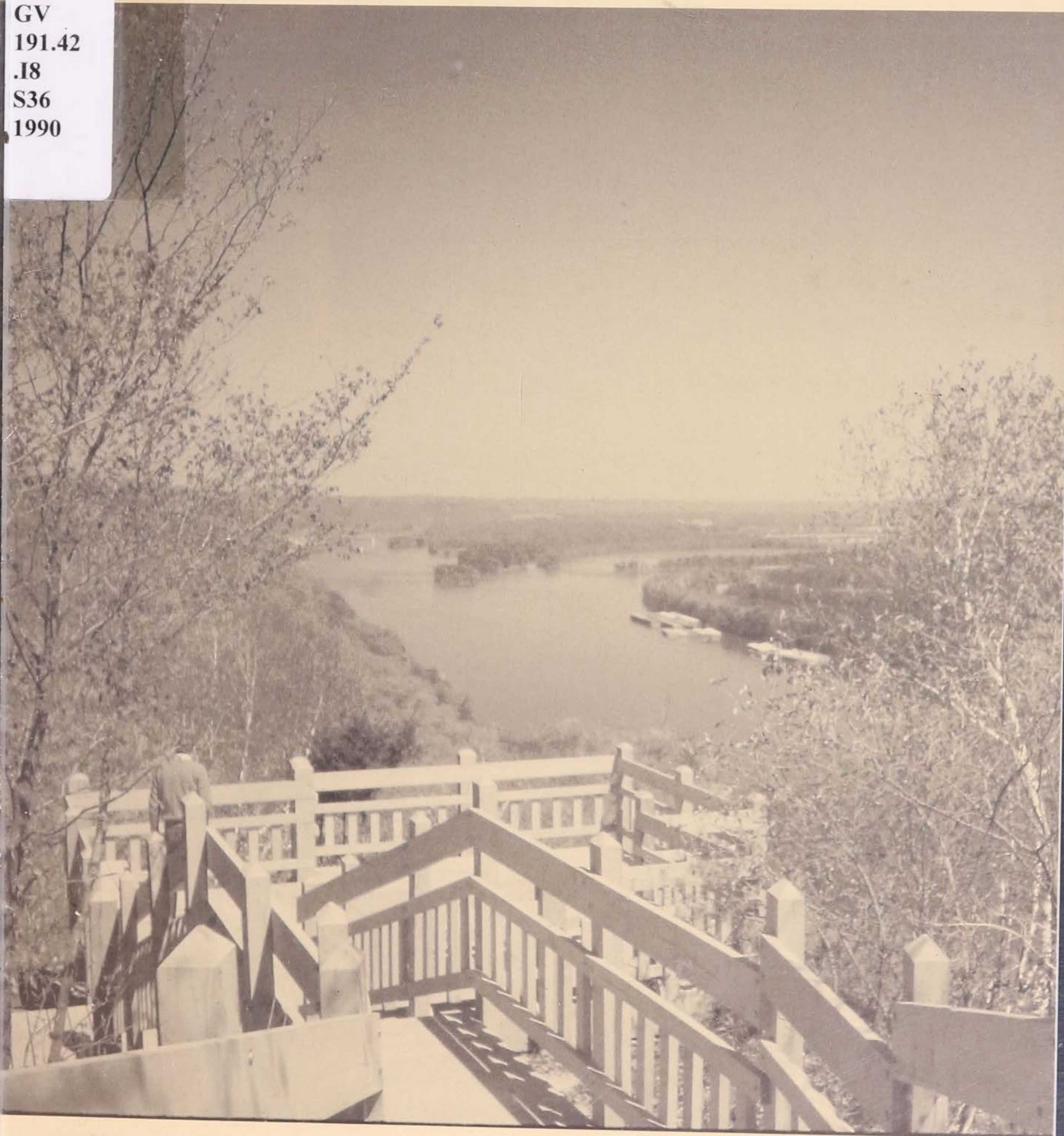


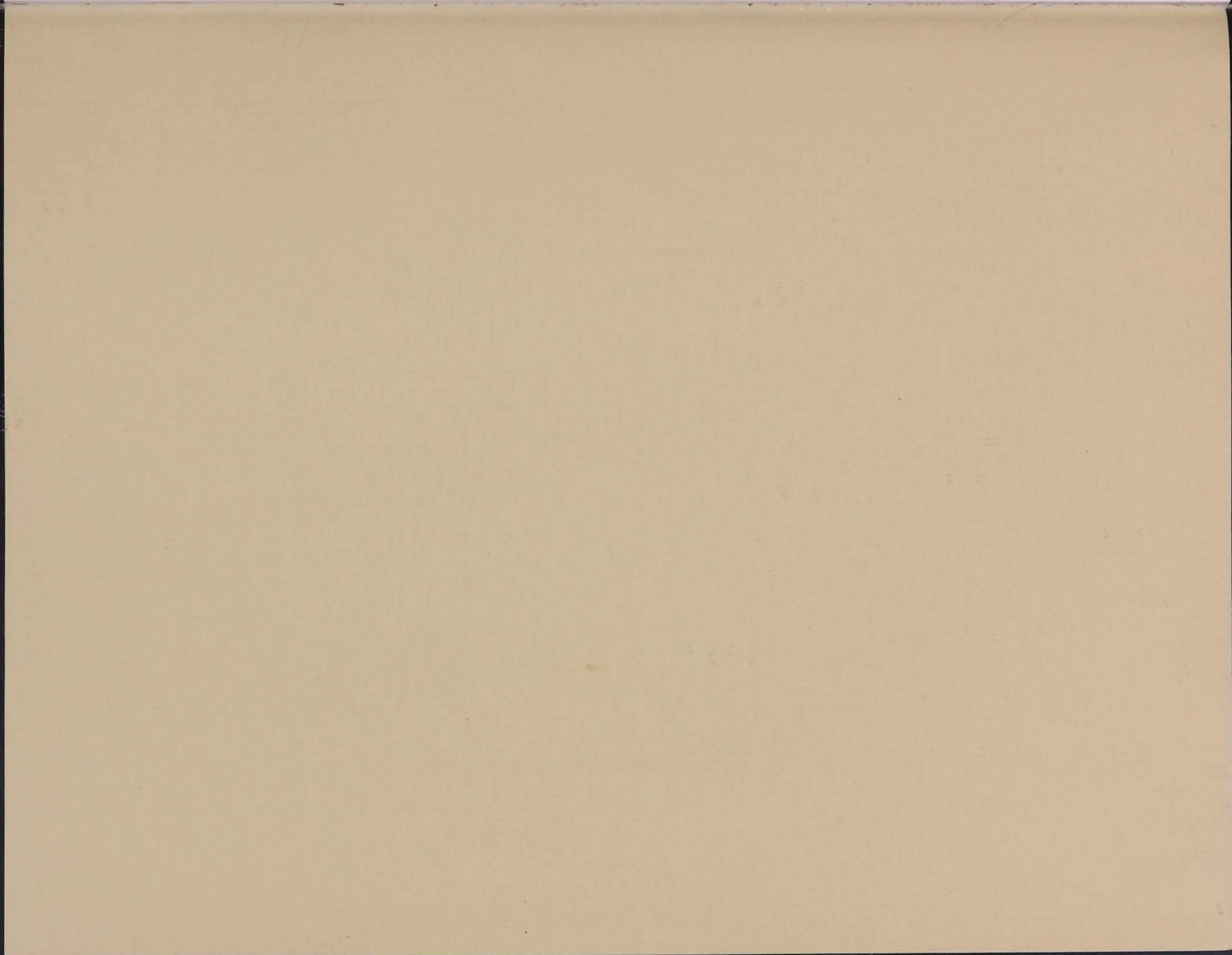
1990

Iowa SCORP

Statewide Comprehensive Outdoor Recreation Plan

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1990 State Comprehensive Outdoor Recreation Plan

Prepared by:

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Outdoor Recreation Planner**

Division of Parks, Recreation and Preserves

Department of Natural Resources Commission
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Iowa Department of Natural Resources
Larry J. Wilson, Director

