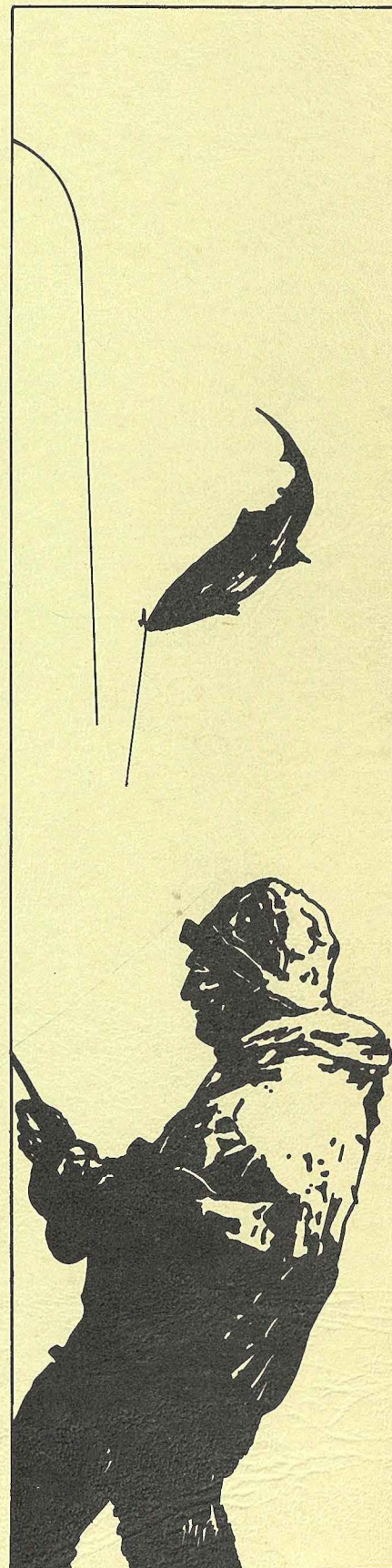
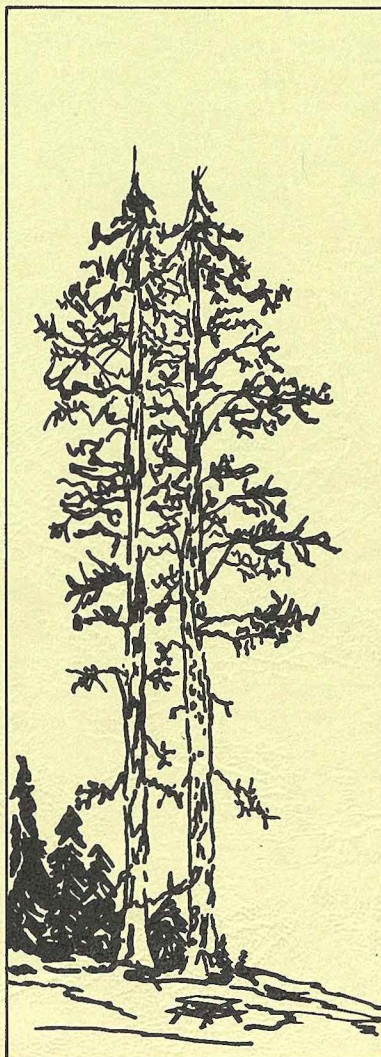
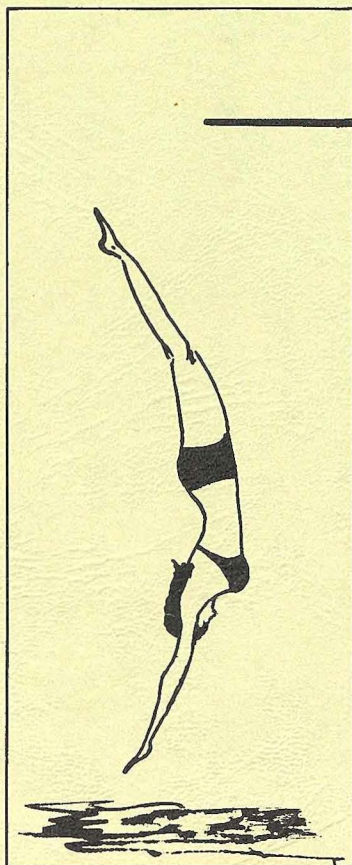
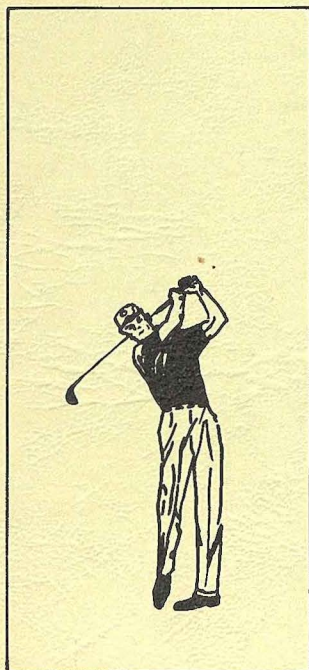
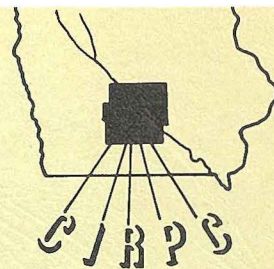


recreation resources in central iowa

central iowa
regional planning
commission
1967

report no. 1

part 3



PRELIMINARY

RECREATION AND OPEN SPACES

STUDY OF

CENTRAL IOWA

By

CENTRAL IOWA REGIONAL PLANNING COMMISSION
DES MOINES, IOWA

JUNE, 1967

ERRATA SHEET

1. Figure 2 and 3 following page 9 should show, "Source: Minnesota Outdoor Recreation, Preliminary Plan, 1965."
2. Figure 4 following page 9 should show, "Source: Principal Soils of Iowa, Iowa State University, 1965."
3. Page 17, Paragraph 1, Line 4, figure for region should read, ... "11.8%" not ... 11.9%.
4. Page 17, Paragraph 2, Line 2, figure for population should read, ... "500,078" not ... 500,278.
5. Table 2 following page 17 should show, "500,078" population for the Central Iowa Region in 1960 or a change of "11.8" percent.
6. Figure 7 following page 17 should show, "Source: Iowa's Population: Recent Trends and Future Prospects, Doerflinger and Klimek, I.S.U., 1966."
7. Page 19, Paragraph 3, Line 7 should read, "Figure 10" not Table 10.
8. Table 7 following page 23 should show, "Source: U.S. Census of Population, 1900-1960, Bureau of Census."
9. Figure 12 following page 23 should show, "Source: C.I.R.-1966 Population Study, Brunsvold, Nelson, Koller and Drain, I.S.U., 1966."

PREFACE

"OPEN SPACE (and recreation) planning is not what to do with the leftovers;

rather it is how to make the most of the rural and open space character of areas around and within the built-up sections."

"We must find the right places or uses for crops, pasture, woods, parks, scenic reservations, watershed protection, wildlife preserves, golf and country clubs, etc. and provide for them in the same positive manner in which we plan for business areas, industrial sites, or residential subdivisions."1

This report has been prepared to assist member communities of the Central Iowa Regional Planning Commission in developing local recreation and open space plans. It is hoped that this study will provide the necessary "regional framework" within which local plans can develop and then mesh with future regional and State plans to provide a suitable, overall recreation and open space plan for Central Iowa. It is also intended that this study will provide the broad planning base for local recreation plans as required by the State Conservation Commission under the Land and Waters Conservation Fund Act (IWCFA-Public Law 88-578).

Under the IWCFA program funds are allocated for use by counties and municipalities within the State provided (1) the local community has an approved comprehensive recreation plan and (2) certifies that it will pay its share of the proposed project costs. The costs are shared on a 50% local, 50% Federal basis.

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The information in this report was compiled from-

- a. U.S. Census statistics, reports of the Federal Outdoor Recreation Resources Review Commission (ORRRC),
- b. a study² of the Central Iowa Region by students in the course of Regional Planning, Spring 1966, of the Department of Landscape Architecture, Iowa State University, Ames, Iowa,
- c. information and reports of the Iowa State Conservation Commission,
- d. field surveys and analysis of existing recreation facilities by CIRPC staff.

The assistance and cooperation given by local, county and State agencies, as well as by many private groups and individuals to the Commission's staff is gratefully acknowledged. However, the review and recommendations given in this report are solely the responsibility of the Commission's staff.

I - INTRODUCTION

As in every part of the country, the cities and counties of the Central Iowa Region face a challenging future in the growing demand for recreation and open space. Iowa is undergoing increased business and industrial growth. With it, the State is changing from a largely rural area, to a more urban-rural area. As time goes on it will become more urban. Also, there is a continuing trend in urban employment to fewer working hours. More Iowans now have more time to spend in recreation activities than ever before. This trend will also increase in the future.

Planning today, for the recreation and open spaces of tomorrow, must be given top priority. There are many signs which point up the fact that the values and outdoor freedoms, we cherish as Iowans, depend on having generous amounts of open space in which to move about, to work, to play and live. Much of the open spaces we see about us today, --- the farms we hunt on, the rivers and streams with their wooded banks that we fish in, the undeveloped hills and hollows that we see on a Sunday afternoon's drive, and the vacant lot next door where the kids play "choose up" ball games --- these are all taken for granted. To enjoy this heritage in the future, it must be planned for and worked for.

Besides having ample places for recreation and outdoor enjoyment in the future, we must also strive for quality. Professor Bernard Clausen recently stated before the Governor's Committee on Outdoor Recreation that our parks today, are at a crossroad. One road leads to quantity recreation, the other to quality recreation.³ He further noted "we need beauty around us. We need the intangible renewal of the spirit which only natural beauty provides".⁴

It is hoped that for Central Iowa we can provide both adequate "quantity" and "quality" of recreation areas which will satisfy young and old, those wanting playgrounds and ballfields, and those seeking "to get away from it all" in the quietness of a large park or a secluded fishing spot. Unfortunately the recreation crisis is a quiet one. It creeps up on us and only at the eleventh hour do we realize what is happening. Let not Central Iowa find itself running out of "time for recreation".

II - WHOSE RESPONSIBILITY

It may seem out worn, but the building of recreation areas and their use is everyone's business. Over the long run, most recreation areas are built in response to the desires of the people for more recreation, or for "this" or "that" kind of recreation activity. Many groups and agencies, both private and public, are involved. The main task is to coordinate the facilities and programs of all into a total recreation and open space plan for a given area, in this case - the Central Iowa Region.

The following is a list of the various groups which in one way or another may be involved in determining the future recreation or preservation of open spaces in the region. Figure 1 illustrates this fact.

PUBLIC AGENCIES

Federal and State

1. State Conservation Commission

Administrative division - responsible for organization, licenses, conservation education.

Fish and Game division - all matters of wildlife.

Land and Water division - management of State parks, forests, waters.

Planning department - advance planning for State facilities; review and coordination of projects of County Conservation Boards.

2. State Soil Conservation Committee

Assistance in developing soil conservation facilities and practices - watershed development funds for recreation land and water use. Has leading role in promoting development of farm ponds of which more than 14,000 have been built in Iowa. Ponds serve as recreation spots for farm families and others with owner's permission.

3. Iowa Development Commission

Planning division - administers the Federal-State 701 Urban

Planning assistance program. This program assists communities and counties to develop comprehensive physical plans for future growth, including recreation and open space plans.

Public Relations division - its work is to tell the story of Iowa of which recreation, conservation and the Iowa "way of life" is an important part.

Tourism and Travel division - provides public information on recreational, social and cultural facilities and promotes tourist travel and vacationing in the State.

4. Iowa Highway Commission

Prepare standard plans of highway construction.

Make surveys for improvement of Highways, within or adjacent to State property (State parks, institutional lands, etc.).

Prepare, adopt, and publish a long-range program for the maintenance and expansion of the State primary road system.

Establish standards for control of signs facing toward Interstate and primary highways.

5. Farmers Home Administration -

Planning and financial assistance for water and soil conservation and farm recreation facilities.

6. Governor's Farm Vacation Council

Promotion of family vacations on Iowa farms.

7. U.S. Department of Housing and Urban Development

Community Facilities division - financial assistance for recreation and open space land acquisition.

8. U.S. Department of Defense

Corps of Engineers - Water resource development of flood control, water power, and navigation with accessory recreation, fish and game, and conservation uses.

9. Iowa Natural Resources Council

Has powers related to future development in flood plains, and stream changes or impoundments. Coordination and development of State wide planning for control, use and protection of surface and ground water resources. Approval of plans for development of flood plains or floodways on streams passing through urban areas. (Chapter 455a Code of Iowa 1962)

10. Agricultural Stabilization and Conservation Service

Cost-sharing assistance to the rural governments and farmers in carrying out approved soil, water, woodland and wildlife conservation practices and developments.

11. U.S. Department of Health, Education and Welfare

Water Pollution Control division - planning for water pollution abatement programs and financial assistance to and in eliminating or reducing water pollution.

12. U.S. Department of Interior

Fish and Wildlife division - planning and education programs and financial assistance to States in developing game fish and wildlife resources.

13. U.S. Bureau of Outdoor Recreation

Provides research, general education programs and financial assistance to States to further land and water acquisition and development for recreation, open space, and historic and cultural uses.

14. Rural Area Development Councils

To foster rural area planning and development for housing, industry, recreation and social facilities.

County

1. County Conservation Boards

To study county recreation and conservation needs, to prepare a county recreation plan, and to carry out projects

to fulfill needs as shown on plan.

2. County Soil Conservation Districts

To conduct surveys, investigations and research relating to the character of soil erosion and preventative and control measures needed and publish results of such surveys or research.

To develop comprehensive plans for the conservation of soil resources and for the control and prevention of soil erosion.

Municipal

1. Park Boards

Parks department - plan, furnish and maintain all existing and future recreation facilities; schedule and oversee special facilities such as swimming pools, golf courses, etc.

Recreation department - develop and schedule recreation programs using local parks and school playgrounds - soft-ball, tennis, badminton, basketball, games, etc. and furnish leaders for these programs.

2. School District - Board of Education

Education Instruction Department

Buildings and Grounds Department - maintain the buildings and grounds of the School District; work in conjunction with the school management in the planning of the safety and types of recreation equipment, supervise the use of recreation facilities, administer transportation and supplies, and supervise construction of recreation and other improvements.

SEMI-PUBLIC AND PRIVATE GROUPS

1. Boy Scouts of America
2. Girl Scouts of America
3. Boys Clubs of America
4. Young Men's Christian Association (YMCA)

5. Young Women's Christian Association (YWCA)
6. Camp Fire Girls Inc.
7. Girl's Clubs of America
8. Salvation Army
9. 4-H Clubs, Extension Service USDA
10. Future Farmers of America (FFA)

11. Churches and Religious Groups

American Baptist Church
Christian Service
Church of God
Friends
Catholic Youth Organization
Protestant Episcopal Church
American Lutheran Church
Churches of Jesus Christ
Church of Latter Day Saints
Presbyterian Church
Congregational Christian Church
Lutheran Church
Methodist Church
United Christian Missionary Society
United Church of Christ

12. School Groups

Parent Teachers Association (PTA)

13. Private Camps

Prairie Village Camp
Timberline Ranch
Pioneer Camp Grounds
Clover Leaf Camp Park
D-X Roadside Camp
Amboy Trail Ranch
Bortell's Ranch
Wes McDaniels Camp
Twin Anchors Camp
AAS Ranch Camp

Lark's Girls Ranch
McWhirter Pond

14. National Audubon Society
15. The Nature Conservancy
16. Business Groups
17. Industrial Groups
18. Historical Societies
19. Garden Clubs of America
20. Sportsmens Clubs

Izaak Walton League
Des Moines Rifle Club
Pioneer Gun Club
Adel Sportsmen Club
Harry Blanshan Area
Van Meter Saddle Club
Pella Saddle Club Area
Carlisle Saddle Club Area
Winterset Sports Club Area
Earlham Saddle Club Area

21. Golf Clubs and Country Clubs

Des Moines Golf and Country Club
Hillcrest Golf Course
Oaks Golf Course
Indian Creek Golf Course
Homewood Golf Course
Boone Country Club
Perry Country Club
Woodside Golf Course
Ponderosa Golf Course
Willow Creek Golf Course
Newton Country Club
Indianola Country Club
Urbandale Country Club
Terrace Hills Golf Course
Sportsmans Park Par 3 Golf Course
Oak Creek Park Golf Course

Hyperion Field Club
Ankeny Country Club
Thompson's Golf Course
Lake View Country Club
Pella Country Club
Pine Knolls Country Club
Elmwood Country Club
Wakonda Country Club
Ames Country Club

Recreation and Open Space - A Broad Responsibility

FEDERAL AND STATE AGENCIES

COUNTY AND LOCAL AGENCIES

FEDERAL AND STATE AGENCIES		COUNTY AND LOCAL AGENCIES	
MAJOR ROLE	SPECIAL	MAJOR ROLE	SPECIAL
1. State Conservation Commission	1. Iowa Development Commission	1. County Conservation Boards	1. Water Boards
2. State Soil Conservation Committee	2. Iowa Highway Commission	2. County Soil Conservation Districts	
3. Farmers Home Administration	3. Governor's Farm Vacation Council	3. Park Boards	
4. Iowa Natural Resources Council	4. U.S. Department Housing & Urban Development	4. School Districts	
5. Agricultural Stabilization and Conservation Service	5. U.S. Department of Health, Education, & Welfare		
6. U.S. Bureau of Outdoor Recreation	6. U.S. Department of Interior		
7. Rural Area Development Councils	7. U.S. Department of Defense Corps of Engineers		
PRIVATE GROUPS			
1. Boy Scouts	10. FFA	17. Historical Societies	
2. Girl Scouts	11. Churches & Religious Groups	18. Garden Clubs	
3. Boys Clubs	12. School Groups	19. Sportsmens Clubs	
4. YMCA	13. Private Camps	20. Golf Clubs and Country Clubs	
5. YWCA	14. National Audubon Society		
6. Camp Fire Girls	15. The Nature Conservancy		
7. Girl's Clubs	16. Business Groups		
8. Salvation Army			
9. 4-H Clubs			

Figure 1

III - RECREATION RESOURCES

A major element in planning for recreation and open space is the natural and geographical features of the Region. Iowa covers an area of 56,290 square miles and ranks 25th in size among the 50 states. Its water area is very small being only 258 square miles, or four-tenths of a percent (.4%) of the United States water area.

In population (1960) it ranks 24th out of 50, has a state-wide density of 49 persons per square mile, and since 1960 is slightly more urban than rural.

Iowa lies wholly within the broad natural region known as the Central Plains. Most of its surface was overrun by the great ice glaciers which helped form this plain. Only a strip along the Mississippi River in the northeast corner was untouched by the glaciers. In this area, there are prominent cliffs along the river with heights of 300-400 feet. In northern Iowa there are many small lakes formed by the glaciers.

Two major rivers, the Mississippi and Missouri, form Iowa's east and west boundaries. They are one of Iowa's major recreation assets.

However, Iowa's prime asset is its land. A greater percentage of the land is used for farming in Iowa than in any other state. About 90% is farmed. Iowa's land is considered the most fertile and finest farm land in the Nation. This super abundance of prime agricultural land in private ownership makes it difficult to set aside large areas of land for recreation and public open space.

In the beginning of Iowa's history, the State had about 7 million acres of forest and woods. This has now dwindled to about 2 1/2 million acres, located mostly along the rivers and streams and in the eastern and southeastern parts of the State.

Figures 2 and 3 show the relationship of Iowa's land and water to that of the other States. Figure 4 shows the State's main surface features and major rivers. Figure 5 (following page 12) gives a picture of the major soil areas of the State. Figures 4 and 5 also show these general features for the Central Iowa Region.

TOTAL AREAS OF THE STATES

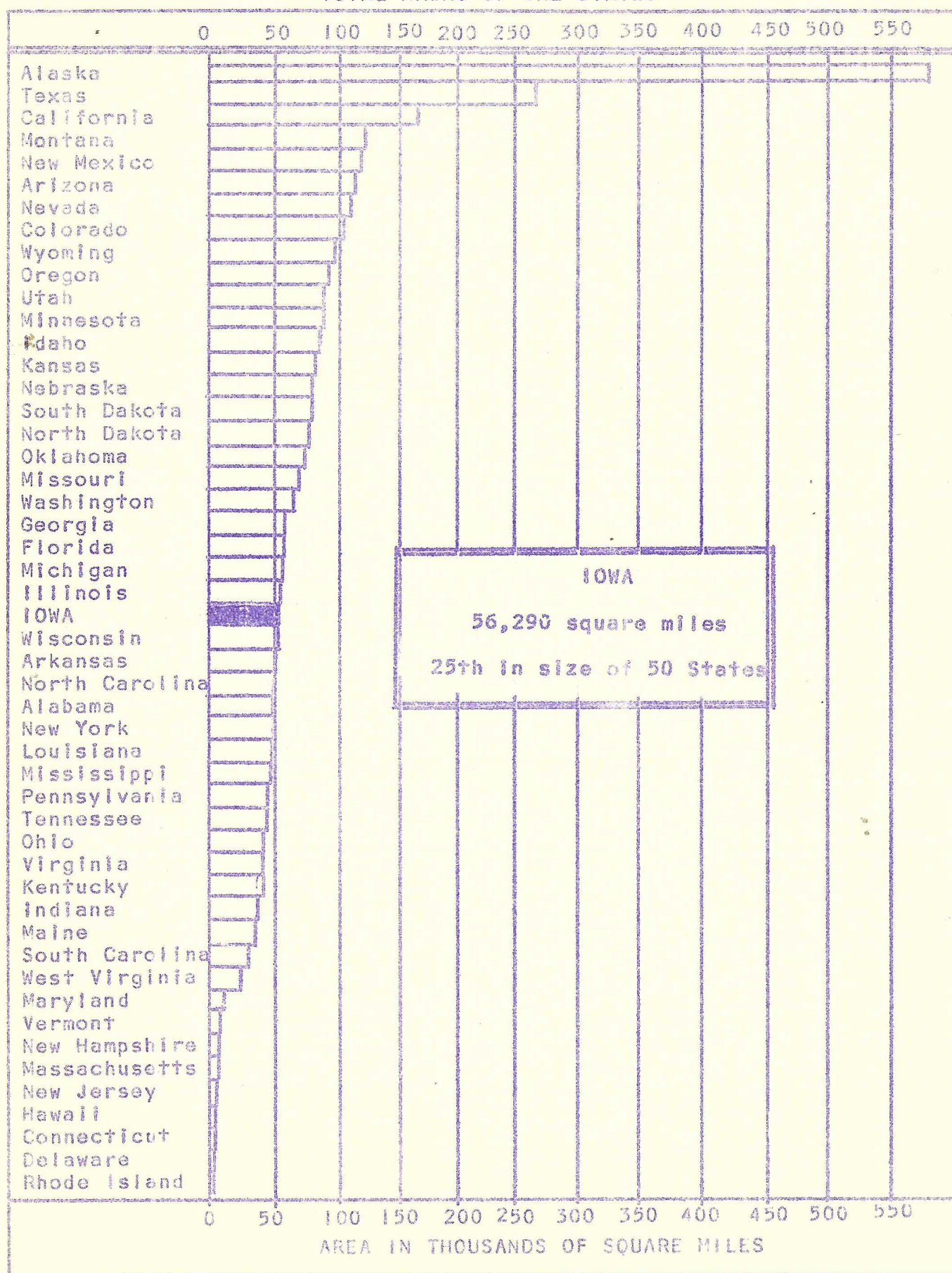


Figure 2

WATER AREAS OF THE STATES

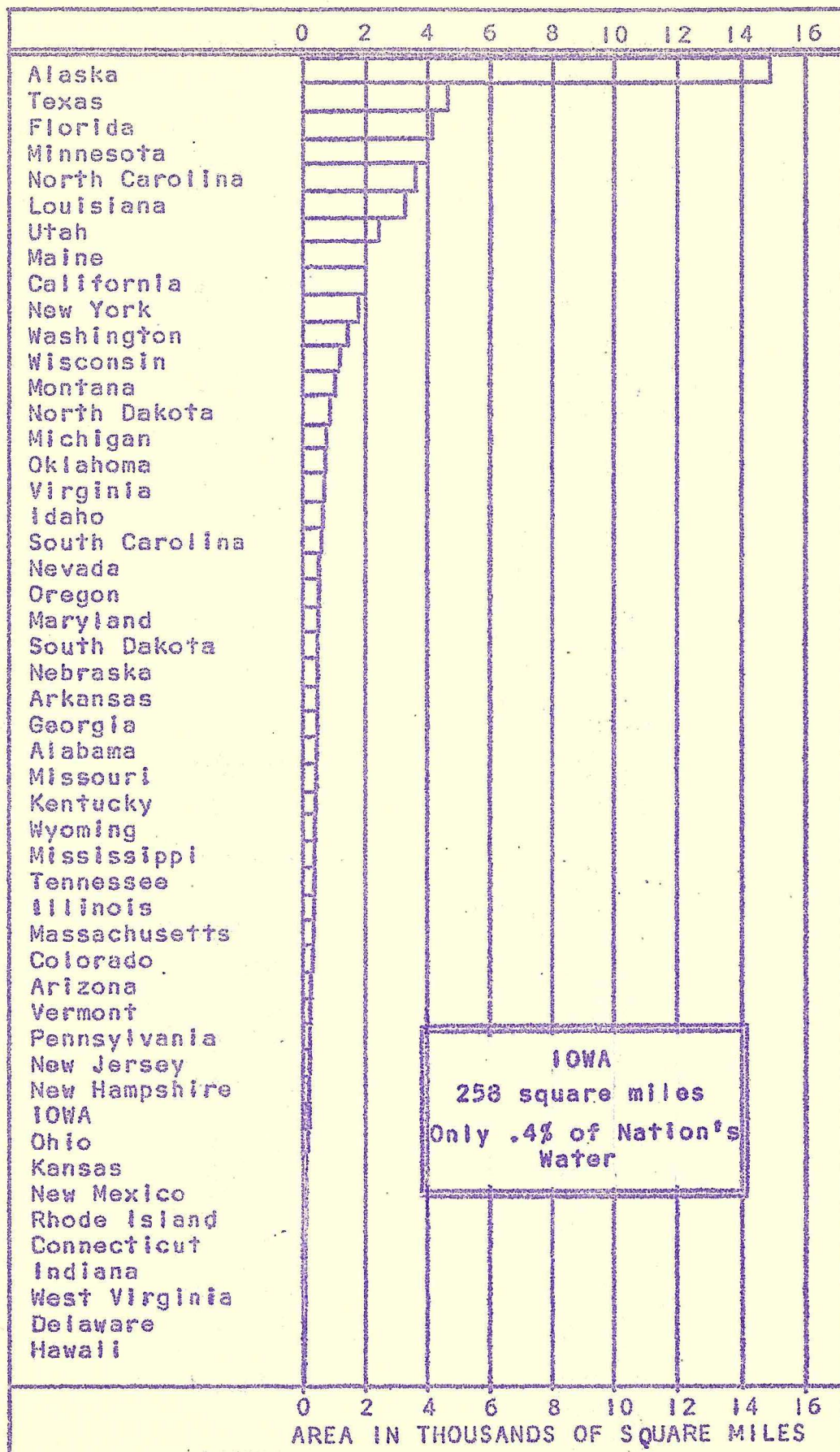


Figure 3

NOTE: Does not include temporary water areas such as marsh land, swamps, river flood plains; streams, sloughs, estuaries, and canals less than 1/8th of a statute mile in width; and lakes, reservoirs and ponds of less than forty acres.

GENERAL TOPOGRAPHY AND MAJOR RIVERS OF IOWA

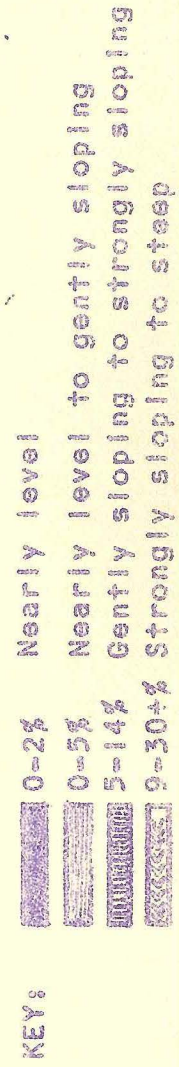
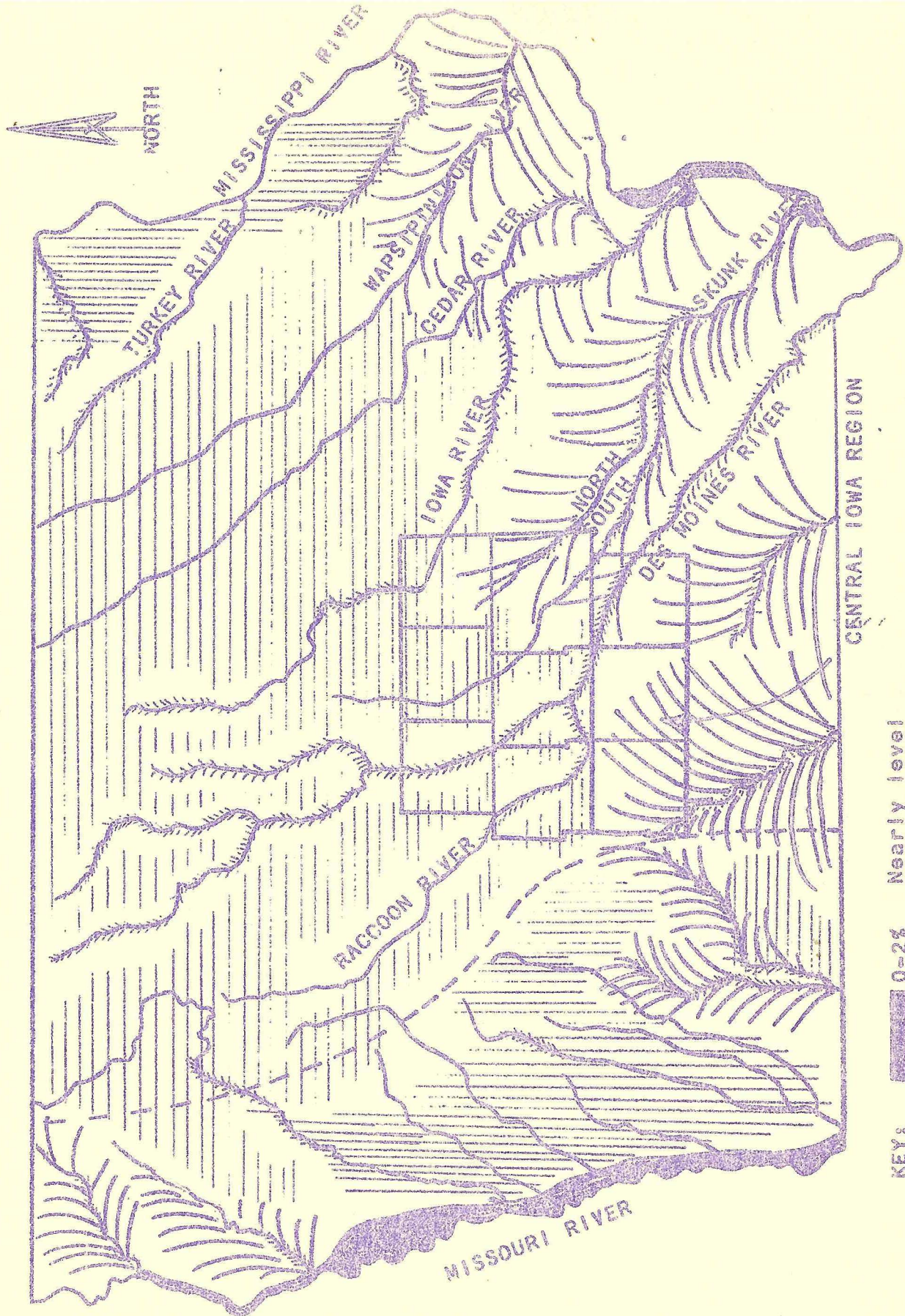


Figure 4

REGIONAL LOCATION

The proposed Central Iowa Region as described in the Study Design Program of the Central Iowa Regional Planning Commission consists of nine counties - Boone, Story, Marshall, Dallas, Polk, Jasper, Madison, Warren and Marion. At present only one county, Polk, plus nineteen cities and towns are members of the regional commission. However, the regional planning program underway for these communities must take into account the larger area of Central Iowa of which they are a part.

