of the residents of one Nebraska county own second homes as compared to another county. Three other variables were of little help.

The data used in this model is a "universe" of data rather than a "sample" because we have data on virtually all of the Nebraska counties. Tests of statistical significance therefore are not completely appropriate. They will be discussed because they aid our understanding and interpretation of the results. Major consideration is to be paid to the informative relationships of the model determinants.

Statistical Results

The statistical results show that this model explains 20.6% of the variation. This is to say that 20.6% of the variation in the percentage of Nebraska county resident households owning second homes is explained by the percentage of households with a professional in residence,

the availability of suitable recreational sites, median family income, assessed property value per acre, and the percentage of households with social security income.[30]

The model has an overall F for the equation of 4.14919 which is highly significant. There are 80 degrees of freedom to the equation. Therefore an F of 2.33 or greater is significant at the 5% level and an F of 3.25 is significant at the 1% level. The following table lists the F value for each of the variables.

Table 2

Variable	F	t
P = Professional	1.267	1.125
D = Site Availability	14.399	3.795
I = Income	0.467	0.676
V - Value/Acre	0.313	0.563
L = Social Security	1.382	1.176

Professional occupation, site availability and being on social security have an F value that

[30]See Appendices B and C for complete regression results.

exceeds 1.0 which indicates evidence of correlation. Only site availability is significant and it is highly significant.

If this were a sample and had less than 30 observations, the t test would be essential. Here a t at the 5% level would be 1.96 and 2.58 at the 1% level. The same relation between the variables seen in the F test is also seen in the t test.

Table 3 lists other results of the regression analysis.

Table 3

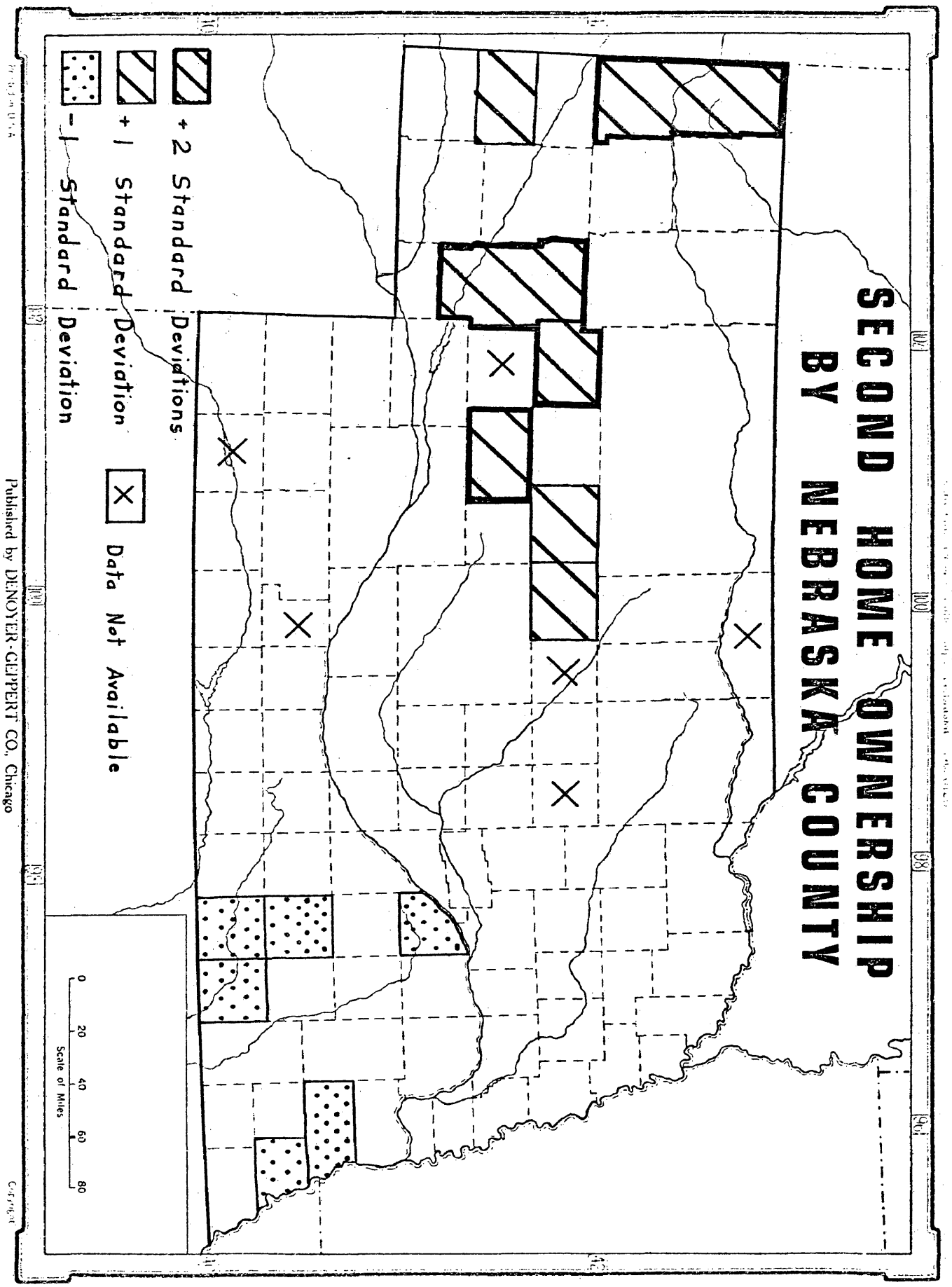
Variable	Simple r	Simple r^2	BETA	Multiple R^2	Multiple R^2 Change
P = Professionals	0.13372	.0179	0.12049	0.01788	0.01788
D = Site Availability	0.42770	.1829	0.39454	0.18862	0.17074
I = Income	-0.11661	.0136	-0.09377	0.18930	0.00068
V = Value/Acre	-0.13713	.0188	-0.06256	0.19221	0.00291
L = Social Security	-0.01005	.0001	-0.15499	0.20592	0.01372