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TABLE OF CONTENTS

CHAPTER 1.	INTRODUCTION	1-1
	Goals of the Iowa SCORP	1-1
	Iowa's Providers of Outdoor Recreation	1-2
	Uses of the SCORP	1-7
CHAPTER 2.	IOWA'S RECREATION RESOURCES	2-1
	The Natural Resource Base	2-1
	Game and Nongame Wildlife	2-9
	Cultural Resources	2-12
	Supply of Recreation in Iowa	2-15
CHAPTER 3.	IOWA'S RECREATION ACTIVITY	3-1
	Iowans In The 90's	3-1
	Outdoor Recreation Surveys	3-3
	Other Iowa Recreation Data	3-7
CHAPTER 4.	CURRENT RECREATION ISSUES	4-1
	Addressing State Issues	4-1
	State Priorities	4-17
	Implementation Plan and Program	4-19
	Programs for Addressing Issues and Actions	4-22
CHAPTER 5.	LAWCON IN IOWA	5-1
	Iowa Policies	5-1
CHAPTER 6.	PUBLIC PARTICIPATION	6-1
	Statistical Surveys	6-1
	Site or Issue Specific Public Inputs	6-3
	Special Studies/Planning Efforts	6-4

TABLES AND FIGURES continued

FIGURE 4-1. Identified Potential Protected Water Areas	4-42
FIGURE 4-2. Boone River PWA	4-43
FIGURE 4-3. Little Sioux River PWA	4-44
FIGURE 4-4. Wapsipinicon River PWA	4-45
FIGURE 4-5. Upper Iowa River PWA	4-46
FIGURE 4-6. Middle Raccoon River PWA	4-46
FIGURE 5-1. Number of Funded Grants	5-2
FIGURE 5-2. Funds Per Capita	5-2
FIGURE 5-3. Annual Iowa Appropriations	5-3
FIGURE 7-1. Welcome Center Survey	7-2
FIGURE 8-1. Existing Protected Wetlands	8-2
FIGURE 8-2. Glaciation of Iowa	8-3
FIGURE 8-3. Rivers of Iowa	8-4
FIGURE 8-4. Wetland Restoration Potential	8-11

TABLES AND FIGURES

TABLES

TABLE 1-1.	Other State Agencies with Ties to Recreation/Resource Management	1-5
TABLE 2-1.	Land Use in Iowa	2-1
TABLE 2-2.	Status of Conservation Practices	2-2
TABLE 2-3.	Missouri River Channel Changes	2-9
TABLE 2-5.	Ownership and Management of Iowa's Recreation Lands	2-17
TABLE 2-6a.	Supply of Recreation by Recreation Region	2-20
TABLE 2-6b.	Need for Recreation Facilities (based on county comparison)	2-21
TABLE 2-6c.	Need for Recreation Facilities (based on recreation standards)	2-22
TABLE 3-1.	Population Comparisons	3-2
TABLE 3-2.	Participation Projections	3-11
TABLE 4-1	Resource Enhancement and Protection Fund Analysis	4-23
TABLE 4-2	Des Moines Recreational River and Greenbelt Cost-Sharing Priorities	4-30
TABLE 5-1	LAWCON Project Summary	5-1
TABLE 5-2	Funding Summary	5-4
TABLE 7-1	Total Travel Expenditure	7-1
TABLE 7-2	Interest Areas For Travelers	7-2

FIGURES

FIGURE 2-1.	Iowa Forest Cover	2-3
FIGURE 2-2.	Prairie Preserves in Iowa	2-5
FIGURE 2-3.	Border Streams	2-8
FIGURE 2-4.	Outdoor Recreation Resources and Facilities Summary Report	2-16
FIGURE 2-5.	Ownership and Management of Iowa's Recreation Lands	2-18
FIGURE 2-6.	Recreation Planning Regions	2-19
FIGURE 3-1.	Population Change By County	3-1
FIGURE 3-2.	Projected Population	3-2
FIGURE 3-3.	Percent Urban Population	3-4
FIGURE 3-3a	Median Age	3-4
FIGURE 3-4.	Activity Occasions in Selected Outdoor Activities	3-6
FIGURE 3-5.	Percent of Iowans Participating in Selected Outdoor Activities	3-6
FIGURE 3-6.	Latent Demand	3-7
FIGURE 3-7.	U.S. and Iowa Recreation Participation Comparison	3-8

TABLE OF CONTENTS continued

CHAPTER 7.	IOWA TOURISM	7-1
	Tourism	7-1
CHAPTER 8.	IOWA WETLANDS PLAN	8-1

INTRODUCTION

SCORP-V is Iowa's fifth edition of its State Comprehensive Outdoor Recreation Plan. The SCORP is designed to provide a relatively short synopsis of outdoor recreation supply, demand and issues as they relate to the State of Iowa.