The regional area of the nine counties is about 5,350 square miles. This is about 9 1/2 percent of the total State area of 56,032 square miles. Within this region is located the State Capitol, Des Moines, and 10 medium-sized cities - Ames, Ankeny, Boone, Marshalltown, Perry, Newton, Urbandale, Indianola, Knoxville and West Des Moines. The 1965 population (estimated) of the region was 532,900 persons, of which about 348,600 or 65% lived in these cities.

Des Moines is the population center of the region and is important as a rail and highway crossroads of the midwestern part of the United States. It serves as a terminal point between Milwaukee, Chicago and Indianapolis on the east, Kansas City and St. Louis on the south, Omaha and Denver on the west, and Minneapolis - St. Paul on the north. Distances to this outlying ring of large cities ranges from 130 to 700 miles.

Around this center, Des Moines, are grouped the ten medium-sized cities (listed above) which range in population from 6,000 to 35,000 persons. Distance to Des Moines varies from 0 miles (lying adjacent) to about 50 miles. Nearness of these communities enables their residents to commute to Des Moines for employment and vice versa. The two Interstate and the seven U.S. and State highways leading to Des Moines provide good access. Even though the primary orientation of most all of these cities is toward agriculture, that is processing of agriculture products and servicing the persons engaged in agricultural production, some serve functions other than those related to agriculture.

Ames, located 30 miles to the north of Des Moines, in Story County, is known largely because of Iowa State University, Iowa's second largest four-year educational institution. It is the largest of the ten surrounding communities. One of the Interstate highways, No. 35, connects this community to Des Moines making commuting quick and easy.

Indianola, 15 miles south of Des Moines and in Warren County, also has a four-year college, Simpson, which is privately administered. Along with Ankeny, Urbandale and West Des Moines in Polk County, and Perry in Dallas County, Indianola serves largely as a residential community with Des Moines being the primary source of employment. Ankeny, Indianola and Perry are linked to Des Moines by principal two-lane, paved, through highways, while Urbandale and West Des Moines, being adjacent, are linked by major urban streets.

Marshalltown and Newton, located 47 miles north and 29 miles east respectively of Des Moines in Marshall and Jasper Counties, are both oriented toward local manufacturing. Marshalltown, the most distant, has considerable manufacturing of durable goods, appliances, machinery, metal fabrication, (41% of total labor force), with meat packing and printing being second in importance.

Knoxville, located 39 miles to the southeast of Des Moines, in Marion County is agriculture oriented. However, some people are employed by local manufacturing and the Veterans Administration Hospital while others commute to Des Moines and Newton to work.

Boone, located 44 miles to the northeast of Des Moines in Boone County is also agriculture oriented. It has some local manufacturing, but depends to some degree on both Des Moines and Ames for jobs.

TOPOGRAPHY

The topography of the Central Iowa Region is most "nearly level", with some gently sloping portions, (0-5% slope). Moderate slopes (5-20%) with some steep and hilly portions (over 20%) are found along the two principal rivers, the Des Moines River and Raccoon River and in the southern part of the region. Both of these rivers flow from northwest to southeast. Other rivers and streams in the region are the Iowa River in the extreme northeast corner, the north and south Skunk Rivers in the north and east parts, Beaver and Four Mile Creek central part, North, Middle and South rivers in the south and southwest. The highest elevation in the region, 1,250 feet, is found in the southwest part while the lowest elevation, 700 feet, is found in the southeast corner where the Des Moines River flows out of the region. Thus the greatest topography changes are found in the southern part where the overall difference in elevation is over 500 feet and the terrain has 700 feet to 1,250 feet above sea level or a change of 500 feet slopes ranging from 10% to 40%. The central and northerly portions have an almost uniform terrain except for the river and stream valleys. Refer to Figure 4.

Wooded areas in the region are found in and along the river valleys with the greatest concentrations in the west and southern portions.

SOIL

There are various characteristics by which soil conditions can be viewed: water-holding capacity, internal drainage, erosion qualities and original vegetation. Generally speaking, the soil in the Central Iowa Region has a high water-holding capacity that enables the soil to retain water during long periods without rain. The original vegetation contributing to this soil was prairie grass and deciduous forest.

The general term "soil" is broken down into different soil association groups based on certain major characteristics. These groups are combinations of various soil types that occur repeatedly throughout the region. Figure 5 shows the soil groups for the State and also Central Iowa.

The major soil group, Clarion-Nicollet-Webster (CNW), in the region covers all of Boone and Story Counties, the northern three-fourths of Dallas and Polk Counties, and the western portion of Marshall and Jasper Counties. This soil is well suited to intensive cropping - corn, oats, soybeans, forage - its chief characteristics being that it is erosion resistant and has good internal drainage (downward flow of excess water) thereby preventing extreme wetness. The soil group, Tama-Muscatine (TM), in the eastern part of Marshall and Jasper Counties has poor internal drainage and is less resistant to erosion. Its agricultural potential is somewhat less than the CNW group. The soil groups, Shelby-Sharpshurg-Macksburg (SSM) and Lindley-Keswick-Weller (L), in the southern portion of the region including the southern one-fourth of Dallas, Polk and Jasper Counties, and all of Madison, Warren and Marion Counties has rather poor internal natural drainage and is susceptible to erosion. Of the land within the region, these soils are least suited to crop farming but quite useful for dairy farming, beef grazing, forage crops.

Looking at the region as a whole, it is found that from north to south the amount of original soil that is eroded with gullies is directly related to the location of the several soil groups in the region. That is, there are considerably more gullies and other erosion in the southerly half than in the northerly half of the region. It is important to note here that a far greater amount of erosion within the region would have undoubtedly taken place in the past had it not been for the energetic program of the State and

MAJOR SOIL AREAS OF IOWA

SOURCE: Principal
Soils of Iowa, Iowa
State University
Extension Service
Report No. 42
January 1965

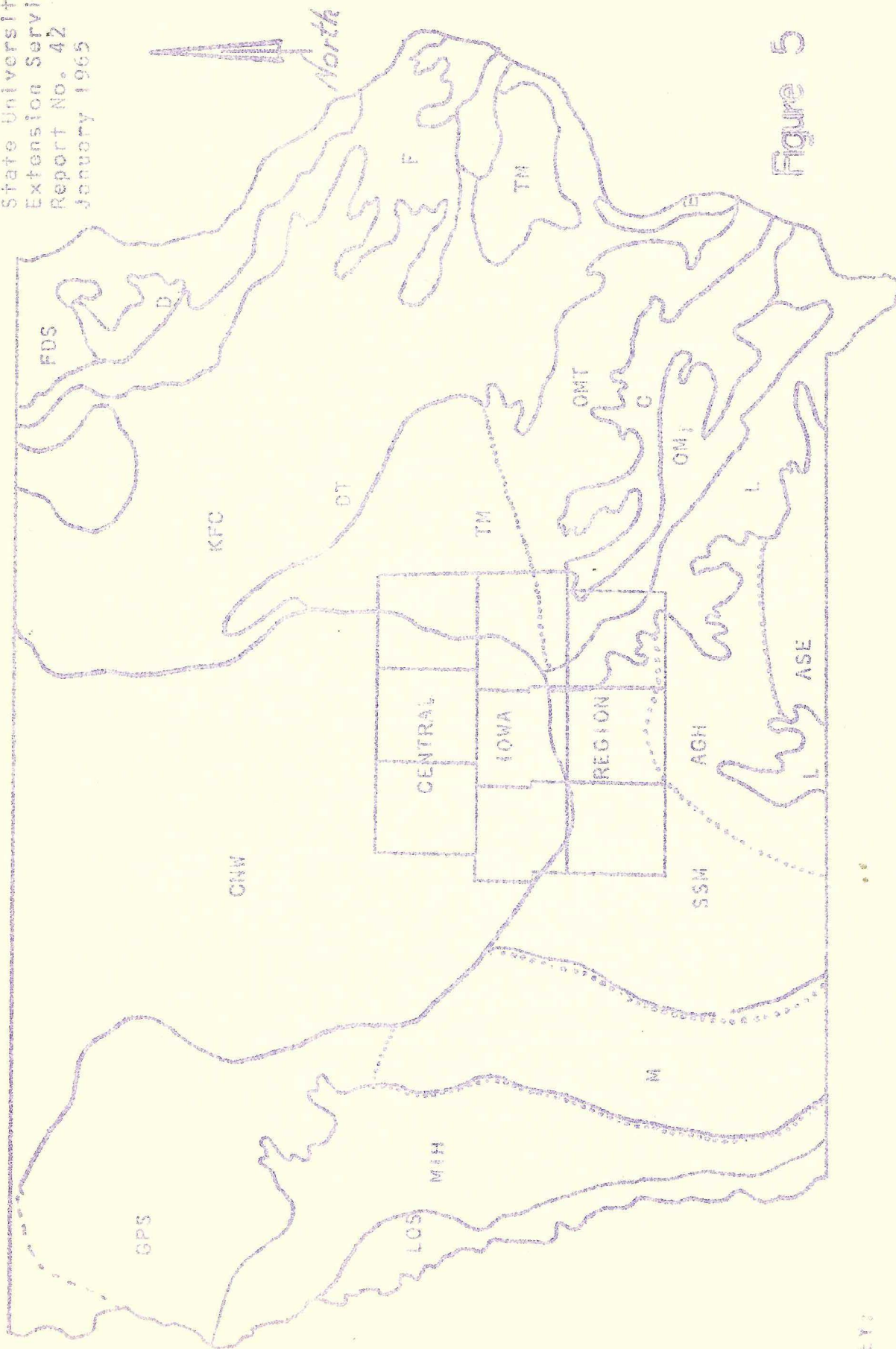


Figure 5

KEY:

- | | | |
|-------------------------------------------|--------------------------------|-----------------------------------|
| R - Soils of Mississippi River Bottomland | L - Lindley-Keswick-Weller | FDC - Fayette-Dubuque-Stonyland |
| C - Clinton-Keswick-Lindley | M - Marshall | KFC - Kenyon-Floyd-Clyde |
| D - Downs | DT - Dinsdale-Tama | LOS - Luton-Onawa-Salix |
| F - Fayette | TM - Tama-Muscatine | MIH - Monona-Iida-Hamburg |
| OMT - Otley-Mohasco-Taintor | ASE - Adair-Seymour-Edina | GPS - Galva-Pringhar-Sac |
| | CNW - Clarion-Nicollet-Webster | SSM - Shelby-Sharpsburg-Hacksburg |

County Conservation Committees.

VEGETATION

The original vegetation in Central Iowa consist of deciduous forests and tall prairie grass. Some of the original woods remain, especially in the river valleys, however, there are only a few isolated spots with original prairie grass and wild flowers. Most of the present vegetation is farm crops. Corn is the leading product with oats and soybeans ranking second and third. Others are various types of hay and grains.

WILDLIFE

The Central Iowa Region has a variety of small mammals. The most common are rabbits sometimes known as cottontails. Others are the fox, badger, raccoon, weasel and muskrat to name only a few. The largest mammal is the white-tailed deer. Rodents include squirrels, rats, mice, and beavers.

MINERALS

Although the Central Region is not known for mineral production, the region does have several important mineral resources. The most important resource is limestone which along with shale is utilized in the production of Portland Cement. Clay is another mineral resource of Central Iowa and is used in the production of drainage tile and brick. Scattered throughout the region and especially along the rivers and streams are sand and gravel deposits which are used mostly for local road and building construction. Although coal underlies much of the region, it is not presently being mined.

WATER

The Central Iowa Region has a very limited amount of surface waters - rivers, ponds, lakes. It does, however, have a good underground reservoir of water which is used by many of the towns and cities in the region. Dallas, Polk, Jasper, Madison, Warren and Marion Counties are primarily in an area where shallow wells are capable of supplying water from this reservoir while in the northern tier of counties, Boone, Story, and Marshall, deep wells are necessary. A good source of water for most all communities in the region can be found by drilling into the Jordan sandstone stratum which is at a depth of about 2,000 to 2,500 feet.

Water in Central Iowa is generally hard but can be economically treated. Public water systems in the larger communities generally utilize a proportion of both well water and surface water via infiltration galleries from adjacent rivers or streams.

CLIMATE

The Central Iowa Region is characterized by a climate of great extremes. The annual mean temperature in the center of the region is 51° F and the annual average range of extremes is about 135° F. Rainfall is unequal in distribution throughout the year with 75 percent occurring during April through September. The wettest months are usually May, June and September. The prevailing wind in the region is from the south and southeast in the summer and from the north in the winter.

PREDOMINANT LAND USE PATTERNS

The existing urban areas are being "filled in" or extended by new development. This growth at the edges of the older centers has come to be known as the "suburbs". Also dormitory or commuting towns and retirement centers are becoming part of the growth shift from a previously rural to an urban-rural region.

The communities in the region under 1,500 population, except those within easy commuting time of the larger cities, are decreasing in size and will probably continue to do so. The towns around the larger cities are increasing and will likely continue to do so. As evidence of this, the small towns near Ames, Des Moines, and Marshalltown had increases ranging from 10% to 400% with an average increase of about 80%. Similar sized towns not so situated in Boone, Dallas, Madison and Jasper Counties were "static" or showed a 5% to 50% decrease with an average decrease of about 16%.

IV - DEMAND FOR RECREATION

Many factors join together to cause demand for recreation. Based on the recent extensive recreation study done for the United States by the Outdoor Recreation Resources Review Commission (ORRRC), the following are the major factors which they felt affected the demand for, and use of, parks and open space.

POPULATION

Summary and Trends

Most basic in determining the demands for recreation and open space is people: their number, characteristics, customs, the density with which they occupy the land, amount of their leisure time, income, recreation preferences, and amount of traveling they do (mobility). Also of great importance is the type and location of existing residence areas in which they live and projection of future residence areas and any changes in type of residence patterns. However, because of lack of information the matter of future distribution and residential patterns are not included in this report, but have been considered only in general terms.

To provide this essential background there follows a summary of the past and estimated future population growth for the State, the Central Iowa Region, the individual counties, and the major urban places (cities) within the counties. Our review of population for this report revealed there are several sources of population information for the State and its various governmental units. After review of available information, it was determined that the recent study⁵ done by the Cooperative Extension Service, Iowa State University, was the most acceptable. This study is based on demographic projections using the Hamilton-Perry⁶ projection method. This has been used for the basic population figures in this report, except where modified by estimates of CIRPC staff.

The State: Looking at the State population picture in general, since 1940 there has been an increasing trend of people moving from the rural and semi-rural areas to the cities. Striking evidence of this is that for the first time in history, Iowa's total population in 1960 was made up of more urban dwellers (53%) than rural (47%). This process of urbanization is the most fundamental and far-reaching change taking place in Iowa today. All studies show this trend will continue into the future. One recent study⁷ for Central Iowa indicates that by 1985 about 80 percent of the people in the State will be urban residents. Table 1 shows the trend of urbanization in Iowa.

TABLE 1

URBAN-RURAL POPULATION DISTRIBUTION
CENTRAL IOWA REGION

	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1975*</u>	<u>1985</u>
URBAN	246,359	280,890	355,837	461,760	557,145
RURAL	163,482	165,949	142,683	138,041	131,243
% URBAN	60.1%	62.9%	71.4%	77.0%	80.9%

* Calculated by CIRPC.

Source: C.I.R. - 1966 Population Study. (See Footnote 2)

In addition to the majority becoming urban residents, there is another important trend which shows these persons are congregating mostly in the 8 or 9 larger urban areas of the State, those with populations of 25,000 or more. This movement is causing the formation of metropolitan centers in Iowa. Among these is the Des Moines metropolitan area, which at present is the population center of the Central Iowa Region. As the growth in this area continues, it seems likely that the population center for the region may shift toward the north, and that the cities of Ames and Des Moines plus a north-south urbanized corridor along Highway 169 between the two may become the urban center of the Region.

Although of lesser significance than the rural to urban movement as it affects the recreation of the region, the estimated rise of population for the State as a whole must be considered. The ISU Study⁸ indicates the State's population will increase by 180,000 persons, or about 5 percent from 1965 to 1975. See Table 2, following page 17. This rate of increase will be about one-third that of the United States for the same period (16%). A separate projection made by the Federal ORRRC⁹ for Iowa shows an increase of 186,000, or about 6 percent for the same period. Looking further toward the future the ORRRC figures show an increase of about 360,000 persons for Iowa from 1975 to 1985. This would mean a 12 percent increase during the coming second decade as compared to a 5-6 percent increase for the next ten years (1965-75). The significance of 1975-85 estimate is that barring a National recession, a world-wide war, or a complete change in the birth-rate pattern (major decline), Iowa's growth outlook for the future appears good. (This is a higher growth rate than using the ten-year, 1950-60 rate, for projection purposes.) Figure 6 shows the

relationship of Iowa's future population growth to its neighboring states, the North Central Region, and the Nation.

The Central Iowa Region: The population growth of the region over the next twenty years looks good. In fact, the indications are that the region's growth rate for this period may be 1-1/2 to 2 times the rate for the State. Table 2 shows that from 1940-50 the State's population increased by 3.4% while the region's went up 6.6%; for 1950-60, the State had 5.2%, the region 11.9%; and for 1965-75 the State's estimated gain is 4.9% while the region's is 11.8%.

In terms of total population, the 1960 figure for Central Iowa was calculated as 500,278 persons. Based on earlier mentioned studies, it is estimated that the regions 1975 population will be 595,865 persons, a gain of 95,500¹ persons in 15 years. This is a population gain equal to 4 times the City of Marshalltown, or 8 times the City of Boone, or 12 times the City of Indianola. Of the 1975 population, almost three-fifths (57.6%) or 343,500 people will reside in Polk County. The population in the other 8 counties will total 252,335 persons, or about 42%.

Figure 7 points out the population predominance of Polk County in the region.

TABLE 2

PRESENT AND PROJECTED POPULATION - STATE AND CENTRAL IOWA REGION

STATE

YEAR	Change	
	Number	Percent
1940	2,538,268	
1950	2,621,073	3.4
1960	2,757,537	5.2
(1965)	(2,801,126)	
1970	2,864,714	3.9
(1975)	(2,937,504)	
1965-1975		4.9

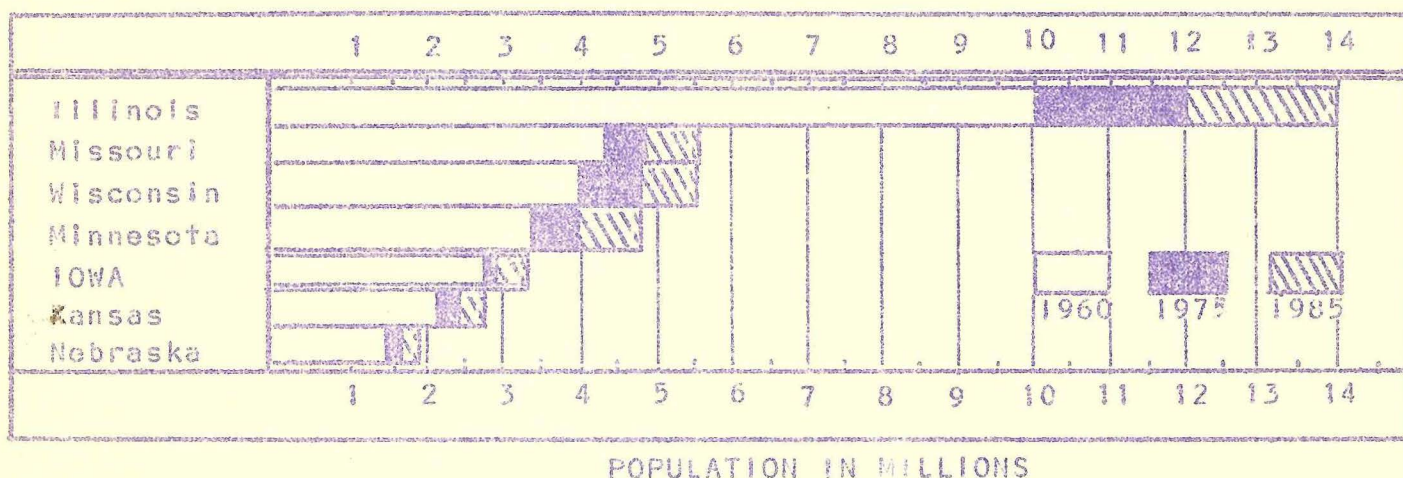
CENTRAL IOWA REGION*

YEAR	Change	
	Number	Percent
1940	419,165	
1950	446,839	6.6
1960	500,278	11.9
(1965)	(532,898)	
1970	558,510	11.6
(1975)	(595,865)	
1965-1975		11.8

* Calculated by CIRPC

SOURCE: Iowa's Population: Recent Trends and Future Prospects,
 Special Report No. 47, Prof. J. Doerflinger and R. Kilmek,
 I. S. U., May 1966.

Projected Growth of States in the North Central Region



PRESENT AND PROJECTED POPULATION
(In Thousands)

	<u>1960</u>	<u>1975</u>	<u>1985</u>
United States	179,323	225,123	265,575
North Central Region*	51,619	60,673	70,571
Illinois	10,081	12,047	14,113
Missouri	4,320	4,879	5,571
Wisconsin	3,952	4,719	5,547
Minnesota	3,414	4,054	4,797
IOWA	2,758	2,937	3,302
Kansas	2,179	2,427	2,739
Nebraska	1,411	1,617	1,813

* Includes Illinois, Ohio, Michigan, Indiana, Missouri, Wisconsin, Minnesota, Iowa, Kansas, Nebraska, South Dakota and North Dakota.

Figure 6

Population Growth in Central Iowa

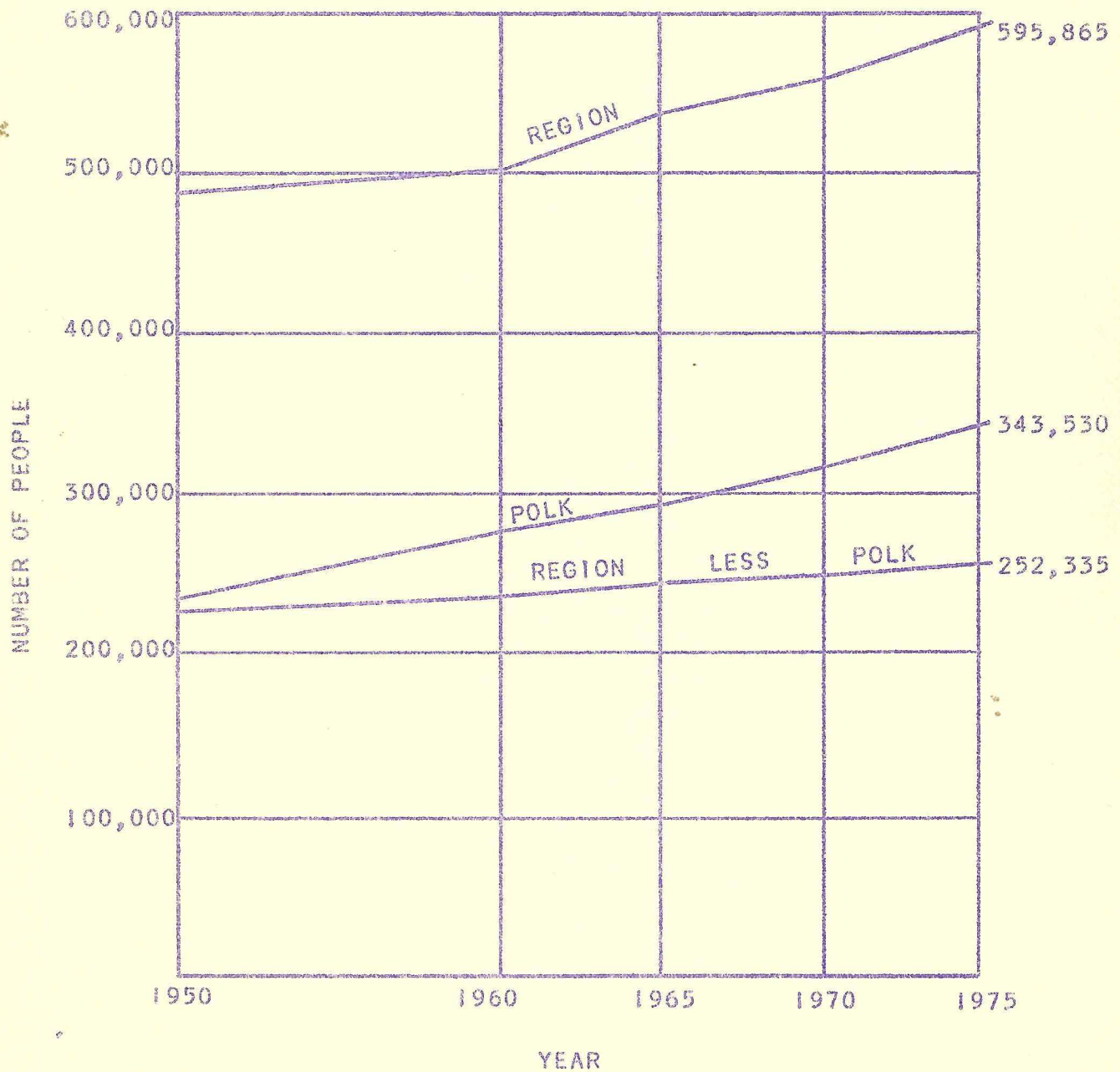


Figure 7

Counties: Looking at the growth of the individual counties in the Central Iowa Region, it can be seen there is considerable variation in both the amount (numbers) and rate (percent) of growth between counties. For the period 1950-60, three of the nine counties of the region had a decrease in total population. These were Boone (-0.4%), Madison (-6.4%) and Marion (-0.2%) Counties. For the same period, 3 counties showed an increase in population of greater than 10%. These were Polk (17.8%), Warren (17.3%) and Story (11.4%). This population change is pictured in Figure 8. For the 15 years, 1960-75, it appears this trend will continue.

Some counties may have a greater percentage decrease than 1950-60, while those that are growing may have a higher rate of increase.

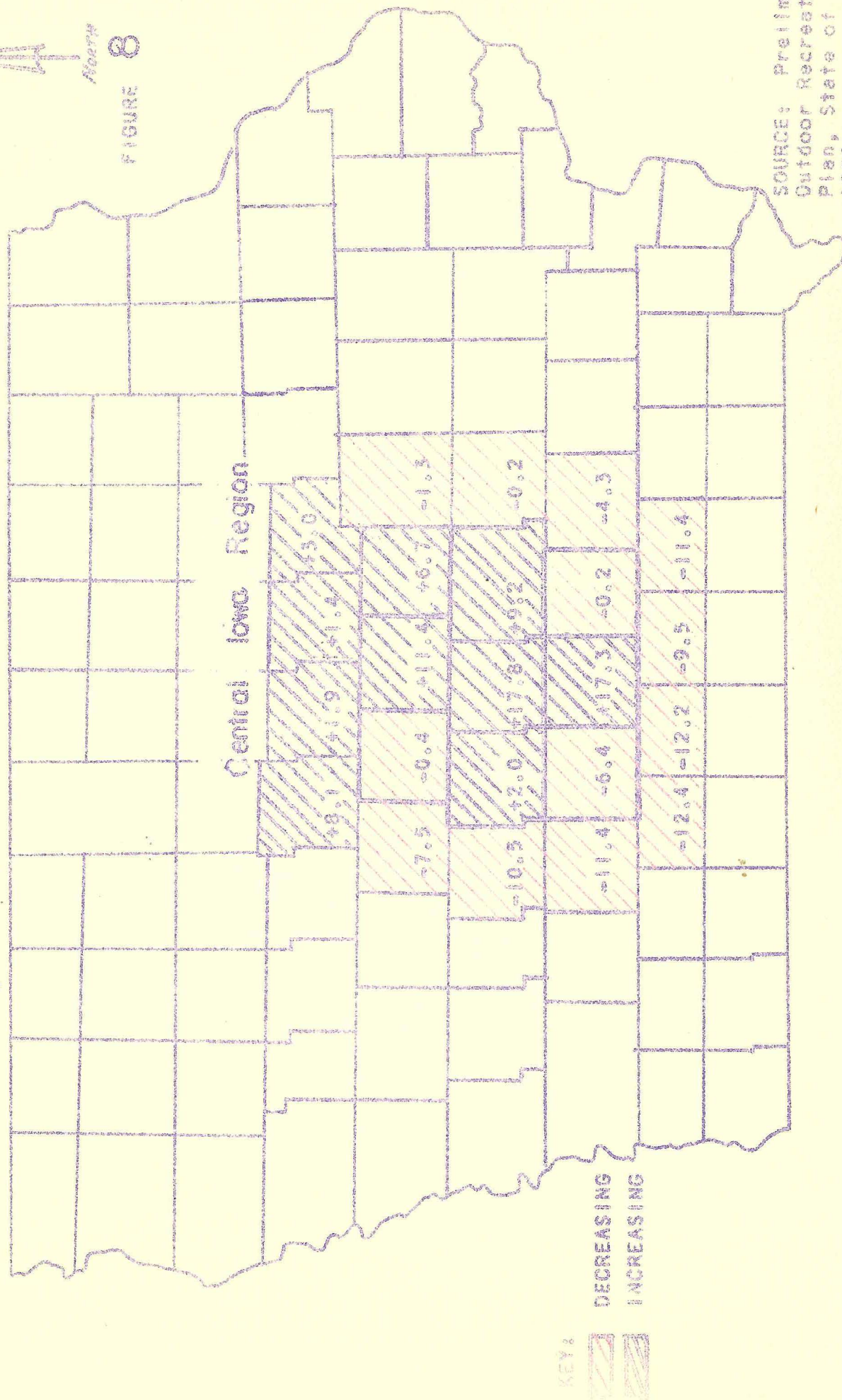
Also one county, Dallas, may change from having a population increase (2.0%) in 1950-60, to having a decrease -2.4%, 1960-75. Madison County is likely to experience the greatest population loss (-14.2%), while Polk, Warren and Story Counties will all increase about the same (25 to 29%).

The relative changes by counties 1960-75 is shown in Figure 9.

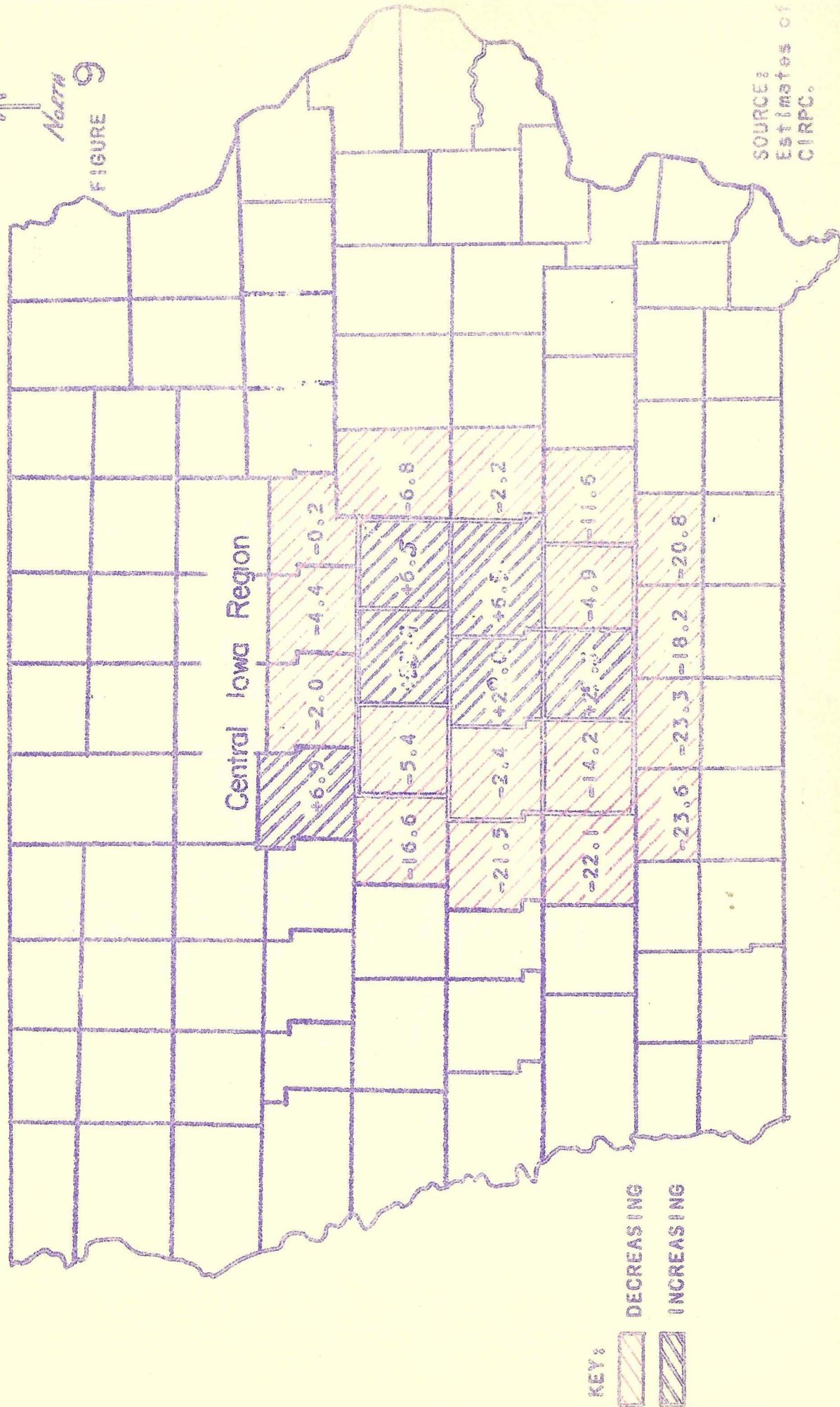
Table 3 sets forth the county population changes within the region, actual and estimated, from 1940 to 1975.