Dependent Variable Characteristics

Explicitly the dependent variable is the percentage of resident households owning second homes by Nebraska county. The State of Nebraska is the boundary of our universe and observations are on a county level. We are trying to identify parameter relationships involving differences in the percentage of county residents owning second homes.

The mean percentage of county resident households owning second homes is 4.26% with a low of 0.69% and a high of 18.49%. Six counties have second home ownership levels less than one standard deviation (under 1.35%) below the mean. Seven counties have ownership levels more than one standard deviation (over 7.17%) above the mean and four of the seven are more than two standard deviations above. The graphic illustration of this in Figure 7 depicts the clustering of low second home ownership counties in the southeastern quarter of the state and the clustering of the high levels of second home ownership in the west central counties.

Figure 7



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Households With Social Security Income

A measure of leisure time was the desired objective of this variable. The use of persons with social security income was and is believed to be a good measure retired county residences. However, it does not account for variances in leisure time available for recreation attributable to the length of the work week, the number of paid vacation days or the ability to get several consecutive days away from work.

Households with social security income have the second highest impact (Beta = 0.15499) on second home ownership. But it is an inverse relationship when a direct relationship was anticipated. It also has the worst reliability (r = 0.01005) of the five indicators.

Maintaining that leisure time has a strong positive correlation to ownership of second homes, one must deduce that households with social security income is an obscure proxy for leisure time. The negative relationship is of little significance since only 0.01% of the variance is explained. The reason

for the negative slope might be that retired persons are on declining incomes. Purchase of a second home is unlikely during retirement.

Those who purchased a second home earlier in their life cycle are likely to rid themselves of the burden or convert the recreational home to their permanent residence. The purchase or conversion of recreational homes for permanent residences are not counted as second homes in our data.

Our equation infers that the percentage of retirees is not only negatively related but weakly correlated to available leisure time. If Nebraska was an industrial state, data on paid time off or average work week might be available and be a better proxy. Another aspect of the work situation is that the blue collar worker is tied to the time clock. Doctors, lawyers and teachers have greater opportunities to aggregate their vacation time and make better use of a second home. But what about the Nebraska farmer with his winter season lull?