The Land and Water Conservation Fund (L&WCF) Act of 1965 (Public Law 88-578) was enacted, "... to assist in preserving, developing, and assuring accessibility to all citizens of the United States of America of present and future generations ... such quality and quantity of outdoor recreation resources as may be available and are necessary and desirable for individual active participation ..." The L&WCF has, since 1965, provided over \$43 million in matching grants to the State of Iowa and its cities and counties. Even with this Federal assistance, the need to provide Iowans with quality outdoor recreation opportunities remains high. This is evidenced by the fact that requests for financial assistance exceed funds available by a margin of nearly 5 to 1 over the life of the program and considerably higher over the last five years. This margin is anticipated to increase as recent annual appropriations have greatly diminished and the priority of outdoor recreation by recent and current administrations have declined.

The L&WCF Act was a primary result of the 1962 ORRRC Reports (Outdoor Recreation Resources Review Commission). Since the early 1960's, there have obviously been changes in social and economic factors affecting people's leisure time and the activities pursued during those leisure times. A Presidential Study Commission appointed under Executive Order Number 12503 in 1985 reassessed and reaffirmed public needs and desires for outdoor recreation services and facilities, and defined public and private sector responsibilities in meeting those needs.

Goals Of The Iowa SCORP

The SCORP's primary functions are to assess the supply of and demand for outdoor recreation resources and to define priorities for actions on the part of all sectors to meet identified needs. Outdoor recreation has a myriad of meanings to Iowa citizens. Parks possess a wide range of resources, and all must be managed and developed to best serve recreational demands while enhancing or protecting their natural resource base. City, county, state and federal governments all play an active role in Iowa in meeting public demands for recreation services and facilities. Additionally, the private sector is directly and indirectly involved in meeting or supporting recreational pursuits by residents and visitors.

Goals of this fifth generation SCORP are as follows:

1. To summarize in tabular and narrative forms the supply and condition of public and private outdoor recreation lands, facilities and programs in the state of Iowa.
2. To present an updated assessment of past, present and future public demand for those lands, facilities and programs.
3. To summarize recently completed and ongoing research and planning activities aimed at high-priority recreation and resource issues.
4. To provide a comprehensive list of perceived issues in need of attention and resolution.
5. To examine the roles of city, county, state, federal and private sectors in meeting recreational demands.
6. To recommend priorities and actions that will help guide the funding, staffing, development and management of future outdoor recreation efforts in Iowa.

Iowa's Providers of Outdoor Recreation

No single entity or level of government in Iowa comes close to providing all the diverse outdoor recreational resources, facilities and programs required to offer Iowans the full range of recreational options which they need and desire. The framework of institutions, each serving a portion of the public's need, is a complex one having evolved over time in response to public needs, resource management requirements, legislative direction, profit motivation, and many other complex economic and social factors.

These public and private institutions are the delivery system for outdoor recreation in Iowa. They have the power and ability to provide recreating Iowans with high quality recreational opportunities. As such, they are a crucial part of the supply side of the balance between recreational demand and supply. Each is discussed briefly in the following paragraphs, along with a point of contact should the reader desire more information.

Federal Agencies and Their Involvement in Iowa Recreation Issues

I. U. S. Army Corps of Engineers

Briefly, the Corps of Engineers manages:

- * The four major flood control reservoirs in Iowa:
 1. Coralville (Rock Island District)
 2. Saylorville (Rock Island District)
 3. Red Rock (Rock Island District)
 4. Rathbun (Kansas City District)

- * The Mississippi River Environmental Management Program

- * The Missouri River Bank Stabilization and Navigation Project.

Management responsibilities include major recreational developments. The Corps of Engineers also has permitting authority relative to construction projects on navigable streams and to wetland drainage projects under Section 404. Impacts of Corps developments are substantial, and indirect impacts stemming from the exercise of permit authority can produce substantial positive or negative impacts as well.

The Corps of Engineers also administers the Des Moines Recreation River Greenbelt (described elsewhere in this report), and a portion of the Saylorville Trail Corridor extending from the Saylorville Reservoir through the City of Des Moines.