Population Change by County 1950-1960

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(Estimated—figures
are percent change)[illegible]

SOURCE: *See text.*

TABLE 3

PRESENT AND PROJECTED POPULATION - COUNTIES IN
CENTRAL IOWA REGION

<u>BOONE</u>		<u>Change</u>	
YEAR		Number	Percent
1940		29,782	
1950		28,139	- 5.5
1960		28,037	- 0.4
(1965)	(27,400)		
1970		26,951	- 3.8
(1975)	(26,529)		
1960-1975			- 5.4

<u>DALLAS</u>		<u>Change</u>	
YEAR		Number	Percent
1940		24,649	
1950		23,661	- 4.0
1960		24,123	2.0
(1965)	(23,754)		
1970		23,636	- 2.0
(1975)	(23,537)		
1960-1975			- 2.4

POPULATION (CONT.)

JASPER

YEAR	Change	
	Number	Percent
1940	31,496	
1950	32,305	2.6
1960	35,282	9.2
(1965)	(38,196)	
1970	37,500	6.3
(1975)	(37,725)	
1960-1975		6.9

MADISON

YEAR	Change	
	Number	Percent
1940	14,525	
1950	13,131	- 9.6
1960	12,295	- 6.4
(1965)	(11,705)	
1970	11,077	- 9.9
(1975)	(10,548)	
1960-1975		- 14.2

MARION

YEAR	Change	
	Number	Percent
1940	27,019	
1950	25,930	- 4.0
1960	25,886	- 0.2
(1965)	(25,403)	
1970	25,021	- 0.3
(1975)	(24,625)	

POPULATION (CONT.)

MARSHALL

YEAR	Change	
	Number	Percent
1940	35,406	
1950	35,611	0.02
1960	37,984	6.7
(1965)	(38,560)	
1970	39,411	3.8
(1975)	(40,445)	
1960-1975		6.5

POLK

YEAR	Change	
	Number	Percent
1940	195,835	
1950	226,010	15.4
1960	266,315	17.8
(1965)	(292,362)	
1970	312,711	17.4
(1975)	(343,529)	
1960-1975		29.0

STORY

YEAR	Change	
	Number	Percent
1940	33,434	
1950	44,294	32.5
1960	49,327	11.8
(1965)	(53,110)	
1970	57,618	16.3
(1975)	(62,002)	
1960-1975		25.7

POPULATION (CONT.)

YEAR	<u>WARREN</u>	<u>Change</u>	
		Number	Percent
1940		27,019	
1950		17,758	- 34.3
1960		20,829	17.3
(1965)	(22,398)		
1970		24,584	18.0
(1975)	(26,925)		
1960-1975			29.3

Source: Iowa's Population: Recent Trends and Future Prospects, Special Report No. 47, Doerflinger and Kilmek, I.S.U. 1966. C.I.R.-1966 Population Study, Brunsvold, Nelson, Koller, and Drain, Dept. Landscape Arch. I.S.U., 1966.

Cities: As with the counties of the region there is also great variation in growth among the cities of the region. In general, the larger cities are growing faster and bigger. The smaller cities, with several exceptions, are either growing slowly or remaining stable. Table 4 summarizes the total population change for ten main cities in the region, 1960-1985. It can be seen that for the 15 years, 1960-75 the greatest amount of growth will take place in Des Moines with a 52,118 person increase, and that the second largest growth will occur in Ames, 28,397 persons. Of the smaller cities, Indianola and Newton lead the growth. Indianola may almost double its population during the 15 year period, while Newton may increase by three-fourths its 1960 figure. Cities which will remain almost stable are Boone, Perry and Winterset.

The detailed population figures for the Des Moines - Polk County area show that the highest concentration of population in the region is centered around the City of Des Moines. Thus it is most important that planning for recreation in the Des Moines urban area be based on a 15-to 20-minute driving time (5-15 miles) for as many of the recreation sites as possible. For many reasons - convenience, greater usage, open space between built up areas, etc. - parks and recreation sites should be developed in or near high concentrations of population. This should be followed for the Des Moines urban area.

The population trend relating to distribution of people in the region shows that more people are moving to the cities and their suburbs. The outlying counties in the region are now and will in the future, show a net out-migration. Some of this migration is recorded as an in-migration to the urban areas in the region, while some is migration to other large cities in Iowa, and some to outside the State. Table 10 displays the general areas of population increase in the State, 1950-60 and its relationship to the major cities. The pattern of population increase closely follows the location pattern of the major cities in the State.

TABLE 4

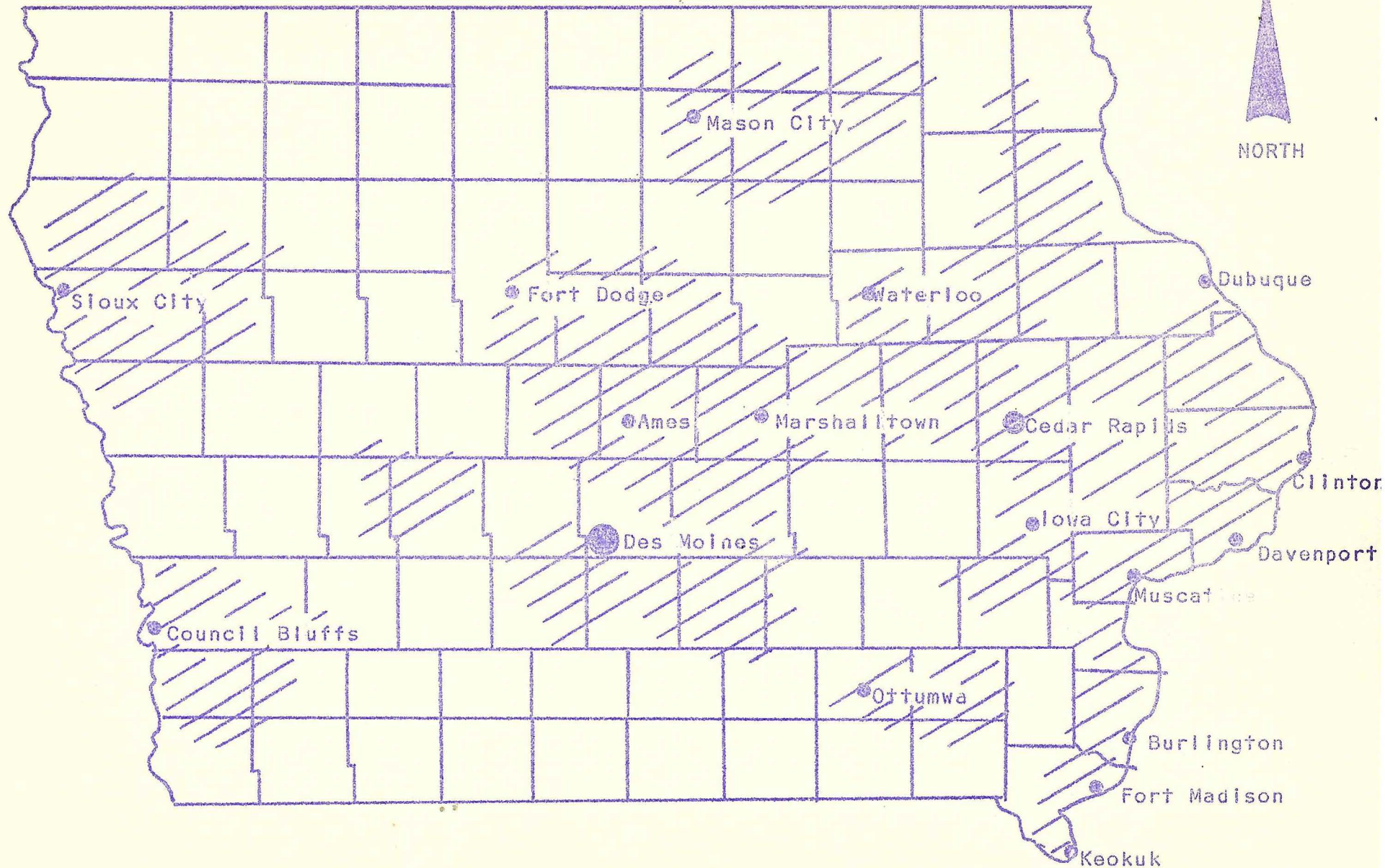
PRESENT AND PROJECTED POPULATION - CITIES IN
CENTRAL IOWA REGION

<u>CITY</u>	<u>1960</u>	<u>1970</u>	<u>1975*</u>	<u>1985</u>
Ames	27,003	49,250	55,400	82,000
Boone	12,468	12,250	12,450	12,450
Des Moines	208,982	232,700	261,100	288,800
Indianola	7,062	8,800	11,100	13,600
Knoxville	7,817	8,600	8,750	9,250
Marshalltown	21,692	22,350	23,800	24,900
Newton	15,381	17,250	21,000	24,000
Pella	5,198	6,350	7,100	8,250
Perry	6,442	6,650	6,850	7,050
Winterset	3,639	3,600	3,650	3,600

Source: C.I.R.-1966 Population Study, Brunsvold, Nelson, Keller and Drain, Dept. Landscape Arch. I.S.U. 1966. Local population Studies done as part of recent U.P.A. (701) planning programs, and interpolations by CIRPC staff.

*Location of Major Cities Compared to
Areas of Population Increase 1950-1960*

Figure 10



KEY:
 - Area with Population Increase.

SOURCE: Preliminary Outdoor
Recreation Plan, State
of Iowa, 1966 and CIRPC

Births and Deaths

Historically, Iowa has been a supplier of residents to other areas of the country. A rather high birth rate has been one of Iowa's population characteristics. However, this is gradually changing. Since the peak of the post W.W. II decade (1946-56) the State's birth rate has been declining. By 1965 it was at the same level as for 1940, 18.6 births per 1,000 persons.

On the other hand, as the State's population has been getting proportionately older the death rate is gradually increasing from 10.3 per thousand in 1950 to 10.7 in 1965. Table 5 shows the pattern of births and deaths for the State over the past 25 years, 1940 to 1965.

For Central Iowa, the pattern of births and deaths in the population is similar to that for the State, except there has been a slightly higher birth rate and slightly higher death rate. This is due to a larger proportion of young families and older persons (65 and over) in the Region as compared to the State.

Age

The age pattern within a population, and any changes taking place in this pattern are almost as important in assessing recreation needs, as the total number. For example, a predominately older population, desires and participates in more passive recreation such as driving for pleasure, sight-seeing, picnicking, etc., whereas, with a younger population, the emphasis is on outdoor sports, swimming, hiking, etc.

The State and Region: For the State and the Central Iowa region in 1950 and 1960 the largest percent of their population by age group was in the 0-9 year group. The second highest was in the 10-19 age group, the smallest percents were found in the older (50 and over) age groups. See Table 6. Table 6 also shows the total change which took place by age group from 1950-1960. Relating this to the percent of persons by age group, some interesting aspects may be noted. For example, in the Region, the proportion of persons in the 20 to 29 age group decreased from 16.3% to 12.7% of the total, while the total number of persons in this age group decreased by 12.3% in this ten year period. The proportion of persons in the 50 to 59 age group decreased from 11.0% to 9.8% of the total, while the total number of persons in this age group decreased only by 0.2% in the same time period. Looking at the population trend by age group for the State and Region for the next ten years, it appears

that the percentage in the "19 and under" and the "60 and over" age groups will slightly increase while the percent of total population in the 20 thru 59 age groups will continue to decrease.

With regard to the middle age groups, the State's population (1950-60) decreased in the 20-29, 30-39 and 50-59 age groups, -24.6%, -4.7% and -22.2% respectively, while the Region decreased only in the 20-29 year group, -14.0 percent. There is some evidence this trend is slowing down, however, for these age groups it seems likely to continue for the near future.

The Counties: The composition of the population of the nine counties with regard to age groups is shown in detail in Appendix 1. Like the State and the Region, the largest percent of each county population by age group is in the 0-9 year group with the 10-19 age group being second. However, the largest percent of increase or change for the 1950-60 period is in the 60-69 age group and 70 and over age group. It is noted that Boone, Dallas, Jasper, Madison, Marion and Marshall Counties have a somewhat older population, percent wise, than do Polk, Story, and Warren Counties. For further age of population patterns see Appendix 1.

In the 20-29 age group a decrease (relative to total population) is shown for all counties except Warren County which has about a 7% increase in this group.

In the 30-39 age group a decrease (relative to total population) is shown for Boone, Story, Marshall, Dallas, Madison and Marion Counties, while an increase is shown for Polk, Jasper and Warren Counties. In the 40-49 age group an increase is shown in all counties except Boone and Madison which had about a 6% decrease and a 55% decrease respectively. In the 50-59 age group a decrease is shown in all counties except Marshall, Polk, and Jasper which have a 9%, a 7%, and a 4%, increase respectively.

Urban-Rural Composition: Migration

Nationally, about 70% of all people live in urban areas - places larger than 2,500 population. Iowa has just recently (1960) become more urban than rural. The trend in rural and urban population change within the State is best shown by Figure 11.

Beginning at a high of 1,660,000 persons in 1900, the State's rural population dropped to 1,300,000 by 1960. For this same period, the urban population rose from 570,000 in 1900 to 1,470,000 in 1960. This trend continues.

TABLE 5

BIRTHS* & DEATHS FOR THE STATE

1940 - 1965

	BIRTHS		DEATHS	
	NUMBER	RATE/1,000 Pop.	NUMBER	RATE/1,000 Pop.
1940	47,337	18.6	26,297	10.4
1950	63,074	24.1	26,979	10.3
1960	64,162	23.3	28,770	10.4
1964	55,442	20.1	29,203	10.6
1965	51,404	18.6	29,485	10.7

* Figures are live births only.

Source: Statistical Abstract of the United States 1966.

TABLE 6

POPULATION AGE GROUPS FOR THE STATE AND CENTRAL IOWA REGION 1950-1960

STATE

<u>Age Group</u>	<u>No.</u>	<u>1950</u>	<u>No.</u>	<u>1960</u>	<u>Percent Change</u> <u>1950-60</u>
		<u>% of Total</u>		<u>% of Total</u>	
0 - 9	506643	19.3	599033	21.7	+ 18.2
10 - 19	383393	14.6	461759	16.7	+ 20.5
20 - 29	382613	14.6	307139	11.1	- 24.6
30 - 39	355145	13.5	335245	12.2	- 4.7
40 - 49	313770	12.0	322304	11.7	+ 2.7
50 - 59	286250	10.9	280029	10.2	- 2.2
60 - 69	221052	8.4	238703	8.7	+ 7.9
70 +	172189	6.6	213325	7.2	+ 23.9
Total	2,621,073	100%	2,757,537	100%	+ 5.2%

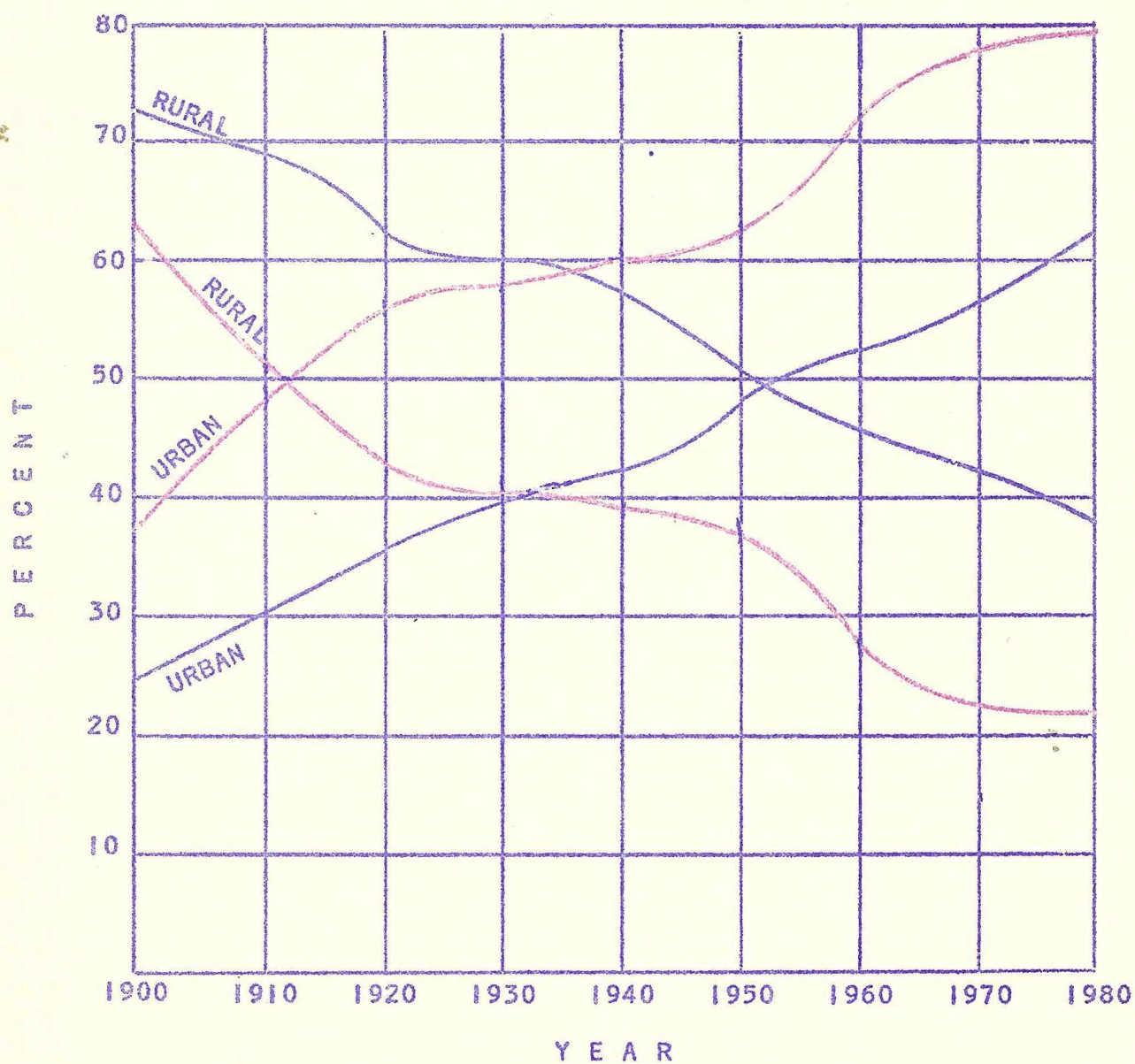
CENTRAL IOWA

<u>Age Group</u>	<u>No.</u>	<u>1950</u>	<u>No.</u>	<u>1960</u>	<u>Percent Change</u> <u>1950-60</u>
		<u>% of Total</u>		<u>% of Total</u>	
0 - 9	82910	18.6	106591	21.3	+ 2.9
10 - 19	62159	13.9	81757	16.3	+ 31.5
20 - 29	72689	16.3	63757	12.7	- 12.3
30 - 39	62370	13.9	64066	12.8	+ 2.7
40 - 49	53784	12.0	58265	11.7	+ 8.3
50 - 59	48987	11.0	49106	9.8	+ 0.2
60 - 69	36488	8.2	41118	8.2	+ 12.7
70 +	27452	6.1	35418	7.1	+ 29.0
Total	446,839	100%	500,078	100%	+ 11.9%

Source: 1950 data - U.S. Census: Iowa - General Population Characteristics, 1950, Bureau of Census.

1960 data - op cit - Iowa's Population - Report No. 47, Doerflinger and Kilnek, 1966.

Urban - Rural Population Distribution For State & Central Iowa



STATE —————

CENTRAL IOWA —————

FIGURE II

Source: U.S. Census: Iowa, Number of Inhabitants, 1900 to 1960,
Bureau of Census.

For the Central Iowa Region, the rural population declined from 181,000 in 1900 to about 142,680 in 1960, or a 21.4% decrease. On the other hand, the urban population during this sixty year period, increased from 109,000 to 356,000, or a 226% increase. This trend is also continuing. Table 7 shows the population change by decade for the State and for Central Iowa, 1900 to 1960, and the estimated population by 1975.

To obtain an indication of the urban-rural population for each of the nine counties of Central Iowa, the breakdown was computed from U.S. Census data for 1950 and 1960. Appendix 2 shows the county urban-rural pattern by decade, plus the estimated distribution by 1975. These estimates show that by then, 1975, Polk County will be 95% urban, Story and Marshall Counties over 60% urban, Boone, Jasper, Marion and Warren between 44% and 56% urban. Only Dallas and Madison Counties will be predominately rural.

The 1975 figures should be considered only a rough indicator of the future urban-rural distribution of the region and counties since they are based on a straight line projection of the 1950-60 trend. Figures 12 and 13 show in graph form the probable degree of urbanization by county by 1975. Also see Appendix 2.

Dependency Ratio

Another indicator of the State and the Regions changing population picture is the dependency ratio figure which takes into account selective age migration, changing birth rate and increasing longevity. The dependency ratio is the number of people "19 and under" and "65 and over" (called the dependent group) as compared to those people between the ages of 20 and 64 (the productive group).

In 1950 the dependency ratio for the State was 80 which means there were 80 dependant persons per 100 productive persons. By 1960, the ratio had increased to 101 or nearly 20 additional dependent persons per 100 producer persons. This reflects the earlier mentioned fact that the State's young and older age groups are increasing in numbers, more than the "middle" age groups (20-39, 40-64). The Region's 1960 dependency ratio is slightly lower than for the State indicating a higher proportion of population in the productive ages. However, the regions ratio is also increasing, going from 73 in 1950 to 95 in 1960, or the same increase in dependent persons as the State.

For the counties, the dependency ratio is increasing. This reflects the out-migration of persons particularly in the ages 20-39. The relatively low dependency ratio figure for Folk County indicates that more persons in the productive group are remaining or migrating to the Des Moines metropolitan area. Appendix 3 shows the dependency ratio for the counties - 1950 and 1960.

TABLE 7URBAN - RURAL POPULATION DISTRIBUTION FOR
STATE AND CENTRAL IOWASTATE

	<u>U.</u>	<u>R.</u>	<u>% of U.</u>
1900	572,386	1,659,467	25.6
1910	680,054	1,544,717	30.6
1920	875,495	1,528,526	36.4
1930	979,292	1,491,646	39.6
1940	1,084,231	1,454,037	42.7
1950*	1,250,938	1,370,135	47.9
1960*	1,462,512	1,295,025	53.0
1975**	1,738,927	1,198,577	59.2

CENTRAL IOWA

	<u>U.</u>	<u>R.</u>	<u>% of U.</u>
1900	108,917	181,435	37.5
1910	140,510	157,831	47.1
1920	195,387	158,348	55.2
1930	221,365	161,798	57.8
1940	246,359	163,482	60.1
1950*	280,890	165,949	62.9
1960*	355,837	142,683	71.4
1975**	461,760	138,041	77.0

* New urban definition.

** Estimated from ORRRC Report No. 23.

Source: U.S. Census

Percent Urbanization by County

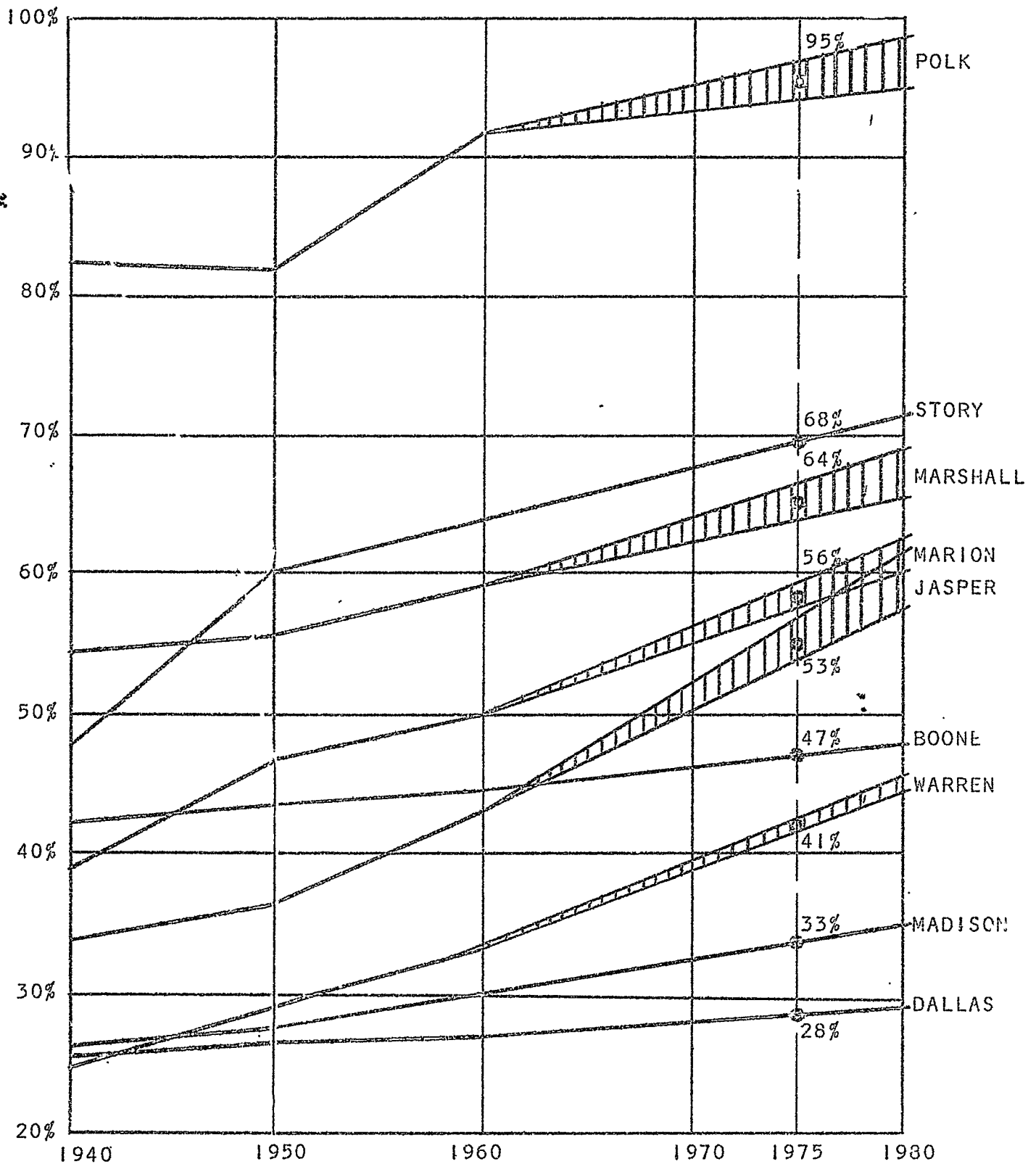
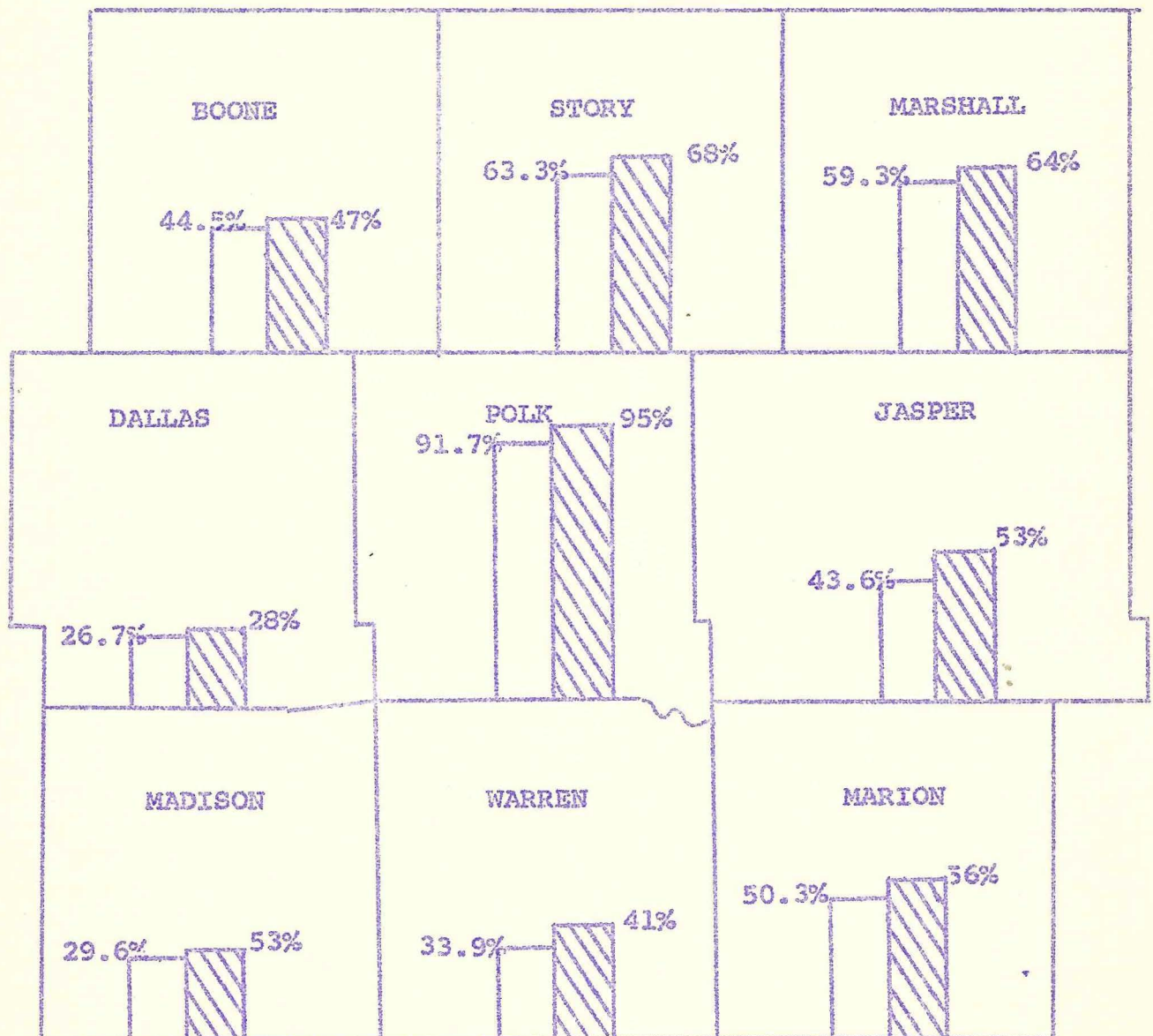


FIGURE 12

URBANIZATION BY COUNTY (1960-1975)



KEY:
 [White Box] 1960
 [Hatched Box] 1975

FIGURE 13

Source: CIR, 1966 Population Study (See Footnote 2)

INCOME

Family Income

Nation and State: It appears that median family income in the State was slightly below that of the Nation. While nationally, the median family income was \$3,319 in 1950 and \$5,625 in 1960, the State showed only \$3,079 in 1950 and \$5,069 in 1960. This means that in Iowa one-half of the families earned less than \$3,079 in 1950 and \$5,069 in 1960 while the other half of the families had an income above \$3,079 and \$5,069. The national median family income ranged from about 8% to 11% greater than that of the State.