Median Family Income and Assessed Value

Median family income and assessed value per acre

are also statistically weak and slightly negatively related to second home ownership. While the reasoning use to justify the inclusion of measures of income and wealth in Chapter VI was sound, perhaps the proxies used for these independent variables assumed too many factors.

Median family income is a good measure of central tendency, but it does not directly reflect the dispersion of income levels within the county. Assuming that households with high income levels have a greater tendency for second home ownership, then if two counties had the same median income, the county with greater standard deviation in income would have a higher percentage of second home ownership, all other variables being held constant. Therefore, future studies should have better results by using the standard deviation for county family income as a proxy for income. Because the larger the standard deviation for county family income, the greater will be the extremes of wealth, and the more likely would be second home ownership.

The assessed value per acre may be a good estimation of the county's total accumulated wealth,

but it appears to be weakly related to a family's propensity for second home ownership. Part of this lack of correlation may be that in high value counties like Douglas County, the high property value per acre may be a reflection of corporate wealth (i.e. Mutual of Omaha, Western Electric, Woodmen of the World), and in rural counties vast quantities of range land may be concentrated in the hands of a few wealthy ranchers. Also land is in a non-liquid asset and variations in county assessment procedures may adversely affect this indicator.

Households With a Professional In Residence

This independent variable is the second best factor and is positively correlated with second home ownership as predicted. Professionals are perhaps a proxy for three things. First, they tend to be in a high income bracket. Second, they reflect a high level of education which is perhaps more reliable than income level in that teachers are scholars, yet their income level is not much higher than skilled craftsmen. So in reflecting education it may be reflecting

a different life style, a different set of asperations, a need for more self-actualization. Third, most professionals, in the case of doctors, lawyers, college professors and ministers, may have more flexibility in scheduling their time and be able to schedule their time off to make use of a second home.

The professional combines the aspects of high income, life style and leisure opportunity which may cause it to be a better indicator than either median family income or assessed property value per acre.

Availability of Suitable Recreational Sites

The availability of suitable recreational sites is obviously directly related to second home ownership. It is by far the most powerful factor explaining 18.3% of the variance with a Beta of 0.39454. The high correlation is graphically obvious by comparing Figure 4 which represents Nebraska counties that have a large supply of suitable recreational sites available to them, with Figure 7 which depicts

Nebraska counties that have high and low percentages of households owning second homes.

VII. CONCLUSION

The investigation of the recreational property market has led us to a greater understanding of the complex relationships involved. The literature shows that population, income and leisure time have profound effects on recreational property ownership. A glimpse of many other facilitating and motivating factors is laid before us in the literature. This study proposed and analyzed a model dealing with Nebraska counties from which three conclusions can be drawn.

First, accessibility to good, plentiful recreational sites is clearly a major determinant in the ownership of second homes and this relationship is obvious. It also appears from the literature and the simplex chart (Appendix B) that site availability is unlikely to obscure the other variables.

Professionalism is our second best indicator. It is an indicator that reflects a life style, a set of tastes and preferences suggesting the quest for happiness, power and luxury. It also reflects those in a high income bracket without the difficulty of distribution encountered in the use of median family

income. Finally, professionalism reflects leisure opportunity. The flexibility to provide the leisure time which is suited for use of a second home.

Third, our other three variables - wealth, income, leisure time - are worth further exploration. A significant relationship was not found with the proxies used in this model, but in the examination of the relationships it is quite possible that wealth, income and leisure time as indicated by professionalism are important to the ownership of second homes. It became apparent from the analysis that the indicators used were obscured by other complicating factors.

In a final assessment of our model let us look at the variables which supported our theory. We see that with just two variables, availability of suitable recreational sites and the percentage of households with a professional in residence, 18.9% of the variance in the percentage of Nebraska county resident households owning second homes has been explained.