Primary Contacts: District Engineers as follows:

Kansas City District
U. S. Army Corps of Engineers
Kansas City, Missouri

St. Paul District (Pools 9 and 10, Mississippi River)
U. S. Army Corps of Engineers
St. Paul, Minnesota

Omaha District (Missouri River)
U.S. Army Corps of Engineers
Omaha, Nebraska

Rock Island District (Pools 11 through 19 and the Des Moines Recreational River and Greenbelt)
U.S. Army Corps of Engineers

II. U. S. Fish and Wildlife Service (USFWS)

This federal agency manages wildlife refuge lands in Iowa, including DeSoto National Wildlife Refuge in Harrison County, Union Slough National Wildlife Refuge in Kossuth County, Mark Twain Wildlife Refuge in Louisa County, Walnut Creek National Wildlife Refuge in Jasper County and the Upper Mississippi Wildlife and Fish Refuge on the Mississippi River in northeastern Iowa.

The USFWS has as its primary charge the management of wildlife habitats and the perpetuation of species dependent on those habitats. Recreation benefits are an important but secondary purpose.

The USFWS also serves a major role in the review and development of wildlife mitigation recommendations on a variety of state and federal projects.

Primary Contact:

James Gritman, Regional Director
U. S. Fish and Wildlife Service, Regional Office
Federal Building, Fort Snelling
Twin Cities, Minnesota 55111
612/725-3563

III. Soil Conservation Service, U. S. Department of Agriculture (SCS)

The SCS has as its primary role the planning and development of programs and practices aimed at controlling soil erosion. Control of soil erosion will improve water quality and lengthen the useful life of public lakes, etc.

Additionally, the SCS has constructed high quality, multipurpose lakes under its P.L. 566 program, with others in the planning stages. Field staff (district conservationists) regularly assist public recreation resource managers in developing soil conservation plans for public lands, and are also instrumental in implementing soil erosion control practices on private lands within the watersheds of publicly owned lakes. Such efforts enhance both fishery and wildlife habitats as well as extending the useful life of impoundments thereby substantially increasing recreational benefits.

Primary Contact:

Jeffrey Vonk
State Conservationist, SCS
Federal Building
210 Walnut
Des Moines, Iowa 50309
319/284-4260

IV. National Park Service

This federal agency manages very small amounts of land in Iowa, namely the Effigy Mounds National Monument in Clayton County and the Hoover Presidential Library and Birthplace in West Branch (Cedar County).

Regional offices in Omaha, Nebraska administer the Land and Water Conservation Fund Program, a cost-sharing program providing federal cost-sharing for recreation acquisition and developments as well as provide planning technical assistance.

Primary Contact:

Don H. Castleberry, Regional Director
National Park Service
1709 Jackson Street
Omaha, Nebraska 68102
402/221-3431

State Agencies and Their Development in Iowa Recreation Issues

I. Iowa Department of Natural Resources (DNR)

The DNR is the primary provider of state-owned and state-managed recreational areas and facilities in Iowa. In total, the agency manages 80 park and recreation areas, 10 state forest areas, 320 wildlife management areas, and 37 waterfowl refuges. Additionally, fisheries managers are responsible for 35 natural lakes, 200 man-made lakes, and are instrumental in fish rearing and stocking practices on 49 northeast Iowa trout streams and in some 300 farm ponds each year. The environmental protection division of the DNR deals with floodplain construction regulations and water quality improvement programs.

The DNR is involved either directly or indirectly with all other federal, state, county, local and private recreation providers and is the principal source of contact for additional information on virtually any recreation/resource management topic.

Primary Contact:

Larry J. Wilson, Director
Iowa Department of Natural Resources
Wallace State Office Building
Des Moines, Iowa 50319
515/281-5385

II. Iowa Department of Agriculture and Land Stewardship (DALs)

DALS is directly involved in resource management programs which affect outdoor recreation through enactment of the Resource Enhancement and Protection (REAP) Act. One aspect of the multi-million dollar REAP program is the Soil and Water Enhancement Account. This account receives approximately \$3.9 million each year through the year 2001. Funds are available to landowners for soil and water conservation and enhancement projects and practices. Eligible use of funds include: improvements to and development of terraces, ponds, grass waterways, reforestation, woodland protection and enhancement, wildlife habitat preservation and enhancement, protection of highly erodible soils and water quality protection.

Grant applications and program information is available at any of Iowa's 100 Soil Conservation District offices, normally located in county seats or through the Des Moines DALS office.