The highest percentage of the population in both the Nation and State earned less than \$4,000 in 1950 and 1960. For the Nation the total number making this amount was 63% and 31% respectively, while for Iowa it was 69% and 36%. The greatest percent increase for the Nation and State was in the higher income groups. Those in the \$7,000 - \$9,999 category increased by nearly 15 percent. The \$10,000 and over group showed an increase of almost 10%. Table 8 shows the percent distribution of family income for Nation, State and Region. Another significant fact which this table shows is the "spreading out" of income over a broader number of persons. In 1950 for the State and Region, only about 40 percent of the family wage earners made more than \$4,000 per year, whereas in 1960 about 70 percent of these wage earners made more than this. Recognizing a certain amount of inflation, nevertheless there was a greater distribution of income, and an absolute increase in income above the \$4,000 level during the period 1950-60. Complete figures were not available for the years since 1960, however, it is generally felt this trend is continuing, but that dollar inflation is accounting for more of the increase than during 1950-60. With total family income being divided up among more persons (families) this means more consumer dollars are available for purchases, and with more of these purchases being for nonbasic needs rather than food, clothing and housing.

Region and Counties: Family income in the region varied directly as the Nation and State. In 1950 the median family income was below both the Nation and State, but in 1960 family income was greater than the State even though below that of the Nation. Within the region there were fewer wage earners in the less than \$4,000 income group more in the \$7,000 - \$9,999 group as compared to the State. The biggest increases in the region were in the \$7,000 - \$9,999 and over \$10,000 income groups.

TABLE 8

PER CENT DISTRIBUTION OF FAMILY INCOME
FOR NATION, STATE, CENTRAL IOWA REGION

<u>INCOME GROUP</u>	<u>UNITED STATES*</u>		<u>IOWA**</u>		<u>CENTRAL IOWA**</u>	
	<u>1950</u>	<u>1960</u>	<u>1950</u>	<u>1960</u>	<u>1950</u>	<u>1960</u>
Under \$4,000	63.2	30.5	69	36.5	61.9	27.2
\$4,000 - 5,999	22.6	23.3	19.9	25.5	22.4	25.0
6,000 - 6,999	5.2	10.8	3.9	10.4	4.4	11.9
7,000 - 9,999	5.8	20.0	4.4	17.0	4.7	21.7
10,000 - 14,999		10.6		7.5		9.9
	3.2		2.8		3.2	
15,000 - over		3.7		3.2		4.3
Median income:						
Families	\$3,319	\$5,625	\$3,068	\$5,069	\$2,957	\$5,106
Fam. & un- related indiv.	\$2,851	\$3,870	\$2,612	\$4,240	\$2,722	\$4,076

* Families in households

** Families

Source: U.S. Census of Population, 1950 and 1960

Source: U.S. Census: Iowa, General Social and Economic Characteristics, 1950 and 1960,
Bureau of Census.

This reflects a trend in the Central Iowa Region for more families to be earning greater incomes with the pronounced shift from the lower incomes (under \$4,000) to the middle income levels: \$4,000 - \$5,999, \$6,000 - \$6,999, and \$7,000 - \$9,999.

Appendix 4 shows the income levels by county for Central Iowa.

Personal Income

Perhaps more significant to recreation than gross income figures and percentages (family and unrelated individuals) is personal income. Total personal income reflects basically the amount of current income received by individuals, non-profit institutions, and unincorporated business, while total disposable personal income is personal income less taxes and other non-tax payments (fines, penalties, etc.)

Nation and State: For the nation and state, personal income levels have increased considerably in the last fifteen years. For the 20 year period, 1950-70, personal income will be up by 140% for the Nation and 125% for the State. This difference in the rate of increase for personal income between the Nation and Iowa is due to the great increase in the national economy which occurred between 1950-60, as compared to Iowa's slower economic growth. However, since 1960, Iowa's economic growth has been good and is shown by the greater increase now taking place in the State's personal income level as compared to that of the Nation.

In terms of total disposable income, the national level increased by 69% from 1950-60, and the state level increased by 34%. Projecting the 1960-65 income trend to 1970, disposable personal income will increase by about 66% for the State while the National level will remain about the same or 66% for the current decade, 1960-70.

Per capita personal income and per capita disposable income increased by about one-half for the Nation, and about one-third for the State from 1950-60. However, the increase in per capita personal income for the State, 1960-70 is expected to be about twice the increase of 1950-60, with disposable personal income increasing even more (from 27% to 62%).

The Region: Following a pattern similar to that of the past,

twenty to thirty years, it is assumed for the purpose of projection of income levels that the region will be influenced by its largest population center, Des Moines. According to the National Planning Association, Des Moines showed a 43% increase in personal income from 1950-1960 which is slightly above that of the State but below that of the Nation. By 1970, it is estimated that the region will show a 68% increase in total personal income over 1950, which is above both the Nation and the State. This increase in total personal income for the region indicates that per capita personal income will increase over two times that for 1950 to 1960. Appendix 5 shows that by 1975 Des Moines will be the 7th ranking Metropolitan Area in per capita personal income in the Nation.

Expenditures

Nationally, the greatest percent (27%) of personal expenditures in 1960 was for food, beverage and tobacco with a slightly higher percent (30%) in 1950 for the same items. Personal business and recreation in 1960 were the lowest in percent of expenditures. It is important to point out that even though recreation accounted for only 5.8% of total expenditures, Table 10 shows there was \$11.1 billion spent for recreation in 1950 and \$18.3 billion in 1960 or an increase of 65%. It is estimated that by 1976 recreation expenditures will be over \$38.8 billion or an increase of 110% over 1960 and 250% over the 1950 level.

There has been a noticeable trend of a smaller proportion of personal expenditures being made for food, beverage and tobacco, clothing, housing and transportation while an increasing proportion is being spent on recreation, household operations, personal business and other non-basic goods or services. It is important to note that even though the percentage of total personal expenditures for recreation is expected to increase only 0.2% from 1960 to 1970, this increase will amount to over 20 billion dollars.

TABLE 9

PERSONAL INCOME FOR NATION AND STATE
(current dollars)²

<u>Nation</u>	<u>1950</u>	<u>1960</u>	<u>% change 1950-1960</u>	<u>1970³</u>	<u>% change 1960-70</u>	<u>1950-7</u>
Total Personal Income (in millions of dollars)	\$ 266,214	398,726	+76.0	648,150	+64.0	+143.
Total Disposable ⁴ Personal Income (in millions of dollars)	\$ 209,000	350,000	+69.2	580,300	+65.8	+177.
Personal Income per capita (dollars)	\$ 1,496	2,215	+48.0	3,229	+45.8	+115.
Disposable Personal ⁴ Income per capita (dollars)	\$ 1,364	1,937	+47.9	2,843	+46.8	+108.
<u>STATE</u>						
Total Personal Income (in millions of dollars)	\$ 3,926	5,481	+40	8,879	+62	+126.
Total Disposable ⁴ Personal Income (in millions of dollars)	\$ 3,565	4,787	+34.3	7,966	+66.4	+123.
Personal Income per capita (dollars)	\$ 1,496	1,988	+32.9	3,200	+61	+113.
Disposable Personal ⁴ Income per capita (dollars)	\$ 1,360	1,736	+27.6	2,815	+62.2	+106.

1. Excludes wages and salaries received by Federal, military and civilian employees stationed abroad.

2. To convert to 1958 dollar base multiply figures for 1950 by 1.21, 1960 by 0.972 and 1965 by 0.919.

3. Estimate based on 1960 - 1965 trend.

4. Total income minus personal income tax and non tax payments. Figures for state assume the same deduction as for U.S. as whole.

Source: U.S. Bureau Census, Statistical Abstract of U.S.: 1966.

TABLE 10

PERSONAL EXPENDITURES BY
TYPE OF PRODUCT FOR NATION:
1950-1976

IN PERCENT

<u>PRODUCT</u>	<u>1950</u>	<u>1960</u>	<u>1964</u>	<u>1976*</u>
Food, Beverage & Tobacco	30.4	26.9	25.1	23.9
Clothing, and accessories	12.4	10.2	10.0	8.0
Housing	11.1	14.2	14.9	12.5
Household Operations**	15.4	14.4	14.5	15.5
Personal Business	3.6	4.6	5.0	5.8
Transportation	12.9	13.3	12.9	12.9
Recreation	5.8	5.8	6.0	6.0
Other***	8.2	10.6	11.5	
Total personal consumption expenditures	100.0	100.0		100.0
durable goods	14.6	13.8		18.8
nondurable goods	49.5	47.0		42.6
services	35.9	39.2		38.6

IN DOLLARS (millions)

	<u>1950</u>	<u>1960</u>	<u>1964</u>	<u>1976*</u>
Recreation	\$11,100	18,300	23,800	38,800

* ORRRC Report No. 23

** Includes furniture, equipment, supplies, electricity, gas, water, telephone and domestic service.

*** Includes personal care, medical expenses, private education and research, religious and welfare activities, and foreign travel.

Source: Statistical Abstract - U.S. - 1966

OCCUPATION

State and Region: In 1950 there was a total of nearly 1,003,000 persons employed in the State and in 1960 this had increased by 16,000 or 16%. Comparing Tables 11 and 12, in 1950 18% of those employed in Iowa were employed in the Region and in 1960 19% were employed in the Region. From 1950 to 1960 employment in the Region increased nearly 10%, while the State's employment only increased by 1.6%. Table 11 and 12, show employment by industry group for the State and Region respectively.

In 1950 and 1960 the largest percent of the State's employed labor force was engaged in agriculture, 28% and 21% respectively. In the region, a different picture is seen. Only 15% of the employed persons worked in agriculture in 1950, while in 1960 this had dropped to 10%. The largest percentage of persons employed in the region (1960) were in wholesale and retail trade (20%). The smallest number were employed in public administration (3%).

The greatest increases in employment within the State, 1950-60, were in finance (32%), services (24%) and manufacturing (22%). Those included as services are professional, personal and educational services. This was also true for the region, the increases being, finance, 38%, manufacturing, 26%, services, 23%. The greatest decrease 1950-60 was in agriculture, which dropped 26% for the State and 31% for the Region. All other industry groups show an employment increase ranging from 2.5% to 15%. The major trend in employment for both the State and the Region, is a shift of workers from agriculture to service, manufacturing, and finance occupations.

The 1975 estimates shown in Table 11 are based on the historical trend in the industrial composition of employment. It shows an increasing level of female workers. The estimates are also based on the diminishing level of employment in agriculture and transportation. The trends have been expanded to 1975. It shows that agricultural employment in the State will decrease about 30% by 1975 or an average annual decrease of 3%, while services, manufacturing and finance will continue to increase in the number of persons employed. By 1975 the largest percent of the State's employed labor force will be employed in the various service occupations.

By using historical trends for the region and estimated State employment figures, an estimate of total employment for the region can be made. It is estimated that State employment will rise from 1.6% in 1950-1960 to 3.1% for the ten years 1960-1970. If employment in the region were to nearly double (following the trend of the State) and based on the region's 9.7% employment increase from 1950 to 1960, employment by 1970 could reach 231,000 persons or a 19.4% rise from 1960 to 1970.

Region and Counties: Every county in the Region has had a decrease in persons employed in agriculture from 1950 to 1960. This decrease ranges from about 21% in Marshall County to 40% in Warren and Marion Counties, with an average of around 30% for the remaining counties. For this period (1950-1960) Madison County had the highest percentage of persons employed in agriculture, while Polk County had the lowest. The most increase in employment growth has been in manufacturing, finance and services. In the more populated counties, growth has ranged from about 8% to 26% in manufacturing, 33% to 56% in finance and 9% to 26% in services. In the less populated counties growth has ranged from about 45% to 150% in manufacturing, 28% to 150% in finance and 25% to 45% in services. Although the higher percent changes in employment in manufacturing, finance and services are found in the more rural counties, the greater numerical change in these groups are found in the more urban counties.

Change in total employment ranges from about 6.0% to 17% with the largest increases in Polk, Story, and Warren Counties. The overall trend in the region is for persons to shift from agricultural employment in the agriculturally dominated, less populated counties to finance, manufacturing, and service jobs located in the larger cities of each county, or in the Des Moines Metropolitan Area.

Appendix 6 shows employment change by industry group for each of the nine counties, 1950-1960.

The trend of having less of the labor force in farming and more in manufacturing, trade and services has an impact on recreation needs. Among all occupations, farm workers participate the least in recreation with the managerial and proprietor group being second lowest. On the other hand, professional people who are those workers in services, participate most.

TABLE 11

EMPLOYMENT BY INDUSTRY GROUP
FOR STATE OF IOWA 1950-60 and 1975

INDUSTRY GROUP	<u>1950</u> <u>No.</u>	<u>% OF TOTAL</u>	<u>1960</u> <u>No.</u>	<u>% OF TOTAL</u>	<u>1950-1960</u> <u>% CHANGE</u>	<u>1975*</u> <u>No.</u>	<u>% OF TOTAL</u>	<u>1960-1975</u> <u>% CHANGE</u>
Agriculture	285,029	28.4	210,219	20.6	- 26.2	145,555	13.6	- 30.8
Manufacturing	153,308	15.3	189,660	18.6	+ 22.4	194,576	18.2	+ 2.6
Transportation Comm. & Util.	70,574	7.1	64,375	6.4	- 8.8	67,575	6.3	+ 5.0
Wholesale Trade								
Retail Trade	191,172	19.1	198,587	19.4	+ 3.9	241,019	22.6	+ 21.4
Finance	27,648	2.8	36,559	3.6	+ 32.2	43,655	4.1	+ 19.4
Public Admin.	30,237	3.0	32,810	3.2	+ 8.5	46,444	4.4	+ 41.6
Const.	54,884	5.5	52,979	5.3	- 3.5	65,323	6.1	+ 23.3
Soc.-Prof Serv. Pers. Serv.	165,433	16.5	205,827	20.2	+ 24.4	263,222	24.7	+ 27.9
Other	<u>24,531</u>	<u>2.3</u>	<u>27,986</u>	<u>2.7</u>	<u>+ 14.1</u>	<u> </u>	<u> </u>	<u> </u>
Total	1,002,816	100.0	1,019,002	100.0	+ 1.6	1,067,369	100.0	+ 4.7

* Projections of Iowa's Economy and People in 1974
Special Report No. 41, 1965.

Source: U.S. Census of Population, 1960 PC (1) 17C Iowa.

TABLE 12EMPLOYMENT BY INDUSTRY GROUP
CENTRAL IOWA REGION
1950 - 1960

<u>INDUSTRY GROUP</u>	<u>1950</u> <u>No.</u>	<u>% TOTAL</u>	<u>1960</u> <u>No.</u>	<u>% TOTAL</u>	<u>1950-1960</u> <u>% CHANGE</u>
Agriculture	27,803	15.7	19,278	9.9	- 30.7
Mfg.	30,066	17.0	37,835	19.5	+ 25.8
Trans-Comm.	13,322	7.5	13,643	7.0	+ 2.4
WS-Ret. Trade	37,173	21.0	38,688	20.0	+ 4.1
Finance	9,405	5.3	13,022	6.7	+ 38.5
Public Admin.	8,042	4.6	9,032	4.7	+ 12.3
Const.	10,730	6.1	11,172	5.8	+ 4.1
Soc.-Prof Serv.					
Pers. Serv.	36,760	20.8	45,367	23.4	+ 23.4
Others	<u>3,395</u>	<u>1.9</u>	<u>5,825</u>	<u>3.0</u>	<u>+ 71.6</u>
TOTAL	176,696	100.0	193,862	100.0	+ 9.7

Source: U.S. Census of Population, Iowa.

EDUCATION

Education Completed

Persons 25 years and over are considered as the segment of the population which has completed their formal education and is used as the base in determining the educational attainment of the population.

State and Region: The educational levels of persons in the State and the Region have increased considerably from 1950 to 1960. The number of persons having only elementary or junior high school education (grades K-8) has decreased between 10 and 15 percent while persons with a high school education (grades 9-12) have increased about 25 percent and those with at least four years of college have increased about 28 percent. The greatest percent decrease was for persons with under four years of grade school and the greatest percent of increase was for persons with college education. The relatively high percent of change (20%) at the 1-3 year college level is reflected in the increased attendance at 2-year junior and community colleges within the State.

Even though the greatest change has been at the college level, the largest percent of the population in the State and Region are those with a high school education. Over 30% of the population in 1960 in the State and Region had a high school education while only 6% in the State and 9% in the Region had a four-year college education. In both high school and college, the Region appears to have a slightly higher level of education than the State as a whole.

Table 13 shows the years of school completed by persons 25 years and older in the State and Central Iowa Region.

Region and Counties: The educational levels of the population are directly related to the distribution of population among the counties. The rural counties with lesser population have a higher proportion of their residents with only a grade 1-8 education while the more urbanized counties have more persons with high school and college education. In 1960, over 57% of the persons within the region who had gone to college resided in the most urbanized county (Polk).

Appendix 7 shows school years completed for persons 5-24 years of age for the counties in Central Iowa.

Educational Enrollment

Persons 5-24 years are considered the potential school enrollment base.

This is then broken into 5-13 year olds who occupy grades K-8, the 14-17 year group being high school, and the 18-24 age group being post high school and college.

State and Region: The enrollments in the State and Region have increased at a more rapid rate than total population. One reason for this is that persons from 5-24 years of age have been increasing at a more rapid rate than the total population. Table 14 shows school enrollment in the State and Region.

* Persons enrolled in school between the ages of 5-24 totaled about 87,000 in 1950 and 124,000 in 1960 in the region. This is an enrollment increase of about 43% compared to a population increase, ages 5-24, of 22 percent. The biggest change (1950-60) was found in the increase of those enrolled in kindergarten and first grades (5-6 year olds). It showed a 41% increase for the State and almost a 190% increase for the Region. A 35-40% increase was found in enrollments of 7-13 year olds for both the State and Region. Enrollment in high school (14-17 year olds) increased over 19% in the State and 27% in the Region. Persons enrolled in post high school or college (18-24 year olds) rose by over 15% in the State and 13% in the Region. However, dividing the 18-24 age group into 18-19 and 20-24 year olds, it shows that the 18-19 year enrollment increased by over 32% in the State and 44% in the Region while the 20-24 year enrollment actually decreased about 3% for the State and 9% for the Region. This again seems to reflect an increased number of persons enrolled in post high school courses such as those at trade schools, business schools, junior colleges, etc.

In terms of total numbers, the largest amount of students in the school system is found in grades K-8 which in 1950 comprised 43% of the total enrollment for the State and 38% for the Region. By 1960 pupils in these same grades had risen to over 52% for the State and 49% for the Region. High school students in 1950 were about 15-16% of the total for both the State and Region, while for post high school and college it was 6% and 10% for the State and Region. These percentages of total high school and college students remained about the same for 1960.

Region and Counties: Enrollment in grade and junior high school, 1950-60, increased in every county in the region ranging from a low of 10% in Madison County to 72% in Polk County. Much of this increase was due to a tremendous rise of enrollments in kindergarten, first and second grades which ranged from almost 100% to over 300%. Enrollments in high school, 1950-60, increased in every county with the

exception of Madison which showed a 3% decrease. Increases in other counties ranged from about 9% to 34%. Enrollment in post high school and college, 1950-60, decreased in Dallas, Jasper and Warren Counties. Increases in other counties were from 7% to 31%.

In all counties the largest proportion of persons in school were in grades K-8 with high school students being second largest in number.

Appendix 8 shows school enrollment by county.

TABLE 13

YEARS OF SCHOOL COMPLETED
IOWA & CENTRAL IOWA REGION
Persons 25 years old & over

YEARS OF SCHOOL Grade & Jr. High School	IOWA			CENTRAL IOWA REGION		
	1950	1960	1950-60	1950	1960	1950-60
	Population	% Total	Population	% Total	Population	% Total
			Change			Change
1-4	51,405	3.3	38,534	2.5	9,015	3.4
5-7	182,945	11.9	164,462	10.7	27,785	10.5
8	439,305	28.5	374,099	24.3	57,495	21.7
High School						
1-3	239,995	15.6	242,582	15.7	44,175	16.7
4	372,870	24.2	467,013	30.3	72,755	27.4
College						
1-3	126,980	8.3	148,398	9.6	26,005	9.8
4+	77,575	5.1	98,550	6.4	18,935	7.1
Total	1,491,075	96.9	1,533,638	99.5	256,165	96.6
No School or not reported	48,110	3.1	7,695	0.5	9,120	3.4
TOTAL POPULATION	1,539,185	100.0	1,541,333	100.0	265,285	100.0

Source: U.S. Bureau of Census, General Social and Economic Characteristics - Iowa. 1950 & 1960.

TABLE 14

1950-1960 SCHOOL ENROLLMENT
IOWA & CENTRAL IOWA REGION
PERSONS 5-24

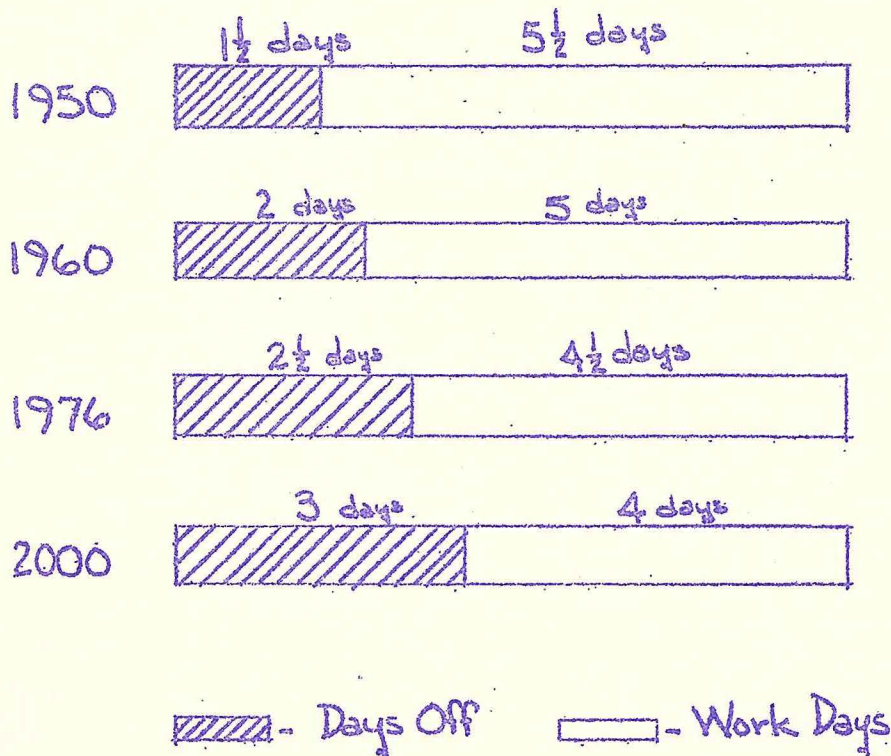
Age of Persons Enrolled	IOWA					CENTRAL IOWA REGION				
	1950		1960		1950-60 %	1950		1960		1950-60 %
	Population	Total %	Population	Total %		Population	Total %	Population	Total %	
5 - 6 years	65,190	8.0	92,208	10.2	+41.4	5,783	4.2	16,733	10.1	+ 189.3
7 - 13	286,045	35.6	384,628	42.3	+34.5	46,810	34.4	65,915	39.6	+ 40.8
14 - 15	72,380	9.2	81,220	8.9	+12.0	11,370	8.4	13,731	8.3	+ 20.8
16 - 17	59,030	7.3	75,893	8.4	+28.6	9,260	6.8	12,522	7.5	+ 35.2
18 - 19	26,185	3.3	34,777	3.8	+32.8	5,650	4.2	8,136	4.9	+ 44.0
20 - 24	24,590	3.1	23,945	2.6	- 2.7	7,800	5.7	7,109	4.3	- 8.8
Total Enrolled	533,420	66.5	692,671	76.2	+29.8	86,673	63.7	124,146	74.7	+ 43.2
Not Enrolled or Not Reported	268,590	33.5	216,309	23.8		49,496	36.3	42,107	25.3	
Total Persons Age 5-24 yrs.	802,010	100.0	908,980	100.0	+13.3	136,169	100.0	166,253	100.0	+ 22.1

Source: U.S. Bureau of Census, General Social and Economic Characteristics - Iowa, 1950 & 1960.

recreation outing which will become the standard of the future recreation activity. All indications are that Americans over the next ten to twenty years will take part in more recreation than ever before in their history.

FIGURE 14

GROWTH IN LEISURE TIME: 1950-2000



MOBILITY

About one in five families move each year.¹² This change and relocation of families has a great effect on our communities. Since 1940, movement of persons within Iowa has accelerated. Persons are moving from farms to towns, from small towns to larger towns, and from large cities to the outlying fringe or suburbs. It is also estimated that about 27,000 persons per year are moving out of Iowa to more urban states. Iowa's gain in the percentage of older age groups (senior citizens) in its population is of considerable significance. No other state has as great a percentage of its people over 65 as does Iowa.

Domestic intercity travel is another method by which mobility can be measured. In 1950 the estimated miles traveled per capita in the United States was 3,000.¹³ The private auto accounted for 87% of these miles, with air and rail 1.7%, and bus 11.3%. In 1960, total miles per capita rose to 4,100 or a 36% increase in ten years. Of this mileage, the automobile accounted for 91% while air, rail and bus combined was 9%. Projecting this trend, it is estimated that in 1976 the travel miles per capita will be 6,700 of which 88% will be by automobile. This is an increase in miles traveled by auto of about 110% over that in 1950 although it is a slightly smaller share of the total per capita miles (88% compared to 91%). The reason for the autos smaller share of total per capita miles by 1976 is the large increase expected in air transportation. From 1950 to 1960 air transportation almost quadrupled in the number of passenger miles. In 1976, the best estimate is that air travel will be nine times greater than it was in 1950. This has considerable significance for increased use of the more distant or remote recreation areas in the country.

If the current proposal by the Federal Government to change the dates of several national holidays so they fall on Mondays is approved, mobility will increase as people take more 3-day holiday weekends. With increased time over weekends people make trips to more distant places primarily by private auto. The continuing increase in per capita travel miles along with more holiday weekends points to increased use of recreation sites. The greatest percent increase in use will probably occur in the more distant or presently less used recreation areas. In the next ten to twenty years, the United States will be thought of as the "land of travelers".

ATTENDANCE RECORDS

A Measure of Past Demand

In the Central Iowa Region there has been a significant trend to greater participation in recreation facilities as a whole. Table 15 as well as figures 15 and 16 indicate this trend. While overall numbers of park users and campers have increased, the number of persons engaged in swimming pool use has remained stable or decreased slightly from 1960 to 1966. See table 16 and figure 17. With the area's rising population, this means that percentage wise, swimming pool use has declined. The overall number of users in several selected areas increased about 13 percent from 1960 to 1966. One of the greatest increases has been in camping, which has increased almost 60 percent (see figure 18) from 1960-1966 with total swimming user attendance actually decreasing nearly 17 percent. This is contrary to national projections.

It has been estimated from projections for selected counties in Central Iowa that participants in recreation facilities will increase about 36% from 1960 to 1980. This may prove to be on the conservative side, since nationally it has been found that the projections made in 1960 for the coming 5 years (to 1965) were actually found to be short by about 50%. Much more information is needed on both total attendance and use of special facilities such as swimming pools, camping, sports areas, etc. for all levels of recreation.

V - CLASSIFICATION OF OUTDOOR RECREATION AREAS

In order to classify recreation areas the definition of each area must be clear. The following are the definitions^{14,15} for outdoor recreation areas as used in the CIRPC recreation inventory.

Field Sports Area: An area developed for activities other than those which are conducted in the water. These include competition games or activities against other persons or against a record or clock. Examples of the latter are racing, trapshooting, etc. These areas are divided into the following types:

1. Ball field - Baseball, softball and football fields with or without lights, may include refreshments stand and equipment building.
2. Playgrounds - This includes children's play activities with some type of equipment (swings, slide, sandboxes, etc.) and permanent live or mechanical rides (ponies, trains).
3. Sports (Other) -
 - a. Ranges - archery, target shooting (still, non-live, and trap) - Skeet and trap layouts or backdrops. (Golf driving ranges are not included.)
 - b. Racetracks - horse, go-cart and automobile racing. (Tracks and arenas for horse shows not included - See Horse Riding areas.)
 - c. Competitive games - badminton, tennis, shuffleboard, horse-shoe pitching, volleyball, basketball, handball, and miniature golf. This includes areas designated as small game areas.
 - d. Winter sports - ice-skating, tobogganing, sledding, and snow skiing. May include shelter houses or equipment buildings.
4. Golf - This consists of private or public courses with 9 or more holes excluding miniature, driving, and practice golf.

Water Sports Area: An area of water suitable for swimming or boating.

1. Swimming - lakes, rivers, outdoor pools, wading pools, accessory sunbathing areas, dressing room facilities, and equipment buildings.

TABLE 15

USER ATTENDANCE AT CERTAIN RECREATION AREAS IN CENTRAL IOWA

<u>LEDGES PARK (State)</u>	<u>TOTAL ATTENDANCE</u>	<u>CAMPING</u>
1950	211,097	390
1955	252,440	1,744
1960	325,470	8,070
1965	385,115	18,571

<u>MARGO FRANKEL WOODS* (State)</u>	<u>TOTAL ATTENDANCE</u>	<u>CAMPING</u>
1950	25,010	NA
1955	10,250	
1960	11,965	
1965	16,371	

<u>LEWIS JESTER PARK (County)</u>	<u>TOTAL ATTENDANCE</u>	<u>CAMPING</u>
1961	55,491	2,264
1963	129,431	3,285
1966	261,830	52,601

<u>DES MOINES CITY PARKS</u>	<u>TOTAL ATTENDANCE</u>	<u>CAMPING</u>
1940	831,441	NA
1950	1,068,238	
1960	1,447,382	
1966	1,418,950	

Source: Iowa Conservation Commission
Polk County Conservation Commission
Des Moines Parks Department

*The figures used here are estimates and the decline in use should not be taken as a major trend in park user attendance. Also, highway reconstruction affected this access to the park between 1955-60.

TABLE 16

USER ATTENDANCE AT CERTAIN MUNICIPAL SWIMMING POOLS IN CENTRAL IOWA

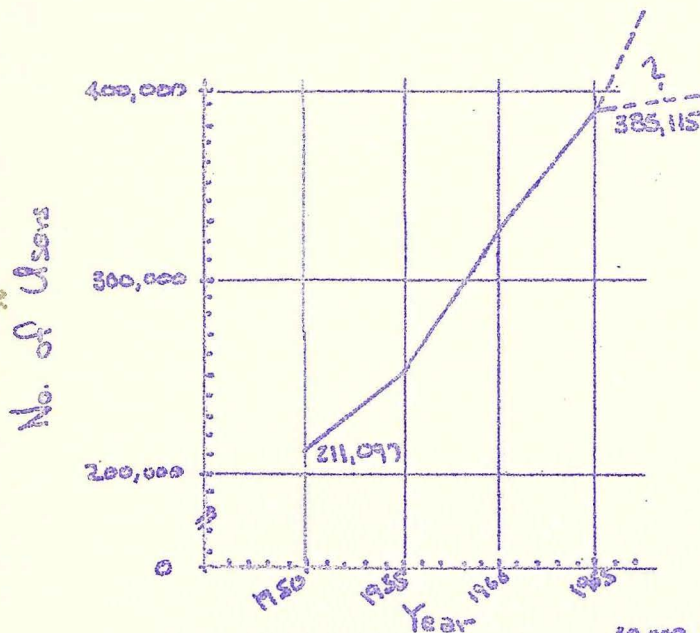
<u>CITY OF DES MOINES</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1966</u>
Ashworth	20,493	38,693	44,047	36,323
Birdland	44,044	70,464	94,379	69,351
Good	7,053	7,049	14,843	15,889
Northwest	NA	NA	118,378	96,210
City of Knoxville	NA	NA	35,289	35,065
City of Marshalltown (1961)	NA	NA	44,324	38,920
TOTAL	NA	NA	351,260	291,758

NOTE: Cities of Winterset and Boone, also surveyed, had no complete figures but reported that attendance had remained level or increased slightly since 1960.