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COUNTY DATA 1970

		Households *	% Own * 2ND Homes	% ** Professional	Site Availability	Median ** Income $	Value *** $/Acre	% SS **
	Nebraska	473,721	3.21	15.65		8,564		
	County Avg.	5,456	4.26	16.45		7,217	174.31	18.93
1	Adams-Hastings	10 140	3.28	16.99	0	8,811	251.78	15.98
2	Antelope	3114	1.86	8.93	1	6,194	71.86	22.03
3								
4	Banner	292	7.53	15.75	1	8,225	30.02	19.52
5	Blaine	260	7.69	16.54	1	6,500	17.71	18.46
6	Boone	2609	5.33	12.30	0	6,713	87.05	21.85
7	Box Butte	3347	3.14	11.98	1	7,600	54.92	15.30
8	Boyd	1190	3.45	14.79	1	4,683	37.57	22.94
9	Brown	1320	5.53	12.42	0	5,814	30.23	20.61
10	Buffalo-Kearney	9790	2.15	17.14	0	7,756	163.35	15.28
11	Burt	3258	2.76	8.99	0	7,546	171.99	17.99
12	Butler	3074	2.64	9.89	0	6,489	143.77	23.06
13	Cass	5648	2.82	9.83	0	7,813	183.28	18.59
14	Cedar	3347	5.11	9.59	1	5,526	93.83	22.89
15	Chase	1273	5.18	9.66	1	6,741	45.64	16.81
16	Cherry	2324	6.80	9.64	1	7,417	18.24	16.01
17	Cheyenne	3731	5.31	11.36	1	7,473	67.73	17.61
18	Clay	2816	2.81	10.62	0	6,836	139.79	19.74
19	Colfax	3411	6.74	8.50	0	7,088	165.98	22.75
20	Cuming	3501	2.17	10.51	0	7,107	161.12	20.11
21	Custer	4936	3.59	9.81	0	6,887	49.95	18.80
22	Dakota-	3842	1.93	10.28	0	8,557	222.86	17.05
23	Dawes	2956	5.78	18.20	1	6,411	32.32	18.20
24	Dawson	6541	7.03	12.43	0	8,076	168.23	17.75

			Households	% Own 2ND Homes	% Professional	Site Availability	Median $ Income	Value/ $ Acre	% SS	
25	Deuel		1032	3.29	13.76	1	7,798	65.29	17.44	
26	Dixon		2127	2.68	12.74	1	7,012	89.38	26.61	
27	Dodge - Fremont		11534	3.49	11.61	0	8,897	353.27	17.02	
28	Douglas - Omaha		122460	2.40	20.34	0	10,419	4645.38	14.24	
29	Dudly		1162	1.38	13.08	0	6,793	25.27	14.97	
30	Fillmore		2905	1.34	8.92	0	7,857	141.03	17.38	
31	Franklin		1694	5.25	9.03	0	6,020	73.31	23.85	
32	Frontier		1280	5.00	11.88	0	6,290	38.62	20.47	
33	Furnas		2319	1.60	9.79	0	6,357	57.15	23.03	
34	Gage - Beatrice		8191	2.93	14.17	0	7,631	191.61	19.09	
35	Garden		1116	12.90	8.42	1	6,065	22.70	17.65	
36	Garfield		870	6.21	10.57	0	6,049	36.23	21.15	
37										
38	Grant		292	18.49	9.25	1	7,905	21.47	15.07	
39	Greeley		1262	1.58	7.29	0	5,691	47.54	21.71	
40	Hall		14042	3.70	13.32	0	8,905	371.47	15.89	
41	Hamilton		2951	5.12	7.90	0	7,594	199.62	15.49	
42	Harlan		1507	5.18	9.95	1	6,489	64.33	22.76	
43	Hayes		527	4.36	9.68	1	5,100	48.75	16.70	
44										
45	Holt		4114	2.70	10.06	1	6,034	44.40	21.05	
46	Hooker		362	4.42	6.08	1	7,646	17.14	28.18	
47	Howard		2128	1.83	11.75	0	6,542	85.21	20.91	
48	Jefferson		3785	1.06	8.22	0	6,664	129.31	20.69	
49	Johnson		1917	1.93	9.70	0	6,719	95.53	18.57	