Primary Contact:

James Gillespie or Bill McGill
Division of Soil Conservation
Department of Agriculture and Land Stewardship
Wallace State Office Building
Des Moines, Iowa 50319
515/281-7043 or 281-6148

III. Department of Cultural Affairs

The Historical Division of the Department of Cultural Affairs most recently became more involved in outdoor recreation through the Resource Enhancement and Protection (REAP) program in 1989. One REAP program, administered by the Historical Division, is the Historical Resource Grant and Loan Fund. Grants and loans are available to private individuals and businesses, as well as to non-profit organizations and agencies of Certified Local Governments. Certified Local Governments is a designation made by the National Park Service.

Grants and loans in this account support a wide variety of projects, ranging from conservation of photographs to preservation of buildings, from museum exhibits to newspaper microfilming. The Historical Resource Grant and Loan Fund receives nearly \$1.5 million each year through the year 2001.

Primary Contact:

Lynda Wessel
State Historical Society of Iowa
600 East Locust
Des Moines, Iowa 50319
515/242-6194

IV. Iowa Department of Transportation

The Resource Enhancement and Protection program provides to the Department of Transportation approximately \$894,000 for each of the next eleven years to carry out objectives of the Living Roadway Trust Fund. This money is available for state, county and municipal management of roadside vegetation.

Funds are specifically directed at integrated vegetation management with emphasis on native prairie grass plantings and maintenance with minimal chemical weed control.

Primary Contact:

Steve Holland
Office of Local Systems
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010
515/239-1768

The Department of Transportation has also been entrusted with administration of the State Recreational Trails Program. This program is discussed in more detail on pages 4-25 through 4-25. Briefly, as a result of Legislative action causing the preparation of the Iowa Statewide Recreational Trails Plan, \$1 million is annually appropriated to the DOT for providing grants to governmental agencies and private non-profit organizations for the purpose of acquiring, constructing and improving recreational trails within the State. As of October, 1990, nearly \$3 million has been committed for 18 separate projects.

Primary Contact:

Nancy Burns
Department of Transportation
800 Lincoln Way
Ames, Iowa 50010
515/239-1621

V. Other State Agencies

The Governor has established a task force on Tourism, Recreation and Culture, co-chaired by the Department of Natural Resources and the Department of Economic Development.

Primary Contact:

Dave Reynolds, Chief
Tourism Bureau
Iowa Department of Economic Development
East Grand Office Park
200 East Grand
Des Moines, Iowa 50309

OTHER STATE AGENCIES WITH TIES TO RECREATION/RESOURCE MANAGEMENT

<u>Agency</u>	<u>Address</u>	<u>Ties To Recreation/ Resource Management</u>
Department of Agriculture and Land Stewardship	Wallace Building Des Moines, Iowa 515/281-5681	Agricultural land use policies and laws, and impacts on natural resource base, especially soil erosion and water quality.
Department of Elder Affairs	236 Jewett Building 914 Grand Avenue Des Moines, Iowa 515/281-5187	Special needs and oppor- tunities for recreational participation by older Iowans.
Department of Economic Development	East Grand Office Park 200 East Grand Avenue Des Moines, Iowa 515/242-4700	Promotion of tourism and development of brochures to direct Iowans and visitors to recreational events and facilities.
Department of Cultural Affairs Arts Council State Archaeologist	Historical Building 600 East Locust Des Moines, IA 515/281-5111	Historical/archaeologic resource interpretation for edu- cation/recreation purposes, art- related recreational programs
Department of Education	Grimes Building Des Moines, Iowa 515/281-3191	Conservation education curriculum development.
Department of Public Safety	Wallace Building Des Moines, Iowa 515/381-5824	Coordination of law enforcement programs.
Department of Transportation	800 Lincoln Way Ames, Iowa 50010 515/239-1101	Administers State Recreational Trails Program and Living, Roadway Trust Fund.

Table 1-1

At one time or another, virtually every other state agency deals in programs which affect or are affected by some aspect of outdoor recreation. Table 1-1 lists those agencies having closer and more obvious ties to recreation programs or resource management programs in Iowa.

County Conservation Boards and Their Involvement in Iowa Recreation Issues

All counties in Iowa have county conservation boards formed under provisions of Chapter 111A, Iowa Code. These boards are authorized to "acquire, develop, maintain, and make available to the inhabitants of the county, public museums, parks, preserves, parkways, playgrounds, recreational centers, county forests, wildlife, and other conservation areas, and ...encourage the orderly development and conservation of natural resources and to . . . provide adequate programs of public recreation."