Source: Des Moines Parks Department
City of Knoxville
City of Marshalltown

TREND IN USER ATTENDANCE 3. STATE AND COUNTY AREAS-CENTRAL IOWA

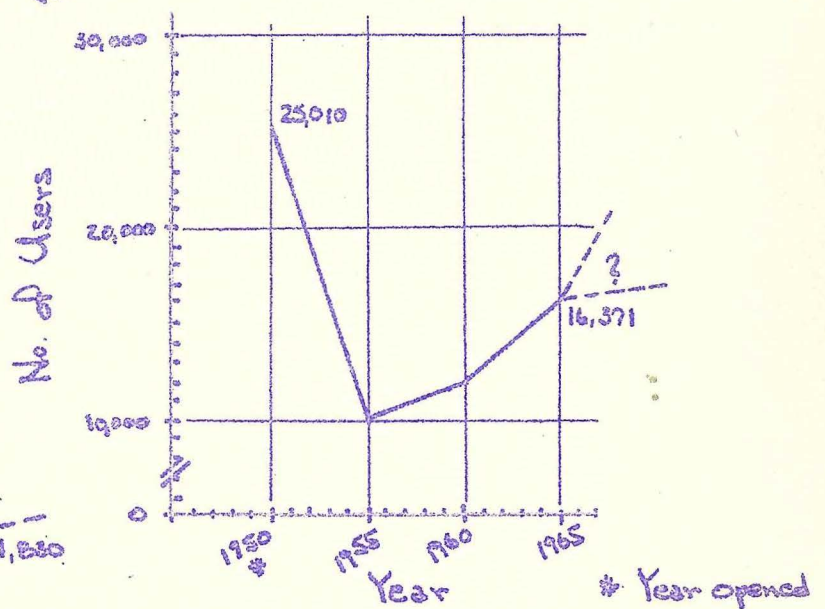
Figure 15



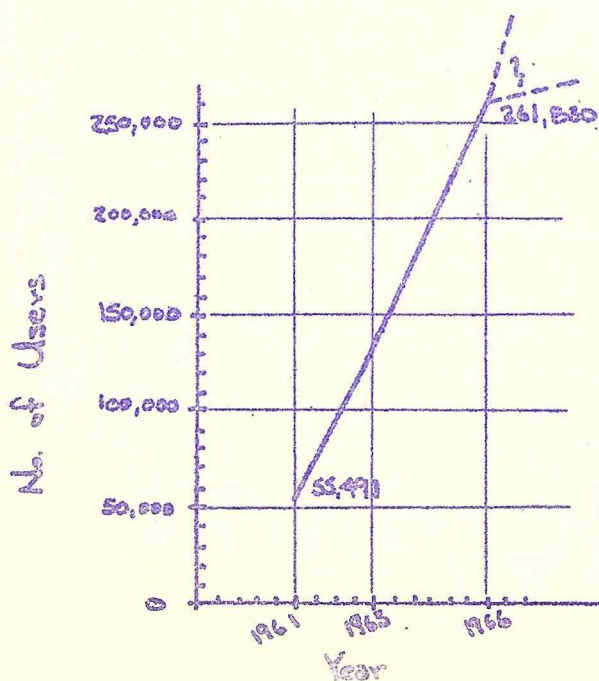
LEDGES PARK
(State)

MARGO FRANKEL WOODS*
(State)

*See note Table 15



LEWIS JESTER PARK
(County)



Source: Iowa Conservation Commission
& Polk County Conservation
Commission

TREND IN USER ATTENDANCE DES MOINES CITY PARKS - CENTRAL IOWA

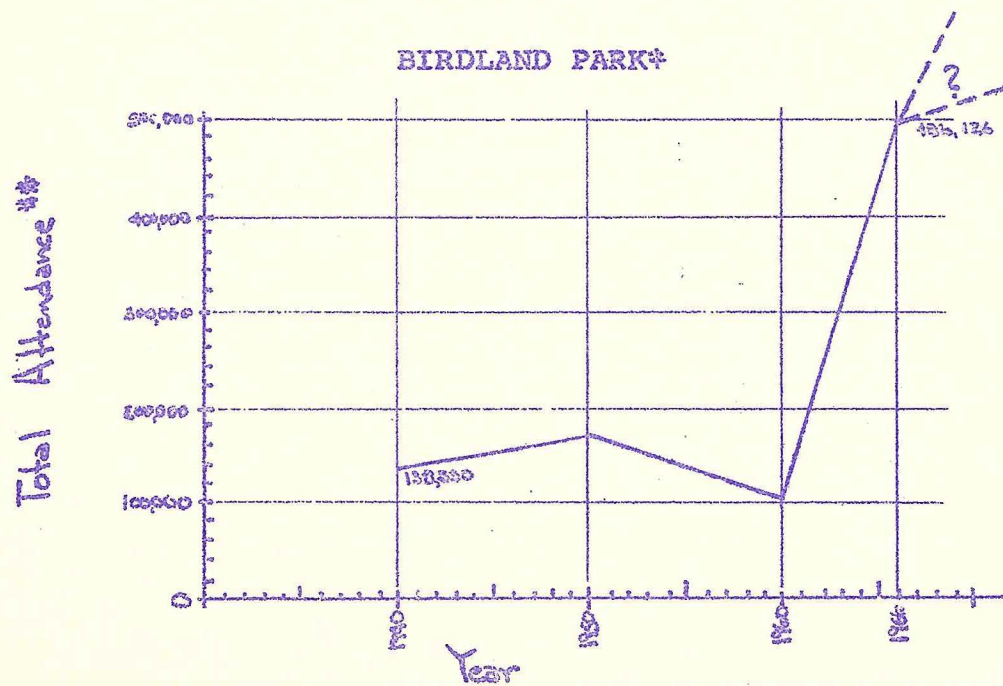
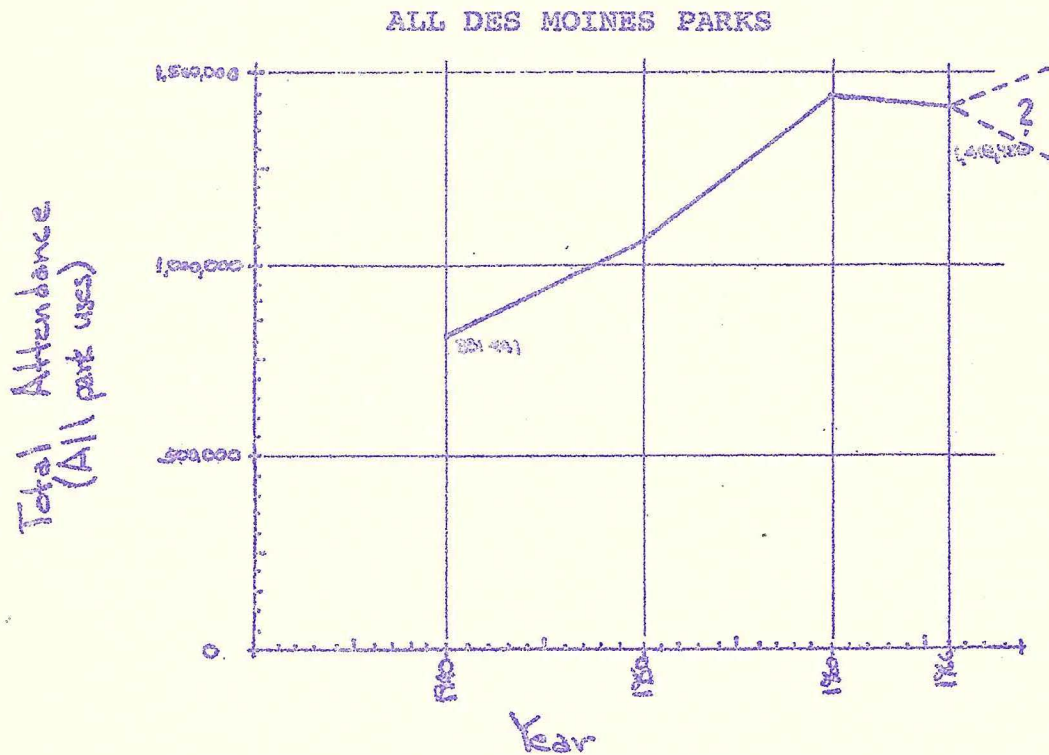


Figure 16

* Represents large city park with swimming pool.

** Does not include shelter users.

TREND IN MUNICIPAL SWIMMING POOL USE FOR 3 CITIES - CENTRAL IOWA

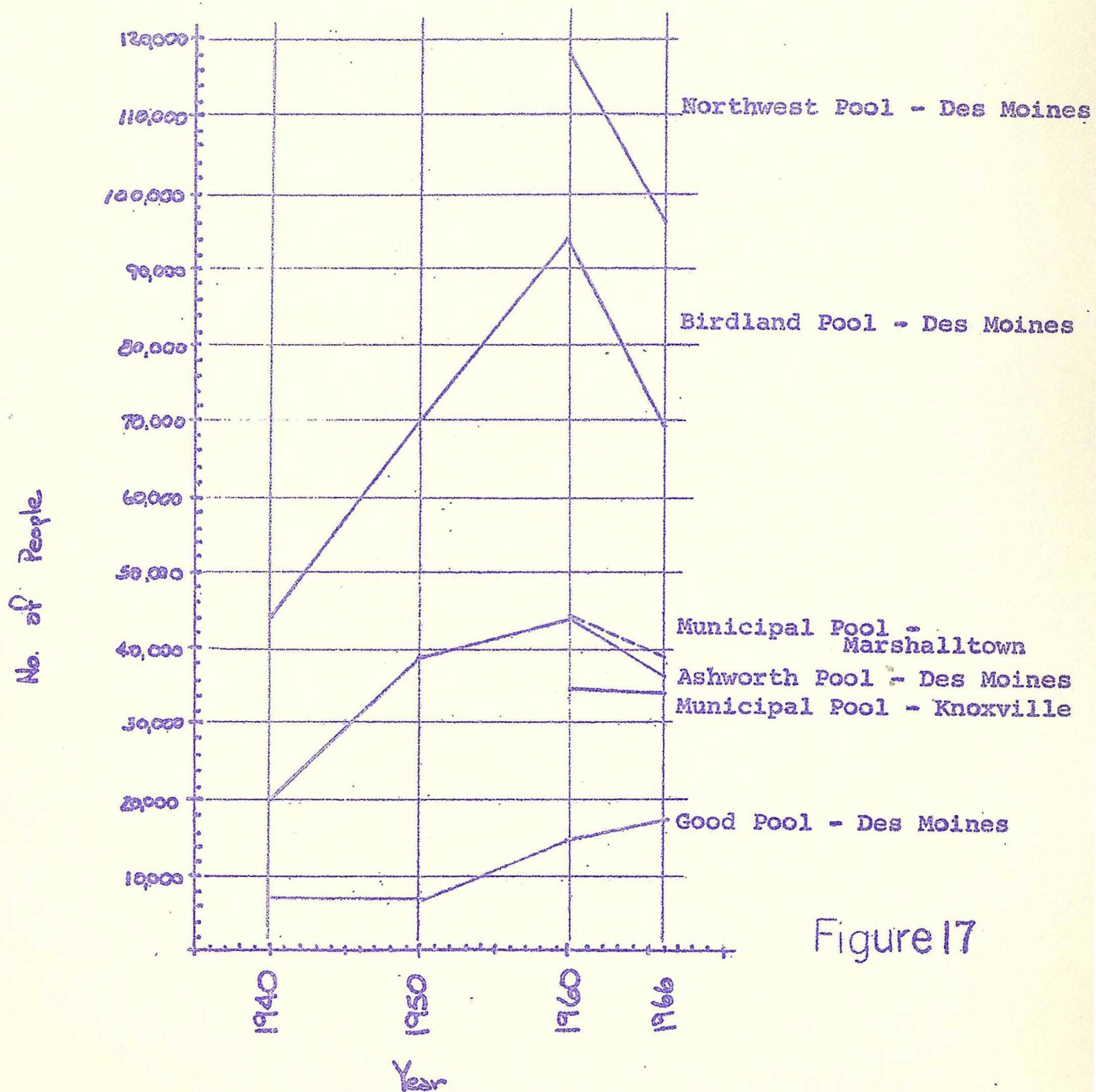


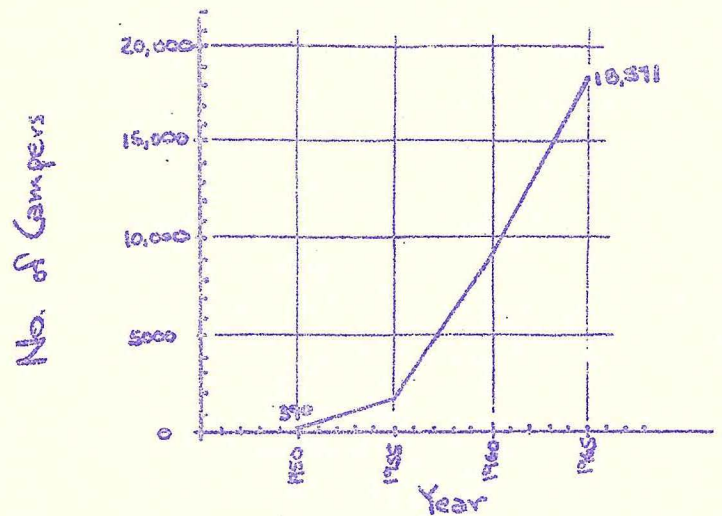
Figure 17

Source: Des Moines Parks Department
City of Knoxville

City of Marshalltown - Parks Department

TRENDS IN CAMPING A STATE AND COUNTY AREA - CENTRAL IOWA

LEDGES PARK (State)



LEWIS JESTER PARK (County)

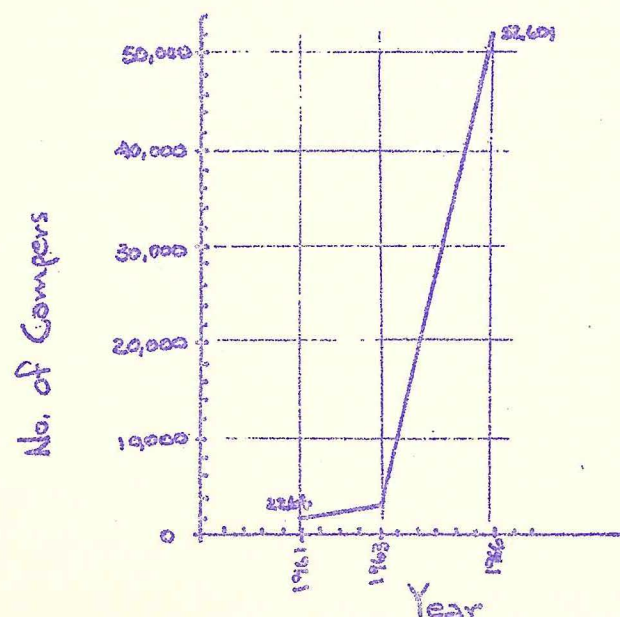


Figure 18

2. Boating - Canoeing, sailing, rowboats, outboard and inboard motor boats, and water skiing (being towed behind a boat on water skis).

Camping Grounds: This includes tents, trailers, or pack camping (living out-of-doors overnight). Also includes formal camps (Boy Scout camp or church camp) and camps when the area is designated as camp grounds. May include some cabins. Highway rest stops are shown in this category.

Picnic Grounds: The space in any designated recreation area (public or private) which is used for preparing and/or eating of a meal out-of-doors. May or may not include the customary facilities - tables, benches, fireplaces, or shelters.

Fishing Areas: Streams, ponds, lakes and rivers which must have natural or stocked fish with adequate access.

Hunting Areas: Land or land and water for hunting wild game including "small game", "large game", and water fowl.

Horse Riding Areas: Riding on horseback only for pleasure includes show tracks or arenas, corrals, and riding trails.

Natural, Scenic, and Historical Areas:

1. Natural Areas - These include primitive areas, natural scenery, wildlife, and nature preserves.
2. View, scenes, wonders - This category consists of exceptional, rare, or unusually distinctive geologic formations, mines, mineral deposits, caves, etc. (An example for Central Iowa would be the rock formations found at the Ledges State Park.)
3. Cultural Areas - Historical sites (restored or preserved), concert platforms including musical, dramatic, artistic, wildlife exhibits, arboretums, or other non-sporting events, but excluding drive-in movies.
4. Hiking - Walking of a substantial nature on foot trails through natural and scenic areas including walking for pleasure with or without a provisions pack.

CLASSIFICATION BY USE

	<u>Use Density</u>
Class I - Local Playgrounds	Medium to High
Class II - Local Park	Medium to High
Class III - Urban Center Park	Medium to High
Class IV - General Outdoor	Low to High
Class V - Natural Environment	Low
Class VI - Primitive Area	Low
Class VII - Historic and Cultural Sites	Low to High

The system used for a general classification of existing recreation areas in the Central Iowa Region has been based on that given by ORRRC in their report, "Outdoor Recreation for America". This classification system was modified by CIRPC to fit the special characteristics of the Central Iowa Region.

Class I - Local Playgrounds are those which primarily serve the surrounding residences and generally include a baseball diamond, play equipment, and in a few cases several picnic tables or a shelter. Example would be the 14th and Duff Playground in Ames or Westside Park in Ankeny.

Class II - Local Parks are those which primarily serve several neighborhoods or an entire small community. As a minimum, they have an area for picnicking plus a playground or some play equipment. An example is Lions Park in Urbandale.

Class III - Urban Center Parks are usually though not necessarily, located within the more densely developed parts of the urban area. They often have specialized facilities and serve a sub-area or section of the main urban area. They also may provide facilities for all kinds of recreation appropriate to the terrain, location, and to the accommodations of a large number of visitors. The high intensity use of this type area is its most distinguishing characteristic. An example of these types of facilities is Birdland Park in Des Moines.

Class IV - General Outdoor recreation areas are based on existing natural resources, e.g., lakes, streams, hills, woods, or rock formations. These areas are used for specific recreation activities for which they are particularly suited. They are developed

irrespective of their location to population or urban areas and generally roads are built to make them reasonably accessible. They may be equipped with a wide variety of man-made facilities in addition to their natural features, which may vary from the simple to the elaborate, i.e. scenic paths or rustic camp sites to complete camp grounds, an animal zoo, or boating docks and services. Although person use is often heavy at times, particularly on week-ends, it seldom has the high intensity use of the Urban Center Park or Local Playground. An example of a General Outdoor area is Ledges State Park near Boone.

Class V - Natural Environment areas are usually quite large in comparison with Class II and Class IV areas. Recreation activities include those which are done in a natural environment, such as hunting and fishing, with few or no man-made facilities. Scattered rather than concentrated use is normal for this type of area. An example is Chichaqua Wildlife area in Polk County.

Class VI - Primitive Areas are open only to such developments and uses as will not interfere with their undisturbed and primitive character. These areas alone satisfy the longing to leave behind for a time all contact with civilization. An example is Barkley Memorial Park (forest preservation) in Boone County.

Class VII - Historic and Cultural Sites are associated with the history, tradition, or cultural heritage of the Nation, region, or locality. Examples are Salisbury House in Des Moines or the Wyatt Earp Home in Pella.

The majority of parks inventoried seem to be within Class II (Local Parks). Only three or four areas can be considered as primitive areas in the region. Most private, county and state parks fall into Class IV (General Outdoor recreation areas). The parks of the larger cities in the region (Des Moines, Marshalltown, Ames, etc.) make up the bulk of the Class III grouping.

Class VII (Historic and Cultural Sites) facilities are a small part of the total recreation picture. They are widely scattered throughout the region and comprise only a fraction of the total recreation land. However, their recreation importance should not be underestimated.

VI - INVENTORY OF RECREATION AREAS

For an inventory of recreation areas in Central Iowa, refer to the Central Iowa Regional Planning Commission's report entitled "Recreation Resources in Central Iowa", July 1967, 2 volumes. The report contains a summary of the recreation areas in Central Iowa as of 1967. In preparing the report, all known resources of recreation information were reviewed plus a county-by-county field survey in order to check on existing areas and to locate new ones. A total of 440 recreation areas were located. A brief description of each area's size, physical features, location, and main facilities, plus an individual sketch map, is provided for each area. The areas are listed according to divisions of Federal, State, municipal and private areas. A summary map of the existing recreation areas in the Region is included at the end of this report.

Among the 440 recreation areas surveyed, a wide range of facilities were found.

1. Sports activities were the largest in number consisting of: football; baseball; handball; basketball; tetherball; volleyball; soccer; tennis; badminton; shuffleboard; roller skating; ice skating; hockey; fishing; hunting; horseshoes; water skiing; swimming (pool or beach); winter skiing; tobogganing; sledding; horseback riding; hiking; climbing; golf (miniature, driving, par 3, and regulation); archery; skeet shooting; trap shooting; motorcycling; drag and auto racing; boating; and canoeing.
2. Pleasure oriented activities consisted of: driving; sightseeing; camping, picnicking, nature study; historic and special interest areas; cultural events; wildlife study; wading, walking; bicycling; dancing; cook-outs; and amusements.

The location of certain recreation types within the region is not always consistent with the areas of greatest population (demand). In other cases, the clustering of facilities has occurred where the demand was greatest or there was a favorable community recreation environment. As would be expected, the largest population concentrations were found to enjoy a wider variety of recreation facilities. Certain recreation facilities such as those for picnicking, are available at a fairly high level throughout the region, while others such as baseball diamonds and swimming pools are grouped more at the urban areas.

Tables 17 and 18 give a general picture of how the 440 recreation areas are distributed throughout the Region. It is worthy to note that the number of municipally owned areas are consistently greater in number (45% to 65% of the total) within each county, except Boone County, where privately owned areas account for 56% of the total areas. For the Region as a whole, municipal areas comprise 51% of the total areas, privately owned 31%, State or Federal 10%, and County 8%.

Table 19 compares the number of existing, selected facilities in each County to its population. This was done in order to give an indication of the availability of these facilities to the residents of each County, plus a rough comparison between the counties of the region as to the extent these facilities were provided. For example, in Boone County the availability of swimming pools would appear to be greater than in any other county with one pool per 1,800 persons. Polk County, the most urbanized county, has the largest person base per facility in every type of recreation except ball-fields and sports areas. This would tend to indicate that the opportunities for the recreation uses listed are less than in the other counties. It also, most likely, means a higher user rate for these facilities. This lack of availability for Polk County may be especially true for recreation which requires large areas (hiking, boating, hunting). It appears that for these recreational activities, Polk County residents travel outside the county.

For the region as a whole, those activities which require the greater land area (golf, hiking, boating, hunting) are those which have higher population per facility ratios. One important reason for this is that for these types of recreation there are fewer participants within the population, than there are participants for picnicking, driving for pleasure, etc. This has been found to be particularly true in studies made for golf courses, where a population of from 15,000 to 20,000 persons seems necessary in order to properly support a regulation golf course. Picnic areas have a low population per facility ratio of one for each 1,629 persons. As noted earlier, the availability of picnicking facilities is good throughout the Region.

Table 20 shows the amount of recreation land and water by type by County. The large acreage for water shown for Polk and Marion Counties is due to the large Red Rock and Saylorville conservation projects being built by the Federal Government. State, county, municipal and private water acreage decreases at each level respectively. Land acreage is greatest for Federal areas and decreases in acreage from State areas to private, municipal and county areas, respectively.

Although the development of the Red Rock and Saylorville projects within the Region greatly increases its amount of surface waters, it should be kept in mind that the use of the land and water within these projects for recreation purposes is limited. The main purpose of these projects is the storage of flood waters, and the maintenance of stream levels during dry periods. Any recreation use of the water, for example, will depend on the changes which take place in the water levels due to the need to store or release water in accordance with the primary purpose of these projects.

TABLE 17RECREATION AREAS IN CENTRAL IOWA BY OWNERSHIP
AND BY COUNTY - 1967

<u>LOCATION</u>	<u>TYPE AND NUMBER</u>					
	<u>Federal</u>	<u>State</u>	<u>County</u>	<u>Municipal</u>	<u>Private</u>	<u>Total</u>
Boone County	0	4	2	9	19	34
Story County	1	7	5	35	15	63
Marshall County	0	1	8	20	7	36
Dallas County	0	3	1	19	14	37
Polk County	1*	11	9	76	41	138
Jasper County	0	6	1	17	15	39
Madison County	0	2	4	11	8	25
Warren County	0	3	1	22	8	34
Marion County	2*	3	4	16	9	34
	—	—	—	—	—	—
TOTAL CENTRAL IOWA	4	40	35	225	136	440

Source: CIRPC Recreation Survey, February-May 1967.

* Includes Red Rock and Saylorville Reservoirs which lie partly in other counties.

TABLE 18

PERCENT OF RECREATION AREAS BY OWNERSHIP
BY COUNTY - 1967

<u>LOCATION</u>	<u>PERCENT</u>					
	<u>Federal</u>	<u>State</u>	<u>County</u>	<u>Municipal</u>	<u>Private</u>	<u>Total</u>
Boone County	0	12	6	26	56	100
Story County	2	11	8	55	24	100
Marshall County	0	3	22	56	19	100
Dallas County	0	8	3	51	38	100
Polk County	1*	8	6	55	30	100
Jasper County	0	16	2	44	38	100
Madison County	0	8	16	44	32	100
Warren County	0	9	3	65	23	100
Marion County	6 *	9	12	47	26	100
	—	—	—	—	—	—
TOTAL CENTRAL IOWA	1	9	8	51	31	100

Source: CIRPC Recreation Survey, February-May, 1967.

* Includes Red Rock and Saylorville Reservoirs which lie partly in other counties.

TABLE 13

RECREATION FACILITIES PER CAPITA BY COUNTY

REGIONAL
AVERAGE

	BOONE	DALLAS	JASPER	MADISON	MARION	MARSHALL	POLK	STORY	WARREN	REGIONAL AVERAGE
Swimming Pools	1/1,800	1/8,000	1/5,880	1/6,147	1/12,943	1/18,992	1/24,000	1/16,442	1/10,414	1/11,624
Baseball Diamond	1/1,200	1/3,000	1/3,920	1/4,098	1/4,314	1/3,798	1/3,370	1/1,644	1/2,975	1/3,146
Sports Areas	1/1,900	1/800	1/11,760	1/12,295	1/6,471	1/3,798	1/3,000	1/2,348	1/10,414	1/5,865
Golf Courses	1/14,000	1/24,000	1/17,641	1/12,295	1/6,471	1/18,992	1/24,000	1/16,442	1/20,829	1/17,186
Camping Areas	1/1,600	1/1,600	1/5,880	1/3,073	1/5,177	1/1,582	1/24,000	1/4,484	1/3,471	1/5,651
Picnic Areas	1/1,400	1/1,300	1/1,960	1/768	1/1,725	1/1,999	1/2,250	1/1,370	1/1,893	1/1,629
Fishing Areas	1/3,000	1/5,000	1/5,880	1/3,073	1/6,471	1/9,496	1/10,600	1/8,221	1/5,207	1/6,327
Hiking Areas	1/2,000	0/24,123	1/17,641	1/6,177	1/25,886	1/12,600	1/44,300	1/16,442	1/10,414	1/19,949
Boating Areas	1/4,000	1/8,000	1/7,056	1/3,073	1/25,886	1/37,984	1/88,800	1/9,865	1/20,829	1/22,832
Hunting Areas	1/28,037	1/24,000	1/8,820	1/2,459	0/25,886	0/37,984	1/88,800	1/49,327	1/20,829	1/40,877

Source: CIRPC Recreation Survey, February-May 1967.

TABLE 20

	FEDERAL		STATE		COUNTY		MUNICIPAL		PRIVATE		TOTAL	
	LAND	WATER	LAND	WATER	LAND	WATER	LAND	WATER	LAND	WATER	LAND	WATER
BOONE COUNTY	---	---	1643	10	450	160	294	---	3552	15	5939	185
											6124	
DALLAS COUNTY	---	---	168	5	---	---	153	9	1120	11	1441	25
											1466	
JASPER COUNTY	---	---	2664	806	---	---	209	10	517	22	3390	838
											4228	
MARION COUNTY	37012	9000	267	10	1148	70	200	9	285	5	38912	9094
											48006	
MADISON COUNTY	---	---	1122	284	27	*	373	90	363	7	1885	381
											2266	
MARSHALL COUNTY	---	---	107	10	330	3	383	7	284	3	1104	23
											1127	
WARREN COUNTY	---	---	1495	174	10	---	151	5	568	*	2224	179
											2403	
STORY COUNTY	95	---	984	78	282	116	444	8	612	38	2417	240
											2657	
POLK COUNTY	19500	5500	1051	13	1986	254	4574	231	1785	187	28896	6185
											35081	
TOTAL	56,607	14,500	9,501	1,390	4,233	603	6,781	369	9,086	288	86,208	17,150
	71,107		10,891		4,836		7,150		9,374		103,358	

AMOUNT OF RECREATION LAND BY TYPE, BY COUNTY

VII - CRITERIA AND STANDARDS

This section summarizes the general function, sizes and access characteristics for the several levels of public parks and for private areas as they have developed in the past, a comparison of the characteristics for these existing types in Central Iowa, plus suggested goals for future recreation and open space to meet the rapidly growing demand of the next 20 to 30 years.

Function and Size

* State Areas: State parks are generally regional in service area with a size standard of from 10 to 45 acres per 1,000 people. They can be either high density areas characterized by a high degree of facility development; primitive areas, undeveloped and removed from the sights and sounds of civilization; or areas with some type of intermediate development.

The accessibility and physical features of State parks depends primarily on their functions. For example, the highly developed parks do not necessarily have to be built on interesting land forms, but they usually are provided with good access roads and are near a main highway. Primitive areas, on the other hand, need only have fair access, but should be developed in naturally secluded, scenic, or wooded places. Mostly, the density of use determines the quality of access for State areas.

In the Central Iowa Region, State parks range in size from small (3/4 acre) to very large (over 2,000 acres). No size "norm" was apparent in the survey of the 40 State areas located in Central Iowa. It appears that the size of each depended on the availability and price of the land at the time of purchase, plus the anticipated function of the area. The extent and prominence of major physical features also determined the size of some State areas. Examples of physical features being the major determining factor are the Ledges, Rock Creek, and Lake Ahquabi. Each is oriented to certain "natural" land forms - a river valley with limestone ledges, a stream valley with high rock outcrops, or a natural lake. Most State parks, because of their relatively large size, function as regional parks and are designed to accommodate large numbers of people and a broad range of recreation activities.

State roadside areas are relatively small and are designed as a rest area for automobile travelers. To this end, they function well.

State fishing and/or hunting access areas, range from 10 acres to

over 1,200 acres in size. Since their function is to allow access to the region's water or wildlife areas, they are located along rivers, at lakes, at wildlife sanctuaries such as the Pella Game Area (abandoned strip mine), and along or near swamps, marshes, or flood plains. Facilities in these areas are kept very limited or are non-existent. Boating is permitted where water depth is adequate. Some areas allow both hunting and fishing and these are generally much larger than the areas that allow fishing only. Hunting requires a large land area.

The other category of State areas are those with special uses. The State Capitol Grounds or Iowa State University biological areas fall into this category. These areas are important as providers of "open space". Those which provide for recreation do it as an accessory use. There are only a few of these special use areas in the region and they vary in size according to their main function.

County Areas: County parks are mostly provided at a standard of from 10 to 50 acres per 1,000 people. Their service area is generally considered to be that of the county. Their primary role seems to be to provide recreation areas lying in size between the larger State areas and the smaller areas of the city or town. Their function is a broad range of uses oriented to families and groups who are seeking open space and outdoor activity related to natural environment.

Smaller county parks (neighborhood oriented) may also be provided in the more densely populated parts of the county, which lie adjacent to the central city.

The access to county parks, as with State parks, depends on their intensity of use. Areas with high use rates should have access from one or two paved roads and be near a main highway. In general, access to the region's existing county parks seems to be adequate. Almost all of the county recreation areas are located along or within a few miles of a State or main County highway.

The County recreation facilities in Central Iowa can be broken down into four categories:

- Fairground and roadside parks - 3/4 to 35 acres in size
- Fishing accesses and local county parks - 30 to 80 acres
- County-wide parks - 100 to 600 acres
- Game preserves - 900 to 1,200 acres

In general, the large county parks have a greater variety of facilities and more interesting physical features. This is as it should be since these parks generally serve a larger area and a more varied public. The small County parks and fishing accesses were built to serve only

local needs or limited number of users within the county, and consequently, have fewer facilities.

Brief mention should be made of the Pershing Mine area (900 acres) in Marion County and Chichaqua Game Preserve (1200 acres) in Polk County. Both these areas are game preserves whose primary use is hunting. The size of these areas was probably determined by the extent of the strip mine operation in one case and by the natural flood plain in the other. Both areas are quite primitive and have a low user rate which is in keeping with their basic purpose.