			Households	% Own 2ND Homes	% Professional	Site Availability	Median $ Income	Value/ $/Acre	% 55	
50	Kearney		2277	3.69	11.29	0	8,497	136.52	14.27	
51	Keith		2676	5.08	15.66	1	8,862	61.11	18.39	
52										
53	Kimball		1899	6.11	12.37	1	9,116	51.83	13.53	
54	Knox		3875	4.00	8.05	1	5,382	63.25	21.11	
55	Lancaster-Lincoln		53912	3.33	25.00	0	9,777	838.55	13.12	
56	Lincoln		9695	5.14	11.67	1	8,210	64.35	14.89	
57	Logan		338	6.21	10.06	1	6,984	19.76	18.93	
58										
59	McPherson		163	14.72	20.25	1	6,033	15.06	19.63	
60	Madison-Norfolk		9018	5.26	12.62	1	8,292	241.49	17.42	
61	Merrick		3050	6.03	8.72	0	7,674	158.27	19.34	
62	Morrill		1853	4.37	8.04	1	5,923	36.03	20.72	
63										
64	Nemaha		3007	1.30	12.04	0	8,191	139.16	19.79	
65	Nuckolls		2604	1.57	10.71	0	6,898	87.60	20.70	
66	Otoe		5385	0.69	10.40	0	8,027	175.97	17.44	
67	Pawnee		1568	4.27	12.95	0	5,572	77.64	25.06	
68	Perkins		1114	3.50	9.69	1	8,804	45.43	22.71	
69	Phelps		3166	3.00	11.81	0	8,505	168.61	18.26	
70	Pierce		2641	2.84	10.19	1	5,972	101.26	19.08	
71	Platte-Columbus		8197	2.46	13.18	0	8,612	237.79	15.69	
72	Polk		2270	0.88	9.82	0	7,452	161.60	18.15	
73	Red Willow		4401	3.59	11.68	0	7,612	107.00	16.66	
74	Richardson		4091	4.35	9.53	0	6,818	133.39	23.39	

			Households*	% Own* 2ND Homes	%** Professional	Site Availability	Median** $ Income	Value*** $/Acre	%55**
75	Rock		738	2.30	4.47	0	5,709	27.92	22.63
76	Saline		4432	3.14	11.24	0	7,655	154.03	21.14
77	Sarpy-Bellevue		16016	2.00	14.86	0	10,209	714.52	6.91
78	Saunders		5410	4.55	8.91	0	7,838	163.49	19.65
79	Scotts Bluff-S.B.		11310	2.77	15.67	0	8,072	220.31	15.27
80	Seward		4433	4.02	15.32	0	8,171	185.31	15.93
81	Sheridan		2304	5.16	14.89	1	6,907	27.00	19.88
82	Sherman		1477	6.64	11.98	0	6,134	52.72	20.79
83	Sioux		675	11.70	6.52	1	6,167	15.00	15.70
84	Stanton		1787	2.13	8.51	1	6,851	106.87	18.35
85	Thayer		2654	0.87	10.66	0	6,692	124.25	21.14
86	Thomas		258	7.75	15.89	1	6,655	15.13	29.84
87	Thurston		2208	4.66	11.64	0	6,074	92.86	18.80
88	Valley		1996	2.05	9.02	0	6,222	69.39	21.44
89	Washington		4272	3.09	13.09	0	8,808	225.83	15.61
90	Wayne		3165	2.50	16.08	1	6,744	131.59	15.04
91	Webster		2051	3.41	8.14	0	5,544	59.80	22.43
92									
93	York		4523	5.90	11.14	0	8,263	209.32	16.05

Sources: * U.S. Census Bureau, Detailed Housing Characteristics, Nebraska, HC(1)-B29, 1972

** U.S. Census Bureau, Characteristics of the Population, Nebraska, Vol. 1, Part 29, 1972

*** First Mid America Inc., Statistical Information of Nebraska Municipal Subdivisions, 1971

PIERCE

FILE NONAME (CREATION DATE = 04/01/77)