Municipal Areas: Municipalities including cities, towns, and school districts are primarily responsible for the establishment, development, programming, and supervision of public recreation areas and facilities to meet the needs of local residents for frequent, short-term, or extensive use. Generally, accepted standards for municipal parks are 7-10 acres per 1,000 people. Access is usually by city streets and access to the region's existing municipal parks is generally good.

Of the 230 municipal parks in the Central Iowa Region, there are three types which emerge:

- Neighborhood and Play Lot parks - 1/2 acre to 15 acres in size
- City-wide parks - 15 to 200 acres
- Water Supply or special areas - 20 to 1,400 acres

The great majority of municipal parks fall in the neighborhood category and are about 5 acres in size. This type usually has a small picnic area, a play field or playground with equipment, and in some cases a wading pool.

City-wide parks have an average size of about 50 acres. The larger cities of the region such as Ames and Des Moines have these type of parks. They usually have a wide range of recreation facilities such as swimming pools, large picnic areas, concert areas, pavillions or shelters, zoos, etc.

There are two large municipal water supply areas, both about 1,400 acres in size. These are Moffit Impounding Reservoir and Denman Woods Waterworks Park, both belonging to the City of Des Moines. Although they are large in size, their recreation use is limited to picnicking, horseback riding, and nature study.

Private Areas: According to the ORRRC, "the most important single force in outdoor recreation is private endeavor - individual initiative,

voluntary groups of many kinds, and commercial enterprise."

Private operations furnish a wide variety of opportunities such as golf and country clubs, resorts and camping areas, boat launching sites, riding stables, etc. The private recreation section in Central Iowa operates 136 separate areas with many types of recreation, ranging in size from one acre to over 1,000 acres.

The development and amount of land used in these areas depends mostly upon the desires of the owner or private group and the degree to which the public is willing to pay for the recreation offered. Within the scope of this study, it was not possible to determine general standards for the wide variety of private recreation areas now in use.

Access Standards

The time involved to get to recreation areas is considered the distance-time factor. Most people are willing to drive at least one-half hour to recreation areas on week days. This would be a distance of up to 30 miles with a range of between 20-35 miles being the most common. On weekends, however, surveys show that 200-250 mile distances are not uncommon for people to drive for recreation. The average weekend driving distance for recreation is about 100-150 miles.

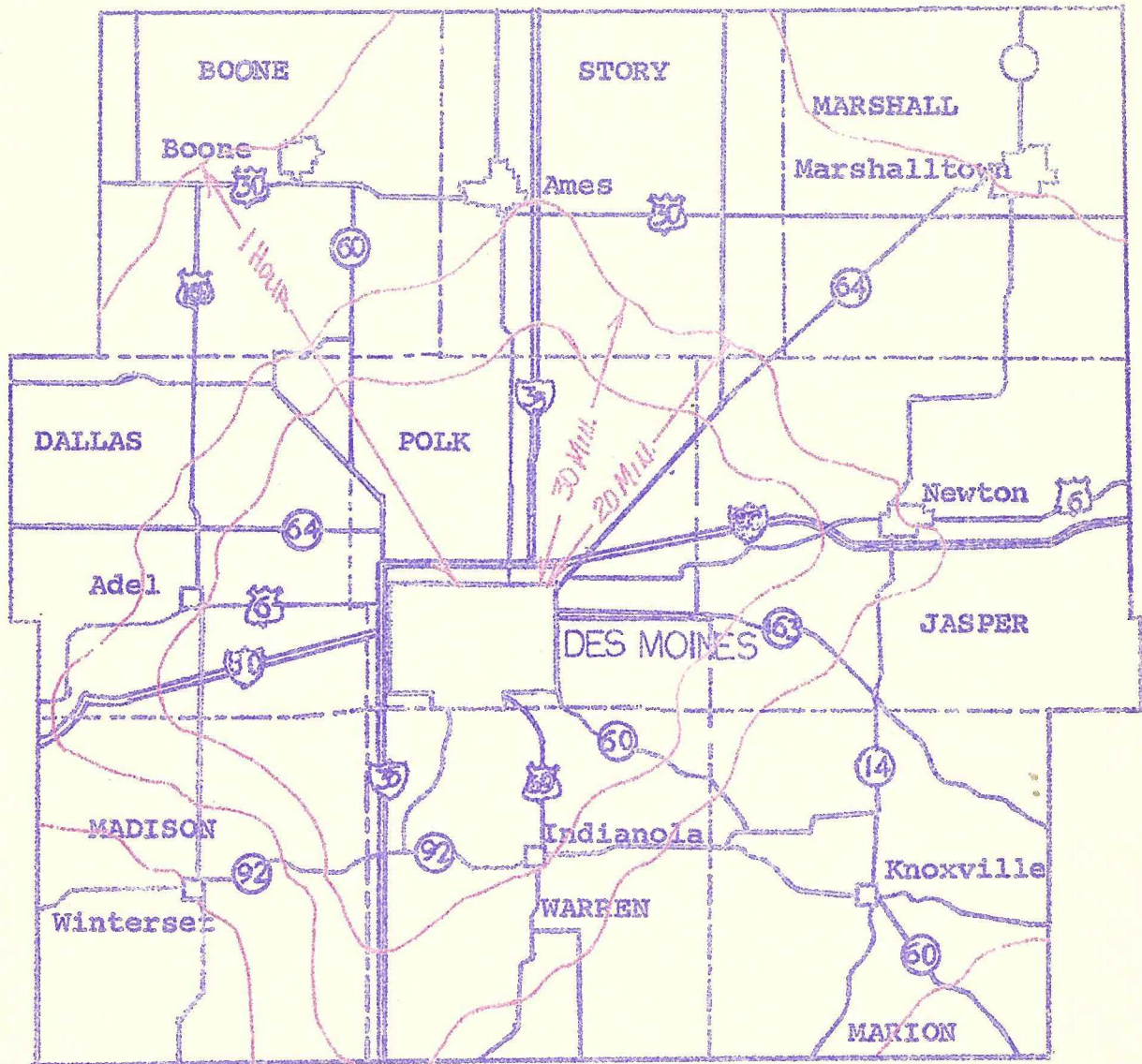
Most Des Moines residents, under normal conditions, can reach slightly under 40% of the recreation areas in the region in 20-minutes driving time and 50% of the areas in 30 minutes. This rather high percentage is due to the number of municipal recreation areas in the greater Des Moines area. Over one-fourth of the total regional municipal recreation areas are located in Des Moines and contiguous incorporated areas. Also, over 42% of the private recreation areas in the region are located within 20-minutes driving time of most of the greater Des Moines residents.

In comparison, most residents of Ames are within 20-minutes driving time of 15% of the total recreation facilities in the region and within 30-minutes driving time of 22%. Residents of Boone are 20-minutes driving time from 10% and 30-minutes from 20% of the region's recreation areas. Marshalltown, Newton and Indianola can reach with a 20-minute driving distance, on the average, 8% of the total recreation areas and in a 30-minute driving distance reach 13% of the areas.

Assuming that people are willing to drive from 100-150 miles on weekends, any recreation area in the region would be accessible to all residents of the region.

For further information on recreation areas within 20 and 30 minute travel zones, see Table 21. Also, Figures 19 through 24 show travel time distance rings for each of the selected cities in Table 21.

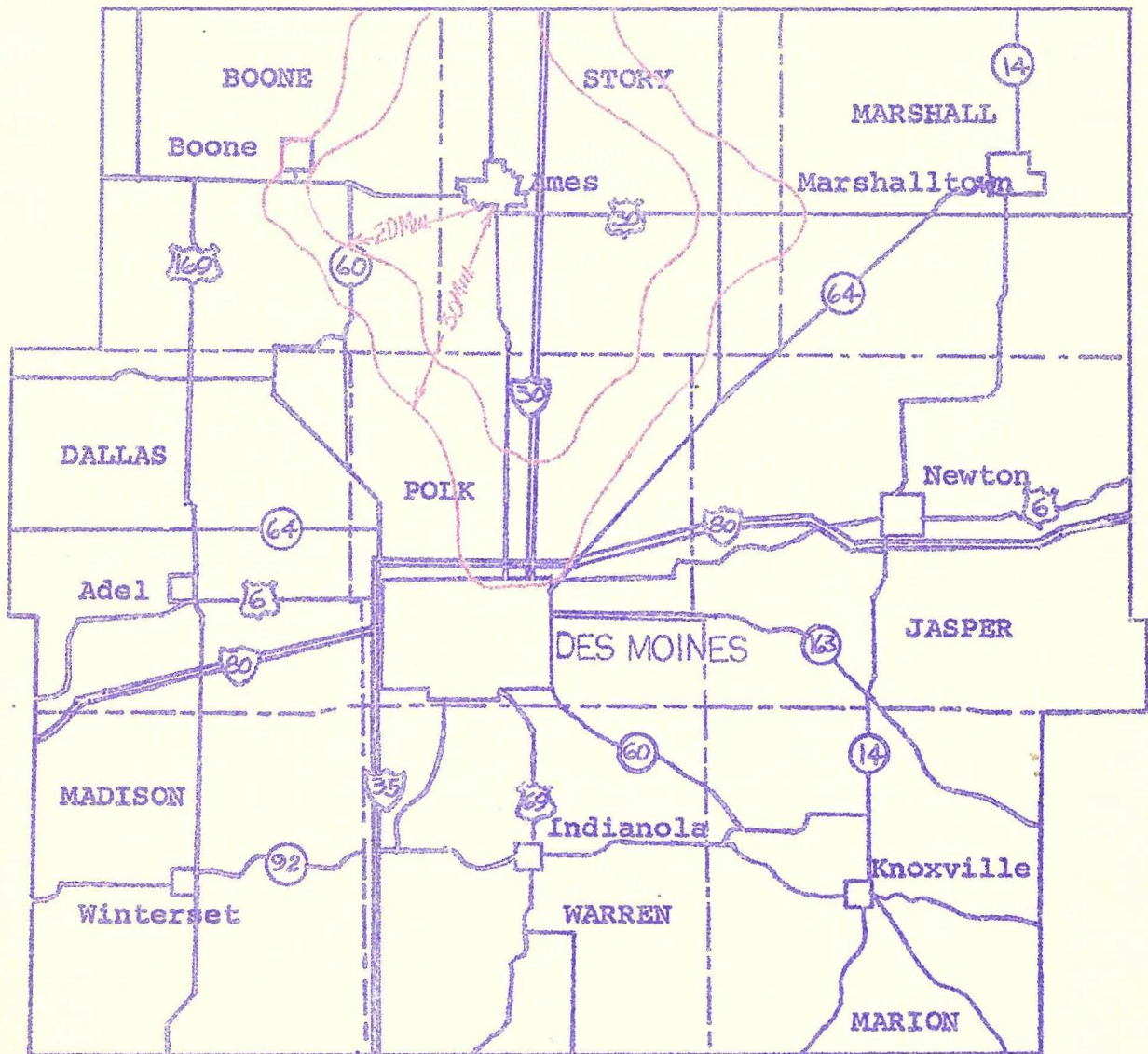
TRAVEL TIME ZONES FOR DES MOINES, IOWA



Source: Estimated by Staff, CIRPC, from main highways and posted speed limits.

FIGURE 19

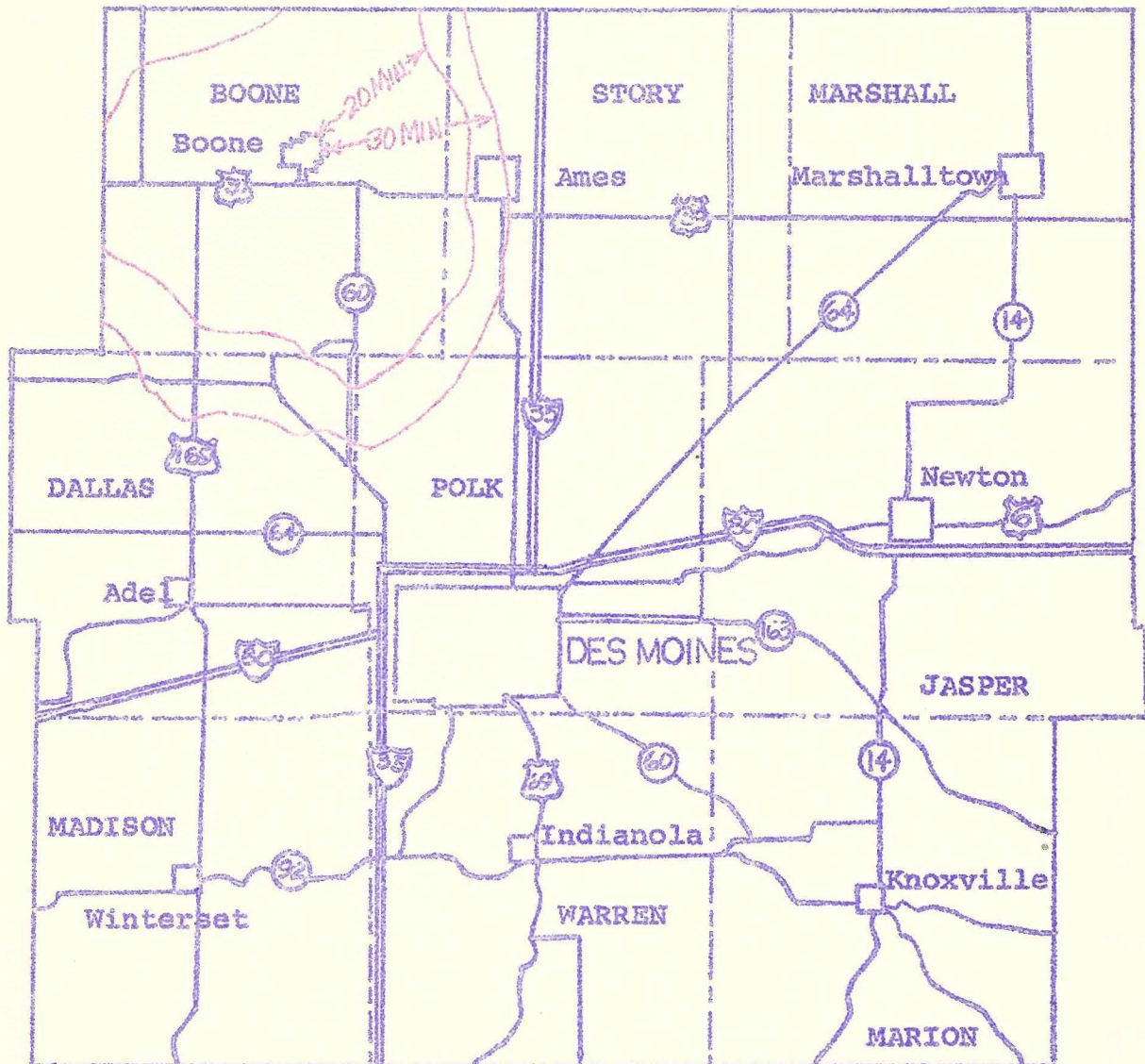
TRAVEL TIME ZONES FOR AMES, IOWA



Source: Estimated by Staff, CIRPC, from main highways and posted speed limits.

FIGURE 20

TRAVEL TIME ZONES FOR BOONE, IOWA



Source: Estimated by Staff, CIRPC, from main highways and posted speed limits.

FIGURE 21

TRAVEL TIME ZONES FOR MARSHALLTOWN, IOWA

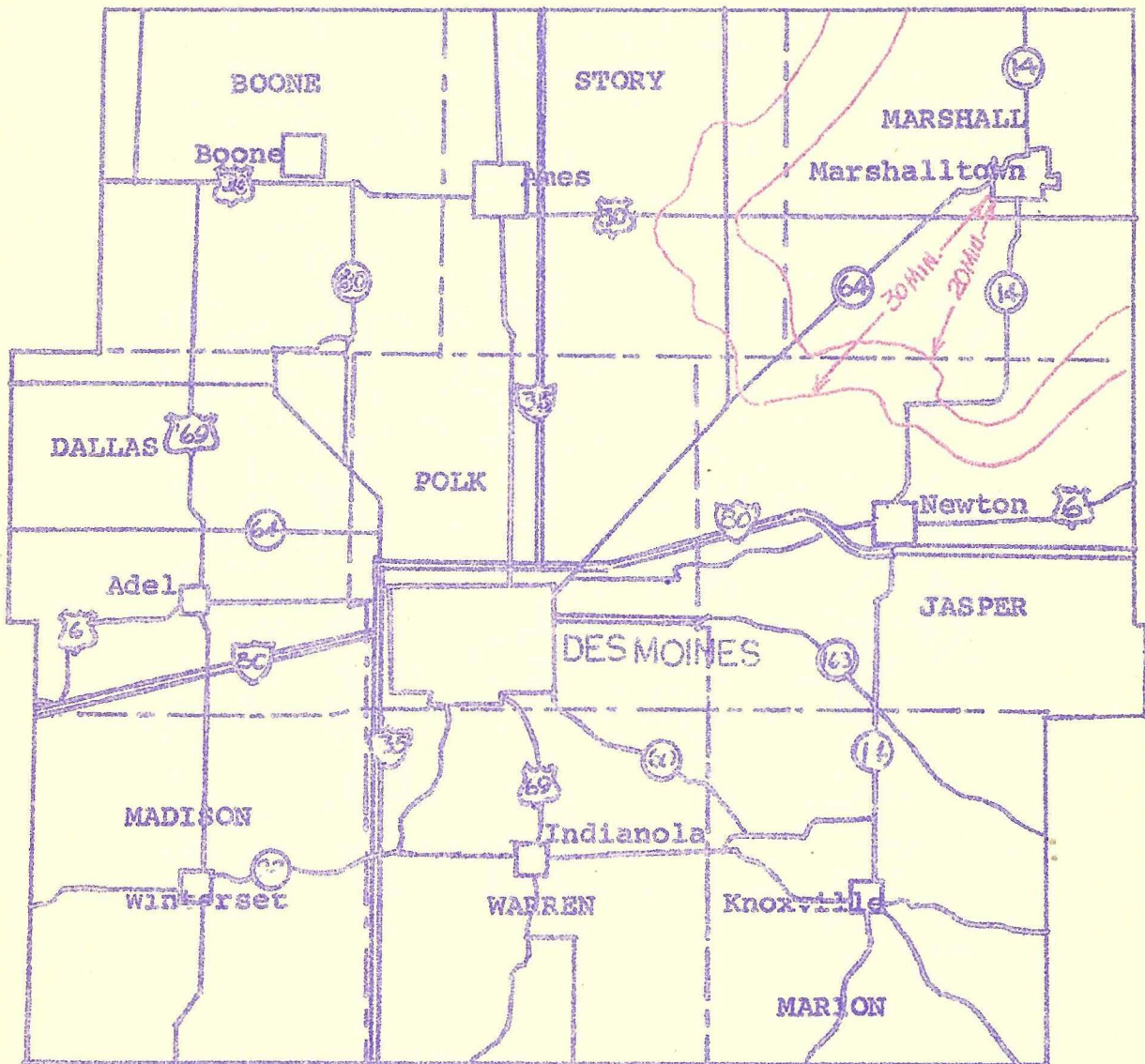
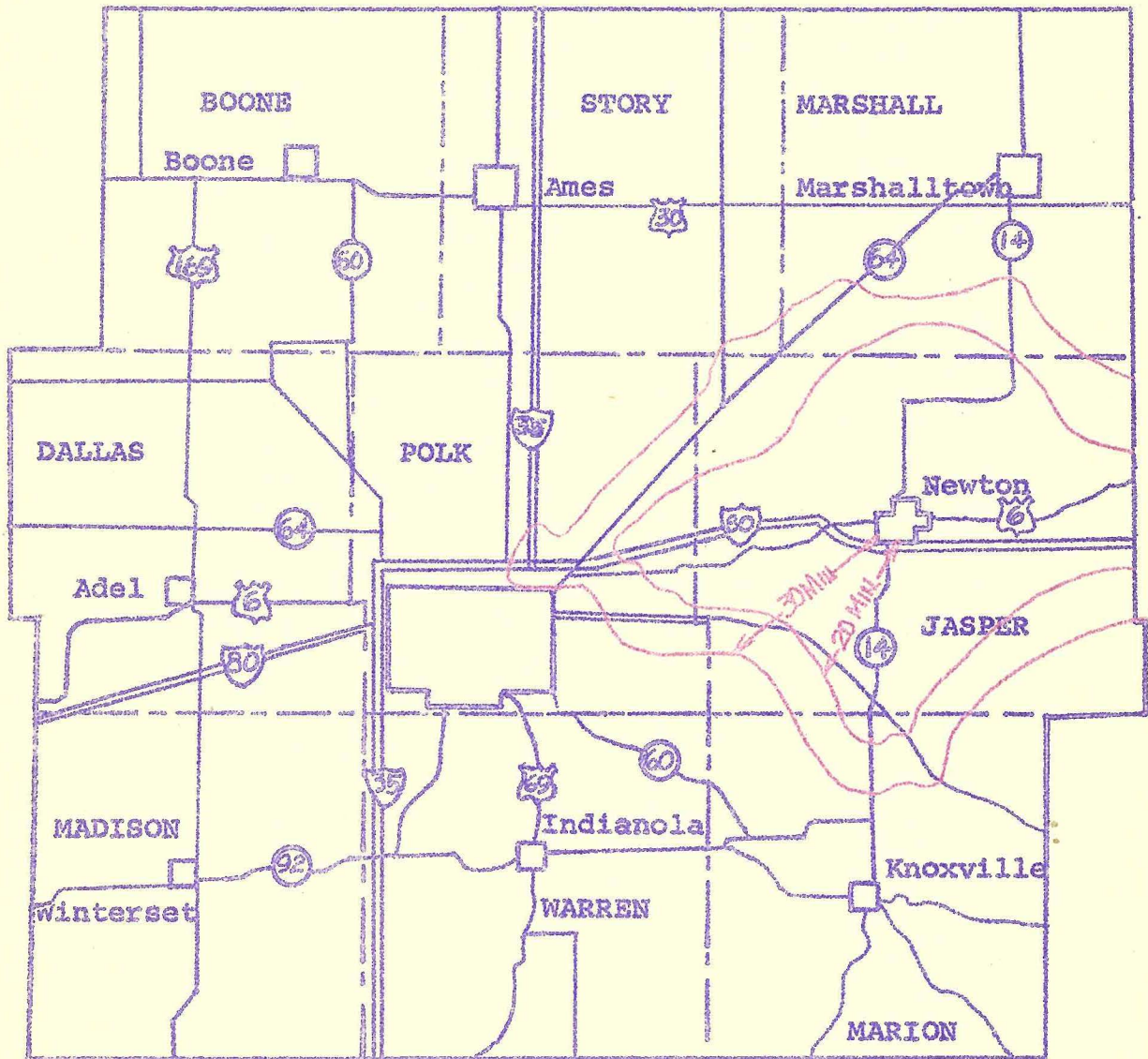


FIGURE 22

Source: Estimated by Staff, CIRPC, from main highways and posted speed limits.

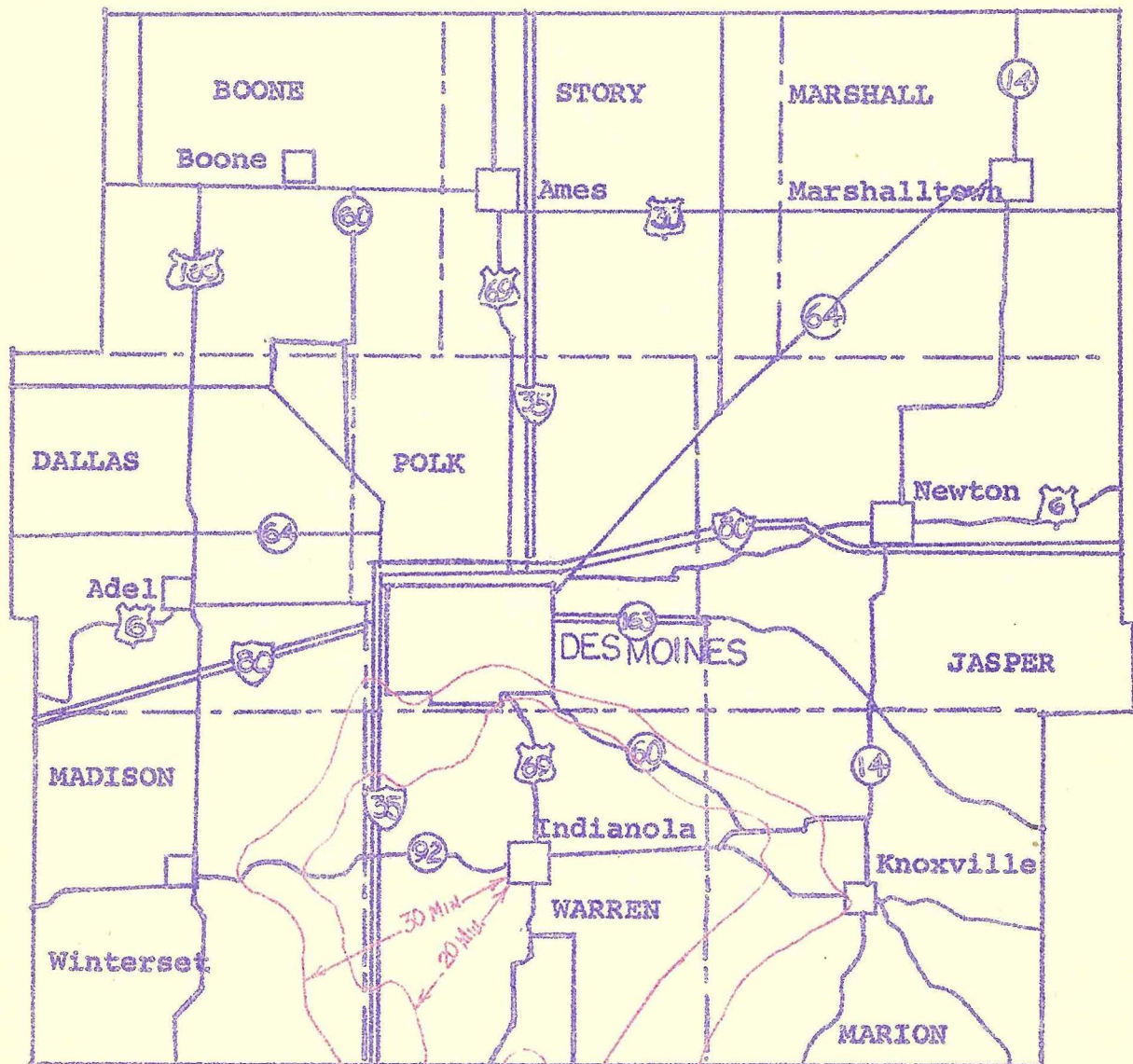
TRAVEL TIME ZONES FOR NEWTON, IOWA



Source: Estimated by Staff, CIRPC, from main highways and posted speed limits.

FIGURE 23

TRAVEL TIME ZONES FOR INDIANOLA, IOWA



Source: Estimated by Staff, CIRPC, from main highways and posted speed limits.

FIGURE 24

TABLE 21

RECREATION AREAS WITHIN TRAVEL ZONES
FOR SELECTED CITIES IN CENTRAL IOWA

	20 MIN. TRAVEL TIME						30 MIN. TRAVEL TIME					
	Fed. & State	County	Munici- pal	Priv.	Total	%Total Req. Rec. Areas	Fed. & State	County	Munici- pal	Priv.	Total	%Total Req. Rec. Areas
Des Moines												
Within City	2	0	49	17	68	15.7	2	0	49	17	68	15.7
Outside City	11	11	42	39	103	23.8	16	11	64	58	149	34.5
Total	13	11	91	56	171	39.5	18	11	113	75	217	50.2
Ames												
Within City	4	0	19	3	26	6.0	4	0	19	3	26	6.0
Outside	5	4	14	14	37	8.6	10	6	33	22	71	16.4
Total	9	4	33	17	63	14.6	14	6	52	25	97	22.4
Boone												
Within City	0	1	4	1	6	1.4	0	1	4	1	6	1.4
Outside City	7	1	11	18	37	8.6	10	4	34	28	76	17.6
Total	7	2	15	19	43	10.0	10	5	38	29	82	19.0
Marshalltown												
Within City	0	1	11	2	14	3.2	0	1	11	2	14	3.2
Outside City	1	7	8	2	18	4.2	3	9	10	3	25	5.8
Total	1	8	19	4	32	7.4	3	10	21	5	39	9.0
Newton												
Within City	0	0	4	1	5	1.2	0	0	4	1	5	1.2
Outside City	8	2	10	13	33	7.6	9	5	17	15	46	10.6
Total	8	2	14	14	38	8.8	9	5	21	16	51	11.8
Indianola												
Within City	0	0	10	0	10	2.3	0	0	10	0	10	2.3
Outside City	3	2	13	11	29	6.7	4	6	27	28	65	15.0
Total	3	2	23	11	39	9.0	4	6	37	28	75	17.3

Source: Calculated by Staff, CIRPC.

VIII - PRELIMINARY REVIEW OF RECREATION NEEDS

Within the Central Iowa Region there is, at present, a total of approximately 103,000 acres of public and private lands for recreation and open space use. Of this, about 17,000 acres, or 17%, is water area. It is important to bear in mind that over 71,000 acres or 69% of the total 103,000 acres, and 14,500 acres or 84% of the 17,000 water acres are accounted for by two Federal areas - Red Rock and Saylorville flood control projects on the Des Moines River. Excluding these two areas, the regions total recreation and open space is 32,300 acres of which 2,650 acres or 8% is water. This latter is divided up among 438 existing areas.

TOTAL RECREATION AND OPEN SPACE

Number	Total Area (acres)	Land Area (acres)	% Total	Water Area (acres)	% Total
440	103,358	86,208	83	17,150	17
438	32,346	29,696	92	2,650	8
(excludes Red Rock) (and Saylorville)					

Although the type and location of recreation facilities to be developed in connection with the Red Rock and Saylorville projects is largely unknown, the extent of the use of these areas for recreation will be limited because of their primary use for flood control.

What amount of the region's recreation needs existing areas do, and can, satisfy is difficult to determine. As yet, there are no clear cut methods for measuring the population's needs or desires for field sports, picnicking, driving for pleasure, swimming, camping or the wide range of other recreation activities. Complicating recreation need-desire estimation for the future is the fact that people's recreation desires change as new forms of recreation come into the picture and as their age, income, education or other socio-economic characteristics change. Recreation which is most in demand today may be much less in demand 20 or 30 years from now. Some forms of recreation such as hunting and water skiing may be limited to only a very few people due to the large area requirements of this recreation in a period of diminishing land and water resources.

There have been many attempts to set up standards to help gauge the amount and kinds of recreation facilities to be provided. Usually

a separate set of standards has been developed for each major agency (or ownership) - state, county, municipal, private - providing the recreation facility. Beginning in 1960 and again in 1965 the Federal Government undertook two major studies¹⁶ to quantify recreation demands and thus provide more information by which standards might be developed.

Table 22 gives a summary of the various standards in use in other metropolitan or regional areas in the country.

Because of the lesser population and relative "openness" of urban development in Iowa and Central Iowa as compared to other developing areas of the country, most of the future patterns of development of the State and region are yet to be shaped. Thus, it seems more appropriate that we should think in terms of recreation goals - that is, the amount, type and location of existing natural areas that we would like to see preserved or developed for recreation in the future-rather than recreation standards. Standards too often set a minimum level for providing services or facilities, rather than being a positive statement of what would be best. It is better to talk in terms of recreation goals, bearing in mind standards of other areas, amount of existing recreation in Central Iowa, and amount of open space available. Goals are based in part on population densities, intensity of development, population age groups, and mobility in the Central Iowa Region. The following are suggested goals for public recreation areas in the Central Iowa Region.

RECREATION GOALS FOR THE CENTRAL IOWA REGION - 1967

<u>Public Areas</u>	<u>Acres/1000 Population</u>
Federal and State	45
County	25
Municipal	10
Total	80

Region: Table 20 shows the amount of recreation land by county for the region. Table 23 shows the region's recreation needs. Every county in the Central Iowa Region has one or more major levels (municipal, county, Federal) that has recreation acreage lower than the goals suggest. Three of the counties should work for more State and Federal land, six should consider more municipal land, and eight counties should consider more county land.

TABLE 22

RECREATION STANDARDS - OTHER AGENCIES

Governmental Unit or Recreation Agency	Municipal or Local Acs/1000 Population	County Acs/1000 Population	State, Federal, or Regional Acs/1000 Population*
New York Regional Plan Commission (RPC)	10	12/or 15% of land	NA
Baltimore, Md. RPC	14	NA	15
Minnesota ORRC	10	50/or 100 min.	NA
Northeastern Illinois RPC	4-7 (or 10 Hl. Dec.)	15	10-20
Twin Cities Metro PC	NA	NA	10 (Metro) 500 (Desirable) 50 (Min.)
New Jersey Metro Study	8	12	45
Whichita-Sedgwick MPC	1.75	NA	5
LPA (ICMA) International City Managers Assn.	1.25	NA	4 (Min.)
Federal - ORRRC	10	25	45
National Recreation Assoc. (NRA)	10	10	10

Source: Recent publications of above agencies

*Does not include open space reserved for flood control, etc.

TABLE 23

THE REGIONS RECREATION NEEDS* - 1967

<u>LOCATION</u>	<u>ACRES</u>		
	<u>Municipal</u>	<u>County</u>	<u>Federal and State</u>
Boone	+ 20	- 70	+ 430
Dallas	- 75	- 590	- 895
Jasper	- 160	- 945	+ 1765
Madison	+ 350	- 260	+ 890
Marion	- 45	+ 590	+ 45155 **
Marshall	***	- 640	- 1635
Polk	+ 1700	- 5325	+ 12450**
Story	- 100	- 985	- 1335
Warren	- 80	- 575	+ 610
Total	+ 1,690	- 3,800	+ 57,435

*Based on CIRPC survey of 440 existing areas in February-May 1967 and assuming the following:

Municipal goal	= 10 acres/1,000 persons
County goal	= 25 acres/1,000 persons
State and Federal goal	= 45 acres/1,000 persons
Total goal	= 80 acres/1,000 persons

Estimated population statistics for 1967 based on Table 3.

+ indicates greater acreage than the goals suggested.

- indicates less acreage than the goals suggested.

** includes Red Rock & Saylorville Reservoirs which lie partly in other counties.

*** less than 5 acres.

Six counties have more State and Federal recreation land than the goals suggest. Dallas, Marshall and Story Counties have less. Rock Creek Park in Jasper County, Lake Ahquabi in Warren County, Saylorville Reservoir in Polk County, and Red Rock Reservoir in Marion County account for the bulk of State and Federal recreation land.

Only Marion County provides more county recreation land than the recommended goals. All other counties show less than the goals suggest by a range of 70 to over 5,000 acres.

Two counties, Madison and Polk, have somewhat more municipal recreation acreage than the goals suggest. This is especially beneficial for Polk County, which is the most populous county in the region. Six counties showed lower averages in municipal land than recommended goals.

The large excess of land in the region found at the State and Federal level (57,437 acres) is due to Red Rock and Saylorville Reservoirs which, as mentioned above, are primarily conservation projects and are limited in their recreation potential. Thus, even though the State and Federal acreage is higher than the region's suggested goals, this should not be used as reason for providing less recreation area at the county or other levels. For various reasons, the apparent excess of Federal area cannot substituted for other needed recreation areas as shown by Table 23.

Also, even though the total municipal areas within some Counties meets the suggested goals at present, strong effort needs to be made in all counties so that municipal recreation will keep pace with the expected greater growth in the urban places.

Counties:

Boone County (Population 27,176) is lower in county land than the goal suggests by about 70 acres. In Boone County the Des Moines River Valley functions as the major private recreation area of the region. Over 26% of the private campgrounds in the region are in Boone County. 58% of the recreation land in Boone County is private, 28% State, 10% County and 2% Municipal. Swimming, camping, and picnicking are the major recreation activities of the county. This is due mainly to the recreation facilities in the private areas.

Dallas County (Population 23,700) could consider more land at all levels 75 municipal, about 600 county, and about 900 State acres. Twelve (12) percent of the recreation land in Dallas County is State owned, more

than 77% is privately owned, and 11% is municipally owned. Sports, picnicking, and camping are the three most prevalent recreation facilities in Dallas County. The number of areas per capita used for golf and hiking are less than those for the region as a whole.

Jasper County (Population 37,848) could consider 160 acres more municipal recreation land and about 150 acres more county recreation. It has more State recreation land than the goal suggests. Picnicking seems to be the most predominant recreation activity in Jasper County. While the State areas are only 16% of the number of the areas, they represent 82% of all recreation land acreage, private areas represents 13% of the acreage and municipal 5%. In Jasper County the number of recreation areas per capita used for boating and hunting are greater while areas for sports are less than that for the region as a whole.

Madison County (Population 11,391) has about 350 acres more municipal recreation land and 890 acres more State land than suggested by the goals, but 260 acres less county recreation land. In Madison County there appears to be many picnic facilities. Some more sports areas might be considered.

Marion County (Population 25,212) has 590 acres more of county recreation land and considerably more acres of Federal and State land than the goals suggest (Red Rock Reservoir included). However, Marion County could consider some additional municipal recreation area. More than 50% of the areas in the county have picnic facilities. Marion County has less public hunting areas per capita as compared to that of the Region.

Marshall County (Population 38,985) might consider more recreation land at county and State levels-about 640 acres County, and 1,600 acres State. Municipal areas represent 56% of the number of areas and 35% of the recreation acreage. County areas comprise 30% of the recreation acreage, private areas 25% and State 10%. Marshall County has a large number of camping areas per capita but a small number of swimming and boating areas per capita as compared to the region as a whole.

Polk County (Population 302,536) has about 1,800 more acres in municipal recreation than the suggested goal but should consider an additional 5,300 acres in county recreation areas. In Federal-State land, Polk County has about 12,450 acres more than the goal suggests (Saylorsville included). Polk County possesses a wide variety of

recreation facilities and some of the facilities such as ballfields, playgrounds, and sports facilities appear frequently. However, with some facilities, e.g. swimming pools, Polk County has more pools than any other county, yet the number of persons per pool is highest. This is true also of camping, fishing, hiking, boating and hunting areas.

Story County (Population 55,364) could consider additional recreation areas at all three levels - about 100 acres municipal, 980 acres county and 1,300 acres Federal-State. Present municipal areas represent about 55% of the total number of areas, and account for about 20% of the total recreation land acreage. State areas account for about 40% of the land acreage, private 25% and county 15%.

Warren County (Population 23,491) has 610 acres more State-Federal land than the goal suggests, but should consider some additional municipal recreation and about 600 acres of county recreation land. While only 9% of the total number of areas are State owned, they make up 70% of all the recreation acreage in the county. Private ownership accounts for 24% and municipal 6% of the total recreation acreage. Swimming and picnicking are the two principal recreation uses in Warren County. As compared to the region, Warren County has fewer sports areas per capita.

Table 24 shows the region's recreation needs in 1975. Based on 1975 population, increased participation rates and the 1967 survey of recreation areas in the Central Iowa Region, there should be an additional 600 acres of recreation land considered at the municipal level and over 14,000 acres at the county level. This additional land is needed even though there is more land at the Federal-State level than the 1975 goals recommend. The 1975 needs as shown in Table 24 are based on 1975 goals.

Because of increased participation by 1975, there will be more people going more often to parks for recreation. By 1975, all levels (Federal-State, county, municipal) should work toward new goals based on this increased recreation activity. Bearing in mind the amount of existing recreation in Central Iowa, amount of open space available, standards of other areas, population densities, intensity of development, population age groups and mobility, the suggested present goals are - 10 acres/1000 population municipal land, 25 acres/1000 population county land, and 45 acres/1000 population Federal-State land. These

TABLE 24

THE REGIONS RECREATION NEEDS* - 1975

<u>LOCATION</u>	<u>ACRES</u>		
	<u>Municipal</u>	<u>County</u>	<u>Federal and State</u>
Boone	- 50	- 240	+ 195
Dallas	- 275	- 755	- 1120
Jasper	- 270	- 1210	+ 1395
Madison	+ 325	- 310	+ 825
Marion	- 10	+ 430	+ 44935**
Marshall	- 135	- 960	- 2110
Polk	+ 340	- 8755	+ 7170**
Story	- 355	- 1585	- 2255
Warren	- 195	- 850	+ 190
Total	- 625	-14,235	+ 49,225

*Based on CIRPC survey of 440 existing areas in February-May 1967 and assuming the following:

Municipal goal	= 13 acres/1,000 persons
County goal	= 32 acres/1,000 persons
State and Federal goal	= 55 acres/1,000 persons
Total goal	= 100 acres/1,000 persons

Estimated population statistics for 1967 based on Table 3.

+ indicates greater acreage than the goals suggested.

- indicates less acreage than the goals suggested.

** includes Red Rock & Saylorville Reservoirs which lie partly in other counties.

goals will provide enough recreation areas to support the level of participation of the immediate future; however, by 1975 the level of participation will have increased considerably. If the present goals are based on current participation rates, 1975 goals must be based on 1975 rates. Therefore, a goal of 13 acres/1000 population municipal land, 32 acres/1000 population county land, and 55 acres/1000 population Federal-State land should be worked toward. This is an additional 20 acres/1000 population or a total of 100 acres/1000 population of recreation land in 1975.

RECREATION GOALS FOR THE CENTRAL IOWA REGION - 1975

<u>Public Areas</u>	<u>Acres/1000 Population</u>
Federal and State	55
County	32
Municipal	13
Total	100

The increase in participation in recreation activities which are most dependent on park and/or open space land, is the increase on which the 1960 goal was adjusted to 1975. These activities include playing outdoor games, sightseeing, fishing, attending outdoor sports events, nature walks, picnicking, camping, hunting, ice skating and swimming. The proportions of the additional 20 acres/1000 population that each level (Federal-State, county, municipal) should consider as their 1975 goal have been "weighted" toward more acreage at the municipal and county level. This is done to adequately provide park and open space areas in the more populated portions of the region where it is needed most.

IX - PRELIMINARY PROJECTIONS OF FUTURE RECREATION PARTICIPATION

The most frequently used measure of participation in recreation is total participation days.¹⁷ Total participation days is based on the number of participants 12 years old and older and the number of days that each person participated. The number of participants 12 years old and older indicates "how many," while the number of days persons participate indicates "how often" they engage in recreation activity. All people do not participate in any particular recreation the same number of days per year. "Mean" or average days per participant per type of recreation is the measure used. Total participation days gives a method of comparing both "how many" participate and "how often" they participate in recreation. Appendix 9 gives a more complete explanation of how the existing and future recreation participation was figured for Central Iowa as shown in Table 25.

This table shows the extent of participation in recreation for 1960 and 1975 for the Region by selected recreation activities. In the region, 1960, there was a total of almost 376,000 persons 12 years of age and older. Assuming the same percentage of participants in the region as found in the state¹⁸ and using the 1966 Iowa participation rates, the number participating in recreation activities in Central Iowa, 1960, ranged from almost 300,000 persons (driving for pleasure) to 32,000 persons (ice skating) or a range of 79% to 8.0% respectively of the total number of persons 12 years old and older in the region. Second to driving for pleasure, 78% of the total participants went picnicking. The large percentage of persons participating in driving for pleasure and picnicking reflects the availability of areas for this type of recreation and the small amount of special equipment, etc. required by persons doing them.

Recreation activities which lie in the middle range of participation are: sightseeing 59%; walking for pleasure 58%; attending outdoor sports 48%; fishing 41%; outdoor games 39%; and swimming 38%. In the region the majority of these activities are considered either seasonal and/or require special equipment. Even though more persons might desire to participate, the nature of the activities tend to lower the number participating.

In the lower range, the participation in recreation ranged from bicycling (22%) to ice skating (8%). Other activities include hunting (18%), nature walks (15%) and camping (15%). Factors that influence the number of participants are limitation of facilities, seasonal characteristics and special equipment required.

TABLE 25

TOTAL PARTICIPATION DAYS FOR SELECTED RECREATION ACTIVITIES
IN CENTRAL IOWA REGION (1960 and 1975)

<u>Activity</u>	<u>Total Participation Days</u>		<u>Percent Change</u>
	<u>1960</u>	<u>1975</u>	<u>1960 to 1975</u>
Driving for pleasure	5,265,115	7,320,872	39.0%
Walking for pleasure	3,369,794	4,612,484	36.9
Playing outdoor games	2,254,111	3,553,451	57.6
Sightseeing	1,657,500	2,393,000	44.4
Bicycling	2,275,496	2,678,497	17.7
Fishing	1,590,888	4,929,412	21.3
Attending outdoor sports events	1,633,815	2,203,291	34.9
Nature Walks	316,277	444,762	40.6
Picnicking	2,161,059	2,918,941	35.1
Camping	414,296	709,065	71.1
Hunting	604,928	711,529	17.6
Ice Skating	157,855	274,231	73.7
Swimming	1,894,545	3,017,046	59.2

For derivation of table see Appendix 9.

Frequency of participation is the second primary factor in determination of total participation days. As mentioned above frequency of participation is measured by mean or average days per year per participant. Each day (24 hr. period) in which a person participates one or more times in a recreation activity is counted as a day of participation for that activity. For example, if during one summer day a person went swimming twice, and picnicking once, this would be figured as one participation day for swimming plus one participation day for picnicking. Bicycling appears to have the largest frequency of any activity. In 1960, everyone who rode bicycles for recreation, did so on an average of nearly 28 different days during the year.

That having the second highest rate was driving for pleasure with 17.8 average days per participant. The next most frequent activities per participant for 1960 are outdoor games (15.7), walking for pleasure (15.3), swimming (13.3), fishing (10.4), attending outdoor sports (9.0), hunting (8.7), sightseeing (7.5), picnics (7.4), camping (7.3), nature walks (5.5), and ice skating (5.0). It should be kept in mind that average days of participation and percent of participants are not related, one to the other. For example, picnics were second highest in number of persons (percent) participating but eighth in the number of times (average days) in which it was done per person.

Total participation days is found by consideration of both the number of persons (participants) and the frequency of participation (average days). For the Central Iowa region, driving for pleasure in 1960 amounted to over 5 million total participation days. This means that in 1960 there were about 300,000 persons that drove for pleasure on an average of 18 different days. This was the most popular activity in that 78% of the population 12 years old and older participated. The second most popular activity is walking for pleasure. In 1960 it amounted to over 3,300,000 total participation days. Fifty-nine percent (59%) of the population 12 years old and older or 220,000 participated on 15 different participation days during the year. The next most popular activities were bicycling and outdoor games (2,260,000 total participation days) sightseeing, swimming and fishing (1,650,000 total participation days).

Although many persons had picnics in 1960 (77% of the population 12 years old and older or 292,000 persons), the frequency (average days) of these picnics was relatively low (7.4 per person per year) yet, picnicking showed over 2,160,000 total participation days. Hunting and ice skating showed the smallest number of total participation days, 605,000 and 158,000 respectively.

Several estimates have been made concerning future levels of participation in recreation. One of the more reliable sources, ORRRC, has made estimations of average days per year for 1976. These estimates have been adjusted to 1975.

For the purpose of this report, it has been assumed that the percentage of population 12 years old and older participating in recreation activities will remain the same in 1975 as in 1960. This is a conservative assumption since those who are studying this feel that the percent participation in younger age groups will show some increase. The estimates for average days per year and percent participation are then considered together to yield total participation days, 1975.

In 1975, the frequency of participation per individual is expected to increase in all recreation activities except hunting and bicycling. The increases are expected to range from 46% to 2%, ice skating and fishing respectively.

Changes In Participation

	Increase (percent)	Decrease (percent)
Ice Skating	46	
Camping	45	
Swimming	34	
Playing Outdoor Sports	33	
Sightseeing	21	
Nature Walks	19	
Driving for Pleasure	17	
Walking for Pleasure	15	
Picnicking	14	
Attending Sporting Events	11	
Fishing	2	
Bicycling		-1
Hunting		-3

These changes are based on six socio-economic factors: income, education, occupation, residence, age/sex, and leisure. Increased leisure and income are the two most important factors causing the greatest change in frequency of participation for the activities listed. Leisure alone will increase frequency of participation in recreation by 8.2% while income will increase frequency by 7.2%. Frequency will also be increased 4.1% by education, 3.4% by occupation, 1.7% by age.sex (youth vs. older ages) and 1.6% by residence (urban vs. rural).

In 1975, the effect of the same percentage of population (12 years old and older) participating, increased average days per participant, and a regional population increase does not change the importance of each recreation activity with respect to total participation days. For example, in 1975 driving for pleasure will show the largest total participation of over 7,300,000 days.

This means that of the nearly 448,000 persons in the region, 12 years old and older, 79% or almost 354,000 will drive for pleasure. They will do this on an average of 17.1 different days in 1975. This is an increase of 39% in total participation days over 1960.

In 1975 the second most popular activity will be walking for pleasure with over 4,600,000 total participation days. Over 264,000 persons or 59% of the population 12 years old and older will participate about 17.6 different days. The next most popular activities will be playing outdoor games (3,550,000), swimming (3,000,000), picnicking (2,900,000), bicycling (2,700,000), sightseeing (2,400,000), attending outdoor sports (1,600,000), hunting (711,529), camping (709,000), nature walks (444,000), and ice skating (274,000).

All activities show an increased percent change in total participation days from 1960 to 1975. Ice skating and camping had the largest percent change, 74% and 71% respectfully, bicycling and hunting had the smallest, 17%. Although driving for pleasure had the highest total participation day rate in 1960 and is expected to maintain the position in 1975, the percent change in total participation days, 1960-1975 is smaller, 39% as compared to ice skating 74%, camping 71%, swimming 59%, playing outdoor games 57%, sightseeing 44%, and nature walks 41%. Other increases in percent change are walking for pleasure 37%, attending outdoor sports events 35%, fishing 21%, and hunting and bicycling 18%.

Even though it has been estimated there will be a decrease in the average days per participant in hunting and bicycling, there will be an increase in total participation days. This is due to an increasing population.

A major consideration is that participation and frequency cannot increase if adequate recreation facilities are not provided. Even though leisure and income are expected to stimulate increased recreation participation in the future, this cannot happen without adequate recreation areas. Also there must be a "well rounded" recreation system that allows all persons desiring to participate in a particular activity, whether it be a few hours, a day, or several days, a chance to do so.

X - SUMMARY AND GUIDELINES

During the next ten years, it is expected that the land in the Des Moines urban area will be transformed into development at the rate of about 1 to 1 1/2 square miles per year. A major part of this increase will be in residential lots and streets. Part of the increase will be for new businesses and new industrial plants. The primary concern of this study is "how much land will be set aside or developed for recreation and open space?" Will it be enough to serve the needs of the estimated 595,800 residents by 1975?

In general, parks have two major functions, recreation and open space. Individuals express themselves in a variety of outdoor activities from walking and picnicking to boating and swimming. These activities are increased by park development. Parks function as open spaces in the land use pattern and give variety from the continuous residential and commercial development of the urban landscape.

Data regarding the present number of park users is quite limited. Because of this, we have only a general indication of "who" and "how many" make use of existing park facilities, how people will spend additional leisure time in the future, and what type of facilities they will demand. However, certain general factors which will have a direct bearing upon recreation in the future are known. The factors of increased income, more education, shorter working hours, increased mobility, and rising age span, all have the combined effect of greatly increasing the demand for more recreation of all types.

A study of the Detroit Metropolitan Regional Planning Area has revealed that about 13% of the population use regional type parks on Sundays and Holidays and about 4% on weekdays. A preliminary study for Erie County, New York, showed that about 11 to 12% used state and county parks on the weekends and holidays and about 3% on weekdays. Since the vast majority of people desire to use parks on Sundays and holidays, park access and capacity should, therefore, be based on peak usage.

There are no "hard and fast" standards by which a program for regional parks can be developed. However, recent published studies by the Bureau of Outdoor Recreation have suggested a number of

criteria to be considered in developing a park program. The guidelines which are suggested in this section are based on:

1. a review of existing recreation facilities,
2. a review of park programs for other nearby communities,
3. a study of local land resources, land use and population.

The points given are intended to serve as guides in developing a long-range program for the Central Iowa Region. The translation of these points into actual recreation facilities will depend upon the various units of government - towns and cities, counties and the State.

REGIONAL RECREATION GUIDELINES

- A. The existence of water (streams, rivers, ponds or lakes) greatly enhances the attractiveness of any park. The actual use of water for recreation (swimming, wading, boating, and fishing) has increased greatly in recent years. Water areas should be a part of a park site wherever possible.
- B. A most important quality of a county or metropolitan park is the provision of open space and natural surroundings for the activities of the park users. Such parks should be characterized by attractive woods, views or water courses. Within the various parks, all major natural features of the region should be represented. Such parks should have a minimum of 250 acres but where possible should have an area of at least 500 acres and in some cases as much as 1,000 acres. On the average, not more than 50% of the total area of the park should be developed, the rest should be left in its natural state except for trails and park roads as may be appropriate.
- C. A large park (county, regional or State) should be located within 10 miles of each resident of the area. Within 25 miles of each resident, there should be a choice of 1, 2 or 3 large parks which offer a variety of facilities and activities. The reason for this is to put the parks where the people are, rather than having to travel 1 to 3 hour distances for holiday or weekend outings. The more readily accessible, the greater will be the use of these parks. Most people prefer to travel less than 1/2 hour or less than 15 miles to a large park. Also the park is near enough for some weekday use.

For Central Iowa it is suggested that the large park and open space areas (mostly Federal and State) should be capable of

accommodating 15% of the region's population at a user density of about 10 persons per acre. On this basis and by 1975, there should be a total of about 9,000 acres in large parks and open space in the region.

- D. Within the region's park and open space system there should be facilities for swimming, camping, picnicking, boating, fishing, playgrounds, and sports areas. There should also be places for such special activities as hiking, hunting, scenic views, wild life study, scenic driving, historical sites, and drama concerts or other cultural activities. In some areas, golfing will be available. However, this is a facility which may be provided mostly by the private sector. Also, a great deal of camping within the region is provided by private areas.
- E. Regardless of other considerations (location, accessibility, etc.), land which is of particular scenic, historical, or geological interest should be preserved and made available to the public for recreational use. This is particularly true of the lands within the River Valleys which are now used by the general public to a large degree, but which will more likely become limited in the future. Private land abutting the river is changing from its present vacant state to residential uses, commercial uses, and private recreation uses. A means for assuring continued public use of the River Valleys would be to establish a Conservancy District covering all of the land within the river valley(s) between the main ridge line of the hills which border the river on either side. The purpose would be to preserve the beauty and public access of these areas beyond that which may be controlled in the lower flood plain areas.
- F. Each park and open space area within the region should have a Plan showing what its facilities will be when fully developed. By this method, the proposed development of each area can be related to the total development of the regions' recreation areas and open spaces.
- G. Regional recreation planning should be carefully coordinated with highway, conservation, flood control, and water supply planning. Multi-purpose projects including scenic drives connecting the various areas in the regional system should be sought and encouraged. Scenic drives provide restful driving conditions. Landscaping and wayside areas along these drives have a significant part to play in a total recreation plan. Scenic drives can also be planned to accommodate hiking and horse-back riding.

With advanced planning, some portions of water control, conservation and wildlife management areas may be used for limited recreation, particularly by individuals, or for nature education by small groups.

- H. Access roads to parks should be planned and developed in relation to the intensity of their development and the population of the areas they serve. For example, a large general purpose park having considerable development should be served by at least two main roads, whereas, smaller areas or large undeveloped areas may need to be given access by only one or two minor roads. In most cases, it is desirable that two routes of access be provided to all but the small local park areas of which there may be considerable access by foot.

Poorly marked travel routes, overcrowded roads, or poor road conditions generally inhibit the full use of a park area. On the other hand, well-marked, landscaped or scenic routes encourage the use of parks. Persons seeking outdoor relaxation do not like to drive through built-up areas to get to a park. They much prefer going through "open country".

- I. Within each park area there should be ample land set aside for existing and future parking needs. To avoid destroying the natural features, parking should be broken up into several areas and blended in with the site wherever possible.
- J. Major consideration should be given to using flood land and other marginal land for recreation and open space. Perhaps these areas, which are often considered liabilities, can be turned into assets by digging a shallow water body in spring-fed areas or those with a high ground water level. This can have a two-fold advantage. First, by adding new recreation potential and second, by making a more interesting landscape which increases value of near-by lands.
- K. There are some areas of poor soils or steep slopes which should not be intensively developed. The best use of these areas may be park and open space. Plans should be made to re-forest such areas in order to obtain wooded land for the years ahead. Wooded and sloping areas are much desired for park use rather than flat, non-wooded areas.
- L. A number of urban planners feel that all substantial stream beds in suburban and urban areas should be protected from development. The areas along these streams can be used by the public for walking trails or hiking. They can be used to link individual park

areas together. They also have the advantage of being available as right-of-ways for utility lines as growth increases. In other instances, they have value for drainage control or as natural green belts within built-up areas. They have particular value within residential areas.

- M. Recreation areas and open space should be an integral part of local, regional and State comprehensive plans. Most of the future recreation pressures will be on all-day areas such as state parks, county parks, and large municipal parks.
- N. Open space has great potential as a device for shaping and guiding future urban building so as to create more attractive and livable urban areas. Both the public and government must come to accept and use open space as a positive factor in the overall planning of each community and the region as a whole.
- O. The recreation goals suggested for the Central Iowa Region are -

<u>Public Areas</u>	<u>Acres/1000 Population</u>	
	<u>Present</u>	<u>Future*</u>
Federal and State	45	55
County	25	32
Municipal	10	13
Total	<u>80</u>	<u>100</u>

- * By 1975-1980, it is felt these goals are needed to provide an adequate amount of recreation area and open space for the future.

All of the factors that influence the need for recreation and open space in the Central Iowa Region will increase substantially during the next two decades. These factors will combine to produce a substantial increase in recreation activity and to definitely create a need for more parks and recreation areas of all types. Within Central Iowa there are certain deficiencies in local, county, and State recreation areas. These deficiencies will grow unless steps are taken immediately to provide additional parks and open space to serve both today's residents and the expected future growth.

Preservation of open spaces of all types will become increasingly difficult in the years ahead as competition increases for its use and the cost of land rises. In order to provide for adequate amounts of open space and in the right location, it is necessary to acquire the land while the costs are still relatively low and before scattered development destroys its usefulness as open space. Land near the rapidly developing areas, the existing limited water areas, and places of special scenic value should be given immediate

consideration for possible future recreation use. In areas of natural beauty or scenic views, a few residences scattered across the area can often limit its usefulness for recreation purposes as effectively as if there were a complete subdivision.

The amount of land covered by woods or having interesting natural features is limited within the Central Iowa Region. This is due mainly to the large amount of land being used for agriculture. Because of the uniformity of the rural landscape due to the large extent of agriculture operations, it is particularly important that steps be taken to preserve the major areas of woods and natural features for public enjoyment now and in the future. A considerable amount of these areas lie within the flood plains of the main rivers crossing the region. These areas should be reserved for recreation, or some other type of open space use.

Providing adequate local recreation facilities is the responsibility of the cities and towns. The provision of medium to large-sized multi-purpose areas is being recognized, more and more, as the responsibility of the county. The provision of very large park and open space areas centering around important natural features and the public use of land along the river valleys is the responsibility of regional groups and the State. All must plan and work together for an adequate, balanced, and coordinated system of recreation areas and open spaces for Central Iowa.

APPENDIX 1POPULATION AGE GROUPS FOR COUNTIES IN CENTRAL IOWA, 1950-60BOONE

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	4822	17.1	5355	19.1	+ 11.1
10 - 19	4298	15.3	4622	16.5	+ 7.5
20 - 29	3709	13.2	2929	10.4	- 26.6
30 - 39	3711	13.2	3295	11.8	- 12.6
40 - 49	3456	12.3	3252	11.6	- 6.3
50 - 59	3277	11.6	3045	10.9	- 7.6
60 - 69	2705	9.6	2736	9.8	+ 11.5
70 +	2161	7.7	2803	9.9	+ 29.7
Total	28,139	100%	28,037	100%	- 3.6%

STORY

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	8150	18.4	9789	19.8	+ 2.0
10 - 19	6392	14.4	9063	18.4	+ 4.2
20 - 29	10830	24.5	10020	20.3	- 8.1
30 - 39	5410	12.2	5243	10.6	- 3.2
40 - 49	4167	9.4	4584	9.3	+ 10.0
50 - 59	3997	9.0	3963	8.0	- 8.6
60 - 69	3003	6.8	3543	7.2	+ 17.9
70 +	2345	5.3	3122	6.3	+ 33.1
Total	44,294	100%	49,327	100%	+ 11.4%

MARSHALL

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	6707	18.8	8000	21.1	+ 1.9
10 - 19	4863	13.7	5997	15.8	+ 2.3
20 - 29	4980	14.0	4091	10.8	- 21.7
30 - 39	5061	14.2	4766	12.5	- 6.2
40 - 49	4297	12.1	4617	12.2	+ 7.4
50 - 59	3899	10.9	3937	10.4	+ 9.7
60 - 69	3305	9.3	3427	9.0	+ 3.7
70 +	2499	7.0	3149	8.3	+ 26.0
Total	35,611	100%	37,984	100%	+ 6.7%

APPENDIX 1 (cont.)

DALLAS

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	4394	18.6	4917	20.4	+ 11.9
10 - 19	3392	14.3	3939	16.3	+ 16.1
20 - 29	2995	12.7	2328	9.7	- 28.7
30 - 39	3138	13.3	2762	11.4	- 13.6
40 - 49	2777	11.7	2992	12.4	+ 7.7
50 - 59	2801	11.8	2502	10.4	- 11.9
60 - 69	2326	9.8	2336	9.7	+ 4.3
70 +	1838	7.8	2347	9.7	+ 27.7
Total	23,661	100%	24,123	100%	+ 19.5%

POLK

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	41949	18.6	58922	22.01	+ 4.0
10 - 19	29583	13.1	42219	15.9	+ 4.3
20 - 29	37711	16.7	33951	12.7	- 11.1
30 - 39	33635	14.9	36365	13.7	+ 8.1
40 - 49	28677	12.7	31899	11.9	+ 11.2
50 - 59	24652	10.9	26271	9.9	+ 6.6
60 - 69	17546	7.8	20441	7.7	+ 16.5
70 +	12257	5.4	16247	6.1	+ 32.6
Total	226,010	100%	266,315	100%	+ 17.8%

JASPER

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	6282	19.4	7630	21.6	+ 2.1
10 - 19	4837	15.0	5811	16.5	+ 20.1
20 - 29	4918	15.2	4053	11.5	- 21.3
30 - 39	4367	13.5	4626	13.1	+ 5.9
40 - 49	3973	12.3	4242	12.0	+ 6.8
50 - 59	3431	10.6	3555	10.0	+ 3.6
60 - 69	2438	7.5	2818	7.9	+ 15.6
70 +	2059	6.4	2547	7.2	+ 23.7
Total	32,305	100%	35,282	100%	+ 9.2%

APPENDIX 1 (cont)

MADISON

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	2502	19.1	2354	19.1	- 6.3
10 - 19	2044	15.6	2099	17.1	+ 26.9
20 - 29	1497	11.4	1071	8.7	- 39.8
30 - 39	1625	12.4	1330	10.8	- 22.2
40 - 49	1554	11.8	1470	12.0	- 57.1
50 - 59	1576	12.0	1382	11.2	- 14.0
60 - 69	1224	9.3	1306	10.6	+ 66.9
70 +	1109	8.4	1283	10.4	+ 15.7
Total	13,131	100%	12,295	100%	- 6.4%

WARREN

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	3512	19.8	4734	22.7	+ 3.5
10 - 19	2926	16.5	3762	18.1	+ 28.6
20 - 29	2514	14.2	2686	12.9	+ 6.8
30 - 39	2140	12.1	2550	12.2	+ 19.2
40 - 49	1941	10.9	2154	10.3	+ 10.9
50 - 59	1893	10.7	1768	8.5	- 7.1
60 - 69	1542	8.7	1651	7.9	+ 7.1
70 +	1290	7.3	1524	7.3	+ 18.1
Total	17,758	100%	20,829	100%	+ 17.3%

MARION

<u>Age Group</u>	<u>No.</u>	<u>1950</u> <u>% of Total</u>	<u>No.</u>	<u>1960</u> <u>% of Total</u>	<u>Percent Change</u> <u>1950-60</u>
0 - 9	4592	17.7	4890	18.9	+ 6.5
10 - 19	3824	14.7	4245	16.4	+ 11.0
20 - 29	3535	13.6	2628	10.2	- 34.5
30 - 39	3283	12.7	3129	12.1	- 4.9
40 - 49	2942	11.3	3055	11.8	+ 3.8
50 - 59	3461	13.3	2683	10.4	- 28.9
60 - 69	2399	9.3	2860	11.0	+ 19.2
70 +	1894	7.3	2396	9.3	+ 26.5
Total	25,930	100%	25,886	100%	- 1.7%

Source: U.S. Bureau of Census, Census of Population, Iowa. 1950, 1960

APPENDIX 2

URBAN-RURAL POPULATION DISTRIBUTION

IN CENTRAL IOWA

COUNTY		<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1975*</u>
Boone	U.	12,373	12,164	12,468	12,469
	R.	17,409	15,975	15,469	14,060
	% U.	41.5%	43.2%	44.5%	47.0%
Dallas	U.	5,977	6,174	6,442	6,591
	R.	18,672	17,487	17,681	16,946
	% U.	24.2%	26.1%	26.7%	28.0%
Jasper	U.	10,462	11,723	15,381	19,994
	R.	21,034	20,582	19,901	17,731
	% U.	33.2%	36.3%	43.6%	53.0%
Madison	U.	3,631	3,570	3,639	3,480
	R.	10,894	9,561	8,656	6,962
	% U.	25.0%	27.2%	29.6%	33.0%
Marion	U.	10,574	12,052	13,015	13,790
	R.	16,445	13,878	12,871	10,835
	% U.	39.1%	46.5%	50.3%	56.0%
Marshall	U.	19,240	19,821	22,521	25,884
	R.	16,166	15,790	15,463	18,604
	% U.	54.3%	55.7%	59.3%	64.0%
Polk	U.	164,071	183,580	244,079	326,352
	R.	31,764	42,430	22,236	17,176
	% U.	83.8%	81.8%	91.7%	95.0%
Story	U.	15,908	26,661	31,230	42,161
	R.	17,526	17,633	18,297	19,841
	% U.	47.6%	60.2%	63.3%	68.0%
Warren	U.	4,123	5,145	7,062	11,039
	R.	13,572	12,613	13,767	15,886
	% U.	23.3%	29.0%	33.9%	41.0%
<hr/>					
TOTALS	U.	246,359	280,890	355,837	461,760
	R.	163,482	165,949	142,683	138,041
	% U.	60.1%	62.9%	71.4%	77.0%

* Calculated by CIRPC from U. S. Census of Population.