VARIABLE	MEAN	STANDARD DEV	CASES
DEP	4.2616	2.9077	86
X1 H	5455.8837	14218.0814	86
X2 D	0.3837	0.4891	86
X3 I	7217.1047	1170.6696	86
X4 V	174.3051	504.1229	86
X5 L	18.9306	3.8477	86
X6 P	15.2491	43.7274	86

SIMPLEX TABLE

	DEP	Households	Site	Income	Value	SS	Professional
DEP	1.00000	-0.13652	0.42770	-0.11661	-0.13713	-0.01005	0.13372
Households	-0.13652	1.00000	-0.17876	0.47887	0.96404	-0.29552	-0.00287
Site	0.42770	-0.17876	1.00000	-0.21456	-0.18672	0.09839	0.13787
Income	-0.11661	0.47887	-0.21456	1.00000	0.44279	-0.59376	-0.02090
Value	-0.13713	0.96404	-0.18672	0.44279	1.00000	-0.26625	-0.00545
SS	-0.01005	-0.29552	0.09839	-0.59376	-0.26625	1.00000	0.28045
Professional	0.13372	-0.00287	0.13787	-0.02090	-0.00545	0.28045	1.00000

Appendix B.

MULTIPLE R	0.45379	ANALYSIS OF VARIANCE	DF
R SQUARE	0.20592	REGRESSION	5.
STANDARD ERROR	2.67084	RESIDUAL	80.

SUM OF SQUARES	MEAN SQUARE	F
147.98915	29.59783	4.14919
570.67156	7.13339	

VARIABLES IN THE EQUATION

VARIABLE	B	BETA	STD ERROR B	F	t
X6 Professional	0.00801	0.12049	0.00712	1.267	1.125
X2 Site	2.34532	0.39454	0.61807	14.399	3.795
X3 Income	-0.00023	-0.09377	0.00034	0.467	.676
X4 Value	-0.00036	-0.06256	0.00064	0.313	.563
X5 SS	-0.11713	-0.15499	0.09964	1.382	1.176
(CONSTANT)	7.19248				

SUMMARY TABLE

	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
Professional	0.13372	0.01788	0.01788	0.13372	0.00801	0.12049
Site	0.43430	0.18862	0.17074	0.42770	2.34532	0.39454
Income	0.43509	0.18930	0.00068	-0.11661	-0.00023	-0.09377
Value	0.43842	0.19221	0.00291	-0.13713	-0.00036	-0.06256
SS	0.45379	0.20592	0.01372	-0.01005	-0.11713	-0.15499
					7.19248	

Appendix C-1

MULTIPLE R	0.45443	ANALYSIS OF VARIANCE	DF
R SQUARE	0.20650	REGRESSION	6.
STANDARD ERROR	2.68671	RESIDUAL	79.

SUM OF SQUARES	MEAN SQUARE	F
148.40670	24.73445	3.42658
570.25401	7.21841	

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	BETA	STD ERROR B	F	t
X6 Professional	0.00805	0.12108	0.00716	1.263	1.124
X1 Households	-0.00002	-0.09310	0.00008	0.058	0.250
X2 Site	2.35031	0.39537	0.62209	14.274	3.778
X3 Income	-0.00022	-0.08840	0.00035	0.400	0.629
X4 Value	0.00014	0.02461	0.00219	0.004	0.064
X5 SS	-0.11816	-0.15635	0.10032	1.387	1.178
(CONSTANT)	7.12952				

SUMMARY TABLE

	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
Professional	0.13372	0.01788	0.01788	0.13372	0.00805	0.12108
Households	0.19083	0.03641	0.01853	-0.13652	-0.00002	-0.09310
Site	0.43881	0.19256	0.15614	0.42770	2.35031	0.39537
Income	0.43883	0.19257	0.00001	-0.11661	-0.00022	-0.08840
Value	0.43883	0.19257	0.00001	-0.13713	0.00014	0.02461
SS	0.45443	0.20650	0.01393	-0.01005	-0.11816	-0.15635
					7.12952	