Source: C.I.R., 1966 Population Study (See footnote 2).

APPENDIX 3

DEPENDENCY RATIO

	1950			1960		
	0-19 & (65 & over)	20-64	Dep. Ratio	0-19 & (65 & over)	20-64	Dep. Ratio
IOWA						
Boone	12,528	15,611	80	14,088	13,949	101
Dallas	10,705	12,956	83	12,371	11,752	105
Jasper	13,470	18,835	72	17,311	17,971	96
Madison	6,207	6,924	90	6,397	5,898	108
Marion	11,364	14,566	78	12,951	12,935	100
Marshall	15,539	20,072	77	18,779	19,205	98
Polk	91,766	134,244	68	126,938	139,377	91
Story	18,282	26,012	70	23,712	25,615	93
Warren	<u>8,467</u>	<u>9,291</u>	<u>91</u>	<u>10,859</u>	<u>9,970</u>	<u>109</u>
TOTAL REG						
	188,327	258,512	73	243,406	256,672	95
IOWA						
	1,164,010	1,447,530	80	1,388,477	1,369,060	101

Source: Iowa's Population, Special Report No. 47.

APPENDIX 4

INCOME LEVELS 1950

	<u>BOONE</u>	<u>DALLAS</u>	<u>JASPER</u>	<u>MADISON</u>	<u>MARION</u>	<u>MARSHALL</u>	<u>POLK</u>	<u>STORY</u>	<u>WARREN</u>	<u>TOTAL</u>
Under \$4,000	4,925	4,580	6,025	2,650	4,795	6,160	34,215	7,270	3,290	73,910
4,000 - 5,999	1,445	1,115	1,805	370	830	1,965	16,325	2,140	695	26,690
6,000 - 6,999	245	230	250	130	125	395	3,250	470	145	5,240
7,000 - 9,999	270	260	300	120	140	370	3,560	445	130	5,595
10,000 - 14,999	190	230	280	75	140	265	2,270	295	70	3,815
15,000 +										
Total families	7,075	6,415	8,660	3,345	6,030	9,155	59,620	10,620	4,330	115,250
Median income:										
Families	\$3,089	2,952	3,035	2,400	2,536	3,215	3,651	3,157	2,578	2,957
Fam. & un- related indiv	\$2,778	2,510	2,716	2,134	2,172	2,798	3,123	2,063	2,097	2,722

Source: U.S. Bureau of Census, Census of Population, 1950.

APPENDIX 4 (con't)

INCOME LEVELS 1960

	<u>BOONE</u>	<u>DALLAS</u>	<u>JASPER</u>	<u>MADISON</u>	<u>MARION</u>	<u>MARSHALL</u>	<u>FOLK</u>	<u>STORY</u>	<u>WARREN</u>	<u>TOTAL</u>
Under \$4,000	2,748	2,562	1,644	1,725	2,684	3,205	13,878	3,778	1,872	34,09
4,000 - 5,999	1,943	1,860	1,162	899	1,919	2,714	16,450	2,936	1,404	31,28
6,000 - 6,999	653	648	419	234	645	1,218	9,136	1,304	619	14,87
7,000 - 9,999	1,133	1,015	621	803	888	1,833	17,709	2,081	1,012	27,09
10,000 - 14,999	457	389	215	303	361	810	8,293	1,158	361	12,34
15,000 +	143	184	92	43	138	391	3,672	564	117	5,34
Total families	7,077	6,658	4,153	4,007	6,635	10,171	69,138	11,821	5,385	125,04
Median income:										
Families	\$ 4,763	4,831	5,345	3,934	4,600	5,392	6,484	5,410	5,217	5,10
Fam. & un-										
related indiv	\$4,109	4,313	3,629	3,480	3,969	4,746	5,479	3,332	3,632	4,07

Source: U.S. Bureau of Census, Census of Population, 1960.

APPENDIX 5

TOP 20 METROPOLITAN AREAS
IN PERSONAL INCOME IN 1975

Cities ranked according to income	Per Capita Income (1960-value dollars)
1. Wilmington, Del.	\$5,072
2. San Francisco	4,739
* 3. Reno, Nev.	4,508
4. Washington, D.C.	4,453
5. Chicago-N. W. Indiana	4,421
6. San Jose, Calif.	4,420
* 7. <u>Des Moines</u>	<u>4,359</u>
8. Los Angeles-Long Beach	4,350
9. Rochester, N.Y.	4,335
10. Indianapolis	4,259
11. New Haven, Conn.	4,223
12. Cleveland	4,218
13. Las Vegas, Nev.	4,187
14. San Diego	4,161
15. Anaheim, Calif.	4,121
16. Sacramento	4,091
17. New York-N. E. New Jersey	4,090
18. Portland, Ore.	4,072
19. Denver	4,064
20. Santa Barbara, Calif	4,062

Source: Industrial Bureau, Greater Des Moines Chamber of Commerce: 1966

APPENDIX 6

EMPLOYMENT BY INDUSTRY GROUP BY COUNTY: 1950-60

	BOONE					DALLAS				
	1950		1960		1950-60	1950		1960		1950-60
	No.	%	No.	%	%	No.	%	No.	%	%
	<u>Employed</u>	<u>Total</u>	<u>Employed</u>	<u>Total</u>	<u>Change</u>	<u>Employed</u>	<u>Total</u>	<u>Employed</u>	<u>Total</u>	<u>Change</u>
AGRI.	2,801	30.2	1,985	21.3	- 29.1	3,133	34.7	2,175	23.9	- 30.6
MFG.	615	6.6	1,125	12.1	+ 82.9	808	8.9	1,170	12.8	+ 44.8
TRANS COMM UT.	1,376	14.9	987	10.6	- 28.3	810	9.0	805	8.8	- 0.6
WHOL. RET. TRADE	1,621	17.5	1,797	19.3	+ 10.9	1,677	18.7	1,700	18.6	+ 1.4
FINANCE	195	2.1	250	2.7	+ 28.2	211	2.3	277	3.0	+ 31.3
PUB. ADMIN	247	2.7	334	3.6	+ 35.2	221	2.4	255	2.8	+ 15.4
CONST.	615	6.6	642	6.9	+ 44.0	537	5.9	492	5.4	- 8.4
PROF. & REL. SERV.	480	5.2	637	6.8	+ 48.7*	385	4.3	808	8.8	+109.9*
BUS. & PERS. SERV.	1,005	10.9	1,362	14.6	+ 35.5*	1,074	11.9	1,258	13.8	+ 17.1*
OTHERS	305	3.3	267	2.1	- 32.1	173	1.9	191	2.1	+ 10.4
TOTAL	9,260	100.0	9,326	100.0	+ 0.7	9,029	100.0	9,131	100.0	+ 1.1

* % change for this item cannot be compared to % shown for the Region in Table 12 since shown in two separate categories in this Table.

APPENDIX C (con't)

EMPLOYMENT BY INDUSTRY GROUP BY COUNTY: 1950-60

	JASPER					MADISON				
	1950		1960		1950-60	1950		1960		1950-60
	No. Employed	% Total	No. Employed	% Total	% Change	No. Employed	% Total	No. Employed	% Total	% Change
AGRI.	3,774	29.7	2,625	19.6	- 30.4	2,567	53.7	1,696	37.7	- 33.9
MFG.	3,977	31.3	4,289	32.0	+ 7.8	140	2.9	309	6.9	+120.7
TRANS COMM UT.	492	3.9	519	3.9	+ 5.5	192	4.0	235	5.2	+ 22.4
WHOL. RET. TRADE	1,679	13.2	2,492	18.6	+ 48.4	709	14.8	765	17.0	+ 7.9
FINANCE	220	1.7	344	2.6	+ 56.4	78	1.6	196	4.4	+151.3
PUB. ADMIN.	263	2.1	288	2.1	+ 9.5	131	2.7	108	2.4	- 17.6
CONST.	491	3.9	597	4.4	+ 21.6	246	5.1	267	5.9	+ 8.5
PROF. & REL. SERV.	328	2.6	548	4.1	+ 67.1*	99	2.1	216	4.8	+118.2 *
BUS. & PERS. SERV.	1,183	9.3	1,362	10.2	+ 15.1*	481	10.2	595	13.2	+ 23.7 *
OTHERS	304	2.3	349	2.5	+ 14.8	139	2.9	110	2.5	- 20.9
TOTAL	12,711	100.0	13,413	100.0	+ 0.5	4,782	100.0	4,497	100.0	- 6.0

* % change for this item cannot be compared to % shown for the Region in Table 12 since shown in two separate categories in this Table.

APPENDIX 6 (con't)

EMPLOYMENT BY INDUSTRY GROUP BY COUNTY: 1950-60

MARION						MARSHALL					
	1950		1960		1950-60		1950		1960		1950-60
	No. Employed	% Total	No. Employed	% Total	% Change		No. Employed	% Total	No. Employed	% Total	% Change
AGRI.	2,820	32.2	1,715	19.8	- 39.2		3,105	21.9	2,431	16.8	- 21.7
MFG.	972	11.1	1,622	18.7	+ 66.9		3,003	21.1	3,801	26.3	+ 26.6
TRANS COMM UT.	396	4.5	405	4.7	+ 2.3		1,107	7.8	1,008	7.0	- 8.9
WHOL. RET. TRADE	1,373	15.7	1,412	16.3	+ 2.8		2,946	20.7	2,778	19.2	- 5.7
FINANCE	150	1.7	202	2.3	+ 34.7		303	2.1	458	3.2	+ 51.2
PUB. ADMIN.	250	2.9	192	2.2	- 23.2		300	2.1	355	2.5	+ 18.3
CONST.	442	5.1	455	5.2	+ 2.9		684	4.8	614	4.3	- 10.2
PROP. & REL. SERV.	911	10.4	1,161	13.4	+ 27.4*		848	6.0	1,112	7.7	+ 31.1*
BUS. & PERS. SERV.	932	10.6	1,165	13.4	+ 25.0*		1,713	12.1	1,688	11.7	- 1.5*
OTHERS	507	5.8	343	4.0	- 32.3		193	1.4	197	1.3	+ 2.1
TOTAL	8,753	100.0	8,672	100.0	- 0.9		14,202	100.0	14,442	100.0	+ 0.2

* % change for this item cannot be compared to % shown for the Region in Table 12 since shown in two separate categories in this Table.

APPENDIX 6 (con't)

EMPLOYMENT BY INDUSTRY GROUP BY COUNTY: 1950-60

	POLK					STORY				
	1950		1960		1950-60	1950		1960		1950-60
	No. <u>Employed</u>	% <u>Total</u>	No. <u>Employed</u>	% <u>Total</u>	% <u>Change</u>	No. <u>Employed</u>	% <u>Total</u>	No. <u>Employed</u>	% <u>Total</u>	% <u>Change</u>
AGRI.	3,489	3.7	2,400	2.2	- 31.2	3,348	20.1	2,609	13.4	- 22.1
MFG.	19,367	20.4	22,855	21.2	+ 18.0	753	4.5	1,597	8.2	+112.1
TRANS COMM UT.	7,932	8.4	8,479	7.9	+ 6.9	712	4.3	694	3.6	- 2.5
WHOL. RET. TRADE	23,316	24.6	23,426	21.8	+ 0.5	2,852	17.1	2,936	15.1	+ 2.9
FINANCE	7,738	8.2	10,312	9.6	+ 33.3	331	2.0	558	2.9	+ 68.6
PUB. ADMIN.	5,796	6.1	6,518	6.1	+ 12.5	625	3.7	678	3.5	+ 8.5
CONST.	6,056	6.4	5,835	5.4	- 3.6	1,275	7.6	1,787	9.2	+ 28.7
PROF. & REL. SERV.	6,030	6.4	8,746	8.1	+ 45.0 *	626	3.8	1,115	5.7	+ 43.9 *
BUS. & PERS. SERV.	13,718	14.4	15,115	14.1	+ 10.2 *	5,964	35.8	7,058	36.2	+ 15.5 *
OTHERS	1,457	1.4	3,877	3.6	+166.1	191	1.1	445	2.2	+133.0
TOTAL	94,899	100.0	107,563	100.0	+ 13.3	16,677	100.0	19,477	100.0	+ 16.8

* % change for this item cannot be compared to % shown for the Region in Table 12 since shown in two separate categories in this Table.

APPENDIX 6 (con't)

EMPLOYMENT BY INDUSTRY
GROUP BY COUNTY: 1950-60WARREN

	<u>1950</u>		<u>1960</u>		<u>1950-60</u>
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>%</u>
	<u>Employed</u>	<u>Total</u>	<u>Employed</u>	<u>Total</u>	<u>Change</u>
AGRI.	2,766	43.3	1,642	22.4	- 40.6
MFG.	431	6.8	1,067	14.5	+147.6
TRANS COMM UT.	305	4.8	511	7.0	+ 67.5
WHOL. RET.					
TRADE	1,000	15.7	1,382	18.8	+ 38.2
FINANCE	179	2.8	425	5.8	+137.4
PUB. ADMIN.	209	3.3	304	4.1	+ 45.5
CONST.	384	6.0	483	6.6	+ 25.8
PROF. & REL.					
SERV.	148	2.3	297	4.0	+100.7 *
BUS. & PERS.					
SERV.	835	13.1	1,124	15.3	+ 34.6 *
OTHERS	126	1.9	106	1.5	- 15.9
TOTAL	6,383	100.0	7,341	100.0	+ 15.0

* % change for this item cannot be compared to % shown for the Region in Table 12 since shown in two separate categories in this Table.

Source: U.S. Census of Population, Iowa.

APPENDIX 7

YEARS OF SCHOOL COMPLETED
CENTRAL IOWA REGION BY
COUNTY - PERSONS 25 & OLDER

BOONE						DALLAS				
Years of School	1950		1960		1950-60	1950		1960		1950-60
	Population	% Total	Population	% Total	% Change	Population	% Total	Population	% Total	% Change
1-4 } Grade and	765	4.5	634	3.8	- 17.1	480	3.4	277	1.9	- 42.3
5-7 } Jr. High	2,030	11.9	1,746	10.5	- 14.0	1,260	8.8	1,320	9.7	+ 9.5
8 } School	4,575	26.8	3,979	24.0	- 13.0	3,780	26.5	3,086	21.7	- 18.4
1-3 } High	2,365	13.8	2,391	14.4	+ 1.1	2,530	17.7	2,317	16.3	- 8.4
4 } School	4,050	23.7	4,836	29.2	+ 19.4	4,015	28.2	4,949	34.9	+ 23.3
1-3 } Post High	1,220	7.1	1,581	9.6	+ 29.6	1,405	9.9	1,296	9.1	- 7.8
4 } School & College	595	3.5	837	5.1	+ 40.7	475	3.3	828	5.8	+ 74.3
Total with some school completed	15,600	91.3	15,004	96.6	+ 2.6	13,945	97.8	14,133	99.4	+ 1.3
No school completed or not reported	1,483	8.7	568	3.4		310	2.2	83	.6	
Total Population Persons 25 yrs. & over	17,085	100.0	16,572	100.0	- 3.0	14,255	100.0	14,216	100.0	- 0.3

APPENDIX 7 (con't)

JASPER

MADISON

Years of School	JASPER					MADISON				
	1950		1960		1950-60	1950		1960		1950-60
	Population	% Total	Population	% Total	% Change	Population	% Total	Population	% Total	% Change
1-4 } Grade and	550	2.9	491	2.5	- 10.8	340	4.4	144	2.0	- 57.6
5-7 } Jr. High	2,755	14.7	2,410	12.1	- 12.5	1,035	13.3	898	12.3	- 13.2
8 } School	5,325	28.5	4,816	24.2	- 9.6	2,305	29.6	1,795	24.5	- 21.9
1-3 } High	2,950	15.8	3,220	16.2	+ 9.2	995	12.8	1,173	16.0	+ 17.9
4 } School	4,750	25.4	6,425	32.4	+ 35.3	2,035	26.1	2,474	33.8	+ 21.6
1-3 } Post High	1,170	6.3	1,553	7.8	+ 32.8	745	9.6	616	8.4	- 17.3
4 } School &	800	4.3	910	4.6	+ 13.8	145	1.9	191	2.6	+ 31.7
College										
Total with school completed	18,300	97.9	19,825	99.8	+ 8.3	7,600	97.7	7,291	99.6	- 4.1
No school completed or not reported	395	2.1	44	0.2		185	2.3	32	0.4	
Total Population Persons 25 yrs. & over	18,695	100.0	19,869	100.0	+ 6.3	7,785	100.0	7,323	100.0	- 5.9

APPENDIX 7 (con't)

MARION						MARSHALL									
Years of School	1950		1960		1950-60	1950		1960		1950-60					
	Population	% Total	Population	% Total	% Change	Population	% Total	Population	% Total	% Change					
1-4 } Grade and	1,045	6.7	792	5.2	- 24.2	635	2.9	519	2.4	- 18.3					
5-7 } Jr. High	2,985	18.9	2,390	15.6	- 20.0	2,675	12.1	2,430	11.0	- 9.2					
8 } School	4,955	31.4	4,449	29.0	- 10.2	4,970	22.6	4,294	19.5	- 13.6					
1-3 } High	1,890	12.0	2,031	13.2	+ 7.5	3,785	17.2	3,812	17.3	+ 0.7					
4 } School	3,100	19.6	3,748	24.4	+ 20.9	5,965	27.1	7,087	32.2	+ 18.8					
1-3 } Post High	825	5.2	986	6.4	+ 19.5	1,850	8.4	2,527	11.5	+ 36.6					
4 } School &	510	3.2	893	5.8	+ 75.1	1,070	4.8	1,264	5.7	+ 18.1					
College															
Total with school completed						15,310	97.0	15,289	99.6	- 0.1	20,950	95.1	21,933	99.6	+ 4.7
No school completed or not reported						475	3.0	64	0.4		1,085	4.9	89	0.4	
Total Population Persons 25 yrs. & over						15,785	100.0	15,353	100.0	- 2.7	22,035	100.0	22,022	100.0	- 0.1

APPENDIX 7 (con't)

POLK						STORY				
Years of School	1950		1960		1950-60	1950		1960		1950-60
	Population	% Total	Population	% Total	% Change	Population	% Total	Population	% Total	% Change
1-4 } Grade and	4,465	3.3	3,405	2.3	- 23.7	460	2.0	366	1.5	- 20.4
5-7 } Jr. High	12,455	9.1	11,106	7.5	- 10.8	1,815	7.9	1,902	7.9	+ 4.8
8 } School	24,195	17.7	22,851	15.5	- 5.6	4,165	18.2	3,647	15.1	- 12.4
1-3 } High	25,320	18.5	27,452	18.6	+ 8.4	2,840	12.4	2,695	11.2	- 5.1
4 } School	40,575	29.7	50,198	34.0	+ 23.7	5,740	25.0	7,157	29.6	+ 24.7
1-3 } Post High	14,200	10.4	17,775	12.0	+ 25.2	3,610	15.7	3,627	15.0	+ 0.5
4 } School & College	10,965	8.0	14,104	9.5	+ 28.6	3,870	16.9	4,682	19.4	+ 21.0
Total with school completed	132,175	96.7	146,891	99.4	+ 11.1	22,500	98.1	24,076	99.7	+ 7.0
No. School completed or not reported	4,580	3.3	892	0.6		435	1.9	65	0.3	
Total Population Persons 25 yrs. & over	136,755	100.0	147,783	100.0	+ 8.1	22,935	100.0	24,141	100.0	+ 5.3

APPENDIX 7 (con't)

WARREN

		1950		1960		1950-60
			%		%	%
Years of School		Population	Total	Population	Total	Change
1-4	Grade and Jr. High School	275	2.8	158	1.4	- 42.5
5-7		775	7.8	797	7.2	+ 2.8
8		3,225	32.4	2,494	22.6	- 22.7
1-3	High School	1,500	15.1	1,771	16.1	+ 18.1
4		2,525	25.3	3,818	34.7	+ 51.2
1-3	Post High School & College	980	9.8	1,173	10.6	+ 19.7
4		505	5.1	797	7.2	+ 57.8
Total with some school completed		9,785	98.3	11,008	99.8	+ 12.5
No school com- pleted or not reported		170	1.7	19	0.2	
Total Population		9,955	100.0	11,027	100.0	+ 10.8
Persons 25 yrs. & over						

Source: U.S. Bureau of Census, General Social and Economic Characteristics - Iowa, 1950 & 1960.

APPENDIX 8

SCHOOL ENROLLMENT
CENTRAL IOWA REGION BY COUNTY
PERSONS 5-24 YEARS OF AGE

Age of Persons Enrolled	BOONE					DALLAS				
	1950		1960		1950-60	1950		1960		1950-60
	Population	% Total	Population	% Total	% Change	Population	% Total	Population	% Total	% Change
5-6 years	310	3.7	850	9.6	+174.2	305	4.5	857	11.4	+ 181.0
7-13	3,060	36.3	3,412	38.7	+ 11.5	2,720	40.1	3,276	43.6	+ 20.4
14-15	785	9.4	809	9.2	+ 3.1	735	10.8	786	10.5	+ 6.9
16-17	640	7.6	739	8.4	+ 15.5	590	8.7	678	9.0	+ 16.4
18-19	230	2.7	253	2.9	+ 10.0	170	2.5	132	1.8	- 22.4
20-24	95	1.1	97	1.1	+ 2.1	100	1.5	35	.5	- 65.0
Total Enrolled	5,120	60.8	6,160	69.9	+ 20.3	4,620	68.1	5,764	76.8	+ 24.8
Not enrolled or not reported	3,300	39.2	2,658	30.1		2,160	31.9	1,742	23.2	
Total Population	8,420	100.0	8,818	100.0	+ 4.7	6,780	100.0	7,506	100.0	+ 10.7

APPENDIX 8 (con't)

SCHOOL ENROLLMENT
CENTRAL IOWA REGION BY COUNTY
PERSONS 5-24 YEARS OF AGE

Age of Persons Enrolled	JASPER					MADISON				
	1950		1960		1950-60	1950		1960		1950-60
	Population	% Total	Population	% Total	% Change	Population	% Total	Population	% Total	% Change
5-6 years	450	4.5	1,292	11.3	+ 187.1	180	4.6	351	9.2	+ 95.0
7-13	3,625	36.0	4,831	42.2	+ 33.3	1,675	42.6	1,700	44.7	+ 1.5
14-15	940	9.3	1,100	9.6	+ 17.0	425	10.8	387	10.2	- 8.9
16-17	670	6.7	988	8.6	+ 47.5	355	9.0	369	9.7	+ 3.9
18-19	235	2.3	259	2.3	+ 10.2	130	3.3	152	4.0	+ 16.9
20-24	95	.9	56	.5	- 41.0	20	.5	30	.8	- 50.0
Total Enrolled	6,015	59.7	8,526	74.5	+ 41.7	2,785	70.8	2,989	78.6	+ 7.3
Not enrolled or not reported	4,057	40.3	2,916	25.5		1,146	29.2	812	21.4	
Total Population	10,072	100.0	11,442	100.0	+ 13.6	3,931	100.0	3,801	100.0	- 3.3

APPENDIX 8 (con't)

SCHOOL ENROLLMENT
CENTRAL IOWA REGION BY COUNTY
PERSONS 5-24 YEARS OF AGE

Age of Persons Enrolled	MARION					MARSHALL				
	1950		1960		1950-60	1950		1960		1950-60
	Population	% Total	Population	% Total	% Change	Population	% Total	Population	% Total	% Change
5-6 years	320	4.2	794	9.9	+ 148.1	515	4.5	1,143	9.6	+ 121.9
7-13	2,675	35.0	3,239	40.3	+ 21.1	4,070	35.6	5,225	43.9	+ 28.4
14-15	610	8.0	837	10.5	+ 37.2	1,020	8.9	1,055	8.9	+ 3.4
16-17	555	7.3	725	9.1	+ 30.6	665	5.8	1,118	9.3	+ 68.1
18-19	275	3.6	311	3.9	+ 13.1	275	2.4	390	3.3	+ 41.8
20-24	180	2.4	209	2.6	+ 16.1	115	1.0	121	1.0	+ 5.2
Total Enrolled	4,615	60.3	6,115	76.4	+ 32.5	6,660	58.2	9,052	76.0	+ 35.9
Not enrolled or not reported	3,036	39.7	1,892	23.6		4,782	41.8	2,862	24.0	
Total Population	7,651	100.0	8,007	100.0	+ 4.6	11,442	100.0	11,914	100.0	+ 4.1

APPENDIX 8 (con't)

SCHOOL ENROLLMENT
CENTRAL IOWA REGION BY COUNTY
PERSONS 5-24 YEARS OF AGE

Age of Persons Enrolled	POLK					STORY				
	1950		1960		1950-60	1950		1960		1950-60
	<u>Population</u>	<u>% Total</u>	<u>Population</u>	<u>% Total</u>	<u>% Change</u>	<u>Population</u>	<u>% Total</u>	<u>Population</u>	<u>% Total</u>	<u>% Change</u>
5-6 years	3,065	4.7	9,108	10.4	+ 197.2	408	2.5	1,571	8.0	+ 285.0
7-13	22,935	34.8	35,706	40.8	+ 55.7	3,890	24.2	5,529	27.0	+ 42.1
14-15	5,550	8.4	7,038	8.0	+ 26.8	810	5.0	1,091	5.5	+ 34.7
16-17	4,400	6.7	6,134	7.0	+ 39.4	895	5.6	1,115	5.6	+ 24.6
18-19	2,175	3.3	3,186	3.7	+ 46.5	1,865	11.6	3,050	15.5	+ 63.5
20-24	2,885	4.4	2,432	2.8	- 15.7	3,895	24.2	3,752	19.0	- 3.7
Total Enrolled	41,010	62.3	63,604	72.7	+ 55.1	11,763	73.1	16,108	80.6	+ 35.2
Not enrolled or not reported	24,842	37.7	23,842	27.3		4,319	26.9	3,831	19.4	
Total Population	65,852	100.0	87,446	100.0	+ 32.8	16,082	100.0	19,939	100.0	+ 22.7

APPENDIX 8 (con't)
CENTRAL IOWA REGION BY COUNTY
PERSONS 5-24 YEARS OF AGE

Age of Persons Enrolled	WARREN				
	1950		1960		1950-60
	<u>Population</u>	<u>% Total</u>	<u>Population</u>	<u>% Total</u>	<u>% Change</u>
5-6 years	230	3.9	767	10.4	+ 233.5
7-13	2,160	36.4	2,997	40.6	+ 38.8
14-15	495	8.3	628	8.5	+ 26.9
16-17	490	8.2	656	8.9	+ 33.9
18-19	295	5.0	403	5.5	+ 36.6
20-24	415	7.0	377	5.1	- 9.2
Total Enrolled	4,085	68.8	5,828	79.0	+ 42.7
Not enrolled or not reported	1,854	31.2	1,552	21.0	
Total Population	5,939	100.0	7,380	100.0	+ 24.3

Source: U.S. Bureau of Census, General Social and Economic Characteristics - Iowa, 1950 & 1960.

APPENDIX 9

Method used for Calculating Total Participation Days for Selected Recreation Activities in Central Iowa Region, 1960 and 1975.

A. 1960 Total Participation Days

1. Number of Participants

The 1960 population over 12 in Central Iowa X (times) the percent of Iowans participating in each activity is equal to the total number of participants.

1960 Population X % Participating = Number Participants

Percentages are taken from the "1966 Iowa Outdoor Recreation Survey", Iowa State University, Summary Table 1. The Iowa State Report is used since it provides the only available statistics on recreation participation for Iowa. Other studies¹⁷, are on a nation wide or a regional basis.

2. Total participation days

The number of participants X (times) average number of days per participant (ISU report, table 1) is equal to total participation days (1960).

B. 1975 Total Participation Days

1. Number of Participants

The estimated 1975 population over 12 in Central Iowa X (times) the percent of Iowans participating in each activity is equal to the total number of participants. Percentages are taken from the ISU Report.

1975 Population X % Participating = Number of Participants
1975

2. Total Participation Days

The number of participants (1975) X (times) the average number of days per participant is equal to total participation days

(1975) .

ORRRC Report No. 26, P. 28, table 11 lists the percent change from 1960 to 1975 in average days participation per person. This percent change results from changes in six socio-economic factors-income, occupation, education, residence, leisure, and age/sex. National figures are used because no other projection of this nature has been made at the State or regional level. The average number of days per participant from the 1966 ISU report are adjusted according to the figures given in the ORRRC report and from this average days per participant was derived for 1975.

APPENDIX 10

FOOTNOTES

- 1 "Preservation of Open Space," Report of Committee on Regional Parks and Playgrounds, American Society of Landscape Architecture, Jan. 1958
- 2 C.I.R. - 1966 Population Study, Brunsvold, Nelson, Koller and Drain, 1966, and A Plan for Recreation and Open Space Central Iowa Region, Kursitis, McFarland, Schar and Wandrey, May 1966.
- 3 B. Clausen, Professor of Biology, Iowa State University and Chairman, Iowa Conservation Education Council, "Remarks before Governor's Committee on Outdoor Recreation", Iowa Municipalities, May 1966.
- 4 Ibid.
- 5 Prof. Jon Doerflinger and Ronald Klimek, Department of Economics and Sociology, Iowa State University, Iowa. Iowa's Population: Recent Trends and Future Prospects, Coop. Extension Service, Ames, May 1966.
- 6 C. Horace Hamilton and Josef Perry, A short method for projecting population by age from one decennial census to another, Social Forces, Vol. 41, No. 2, December, 1962.
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- 8 op cit - Iowa's Population, 1966.
- 9 Outdoor Recreation Resources Review Commission, Outdoor Recreation for America, January 1962.
- 10 op cit - Outdoor Recreation for America, 1962
- 11 Outdoor Recreation Resources Review Commission. Projections to the years 1976 and 2000: Economic Growth, Population, Labor Force and Leisure, and Transportation. Study Report No. 23. 1962.
- 12 U.S. Census Bureau, Census of Population - United States, and Iowa - 1960.

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- 14 1966 Iowa Outdoor Recreation Survey, A Study Plan, Carl H. Stoltenberg, Forestry Department, Iowa State University, July 29, 1966.
- 15 Inventory of Existing Outdoor Private Recreation Business by Enterprises and Activities, NACD.
- 16 Outdoor Recreation Resources Review Commission. National Recreation Survey, ORRRC Study Reports 1-27, 1962.
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Note: The measure of participation days was established in 1960 in conjunction with the National Recreation Study. The results of this study are recorded in the ORRRC series 1-27.
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