Collectively, Iowa's 99 county conservation boards administer an annual budget in excess of \$19 million, and provide over 1,200 public areas to meet the purposes discussed above.

In essence, county conservation boards do many of the same things which the state Department of Natural Resources does, but on a scale commensurate with local desires and funding capabilities. County conservation boards participate in many cost-sharing programs with the DNR and other state agencies in program areas where state and local goals are complementary. These cost-sharing programs include:

1. Resource Enhancement and Protection (REAP)
2. Wildlife Habitat Stamp
3. Marine Fuel Tax, Water Access
4. Snowmobile Trail Development and Operation
5. Land and Water Conservation Fund
6. Statewide Recreational Trails Program
7. Recreational ATV Program

Primary Contact:

Don Brazelton
Iowa Association of County Conservation Boards
117 Main, Box 77
Elkhart, Iowa 50073
515/243-7611

Municipal Involvement In Iowa Recreation Issues

Iowa has over 950 municipalities of varying size and greatly varying structures to handle city recreation projects and programs. Many close-to-home recreation facilities are provided by city authorities and programs. The mayor or city clerk in each community is in the best position to describe current and planned municipal recreational programs. All 950+ communities in Iowa were surveyed in 1990 to secure updated recreation facility information and to ascertain priorities and problem areas. This information is available from the Iowa Department of Natural Resources and is summarized in Chapter 5 of this plan.

Primary Contact:

Arnold Sohn, Planning Bureau Chief
Iowa Department of Natural Resources
Wallace State Office Building
Des Moines, Iowa 50319-0034
515/281-5814

Private Sector Involvement in Iowa Recreation Issues

Nonprofit Foundations

1. Iowa Natural Heritage Foundation (INHF)

The INHF was incorporated in 1979 to serve as an effective avenue to utilize the full potential of private sector assistance in meeting natural area acquisition and resource protection. The Foundation works with private landowners, government agencies and potential funding sources, serving as a catalyst to bring about protective actions (acquisitions, fee title and conservation easements, preserve dedications, land trades, etc.). As a private entity, they enjoy a higher degree of flexibility and a swifter pace of action than are sometimes possible with government agencies.

Primary Contact:

Gerry Schnepf, Executive Director
Iowa Natural Heritage Foundation
Insurance Exchange Building, Suite 444
505 Fifth Avenue
Des Moines, Iowa 50309
515/288-1846

2. Iowa Chapter, The Nature Conservancy (TNC)

The Nature Conservancy shares many goals with the Iowa Natural Heritage Foundation. The Iowa Chapter is a part of a national organization. The original Iowa Natural Areas Inventory Project (described elsewhere in this plan) was a product of a TNC nationwide effort to classify and inventory rare plants, animals, and natural communities in an effort to better direct funds and manpower toward the protection of threatened species. TNC's Registry Program provides landowner recognition and awareness of the presence of unique natural features, with a long-range goal of providing permanent protection and management through acquisition, preserve dedication, etc.

Primary Contact:

Gary Reiners, Director
Iowa Chapter, The Nature Conservancy
431 E. Locust, Suite 200
Des Moines, Iowa 50309
515/244-5044

3. Other Private Nonprofit Groups

The DNR maintains a mailing list of over 400 local sportsmen groups, wildlife and conservation clubs, etc. Regardless of the outdoor sport or resource concern, there is probably at least one organized group whose goals revolve around improving either the programs or resources supporting their special interests. These are important organizations and often provide valuable public input to state program proposals. Examples include the Iowa Trails Council, the Izaak Walton League, Ducks Unlimited, Pheasants Forever, Iowa Rails To Trails, the Iowa Audubon Society, the Iowa Wildlife Federation, Iowa Trappers Association, the Iowa Turkey Federation, Sierra Club, Iowa Parks and Recreation Association, dozens of local or regional rod and gun clubs, equestrian groups, camper associations and many, many more.

Private Sector Profit-Motivated Groups

Recreation in many instances is synonymous with tourism, and tourism means substantial benefits to many local economies in Iowa. Recent years have witnessed a growing interest in private entrepreneurs seeking to capitalize on the economic opportunities generated by recreationists.

Uses Of The SCORP

This fifth generation Iowa SCORP focuses on defining issues, briefly describing existing programs which address those issues, and recommending new initiatives to correct apparent shortcomings.

Outdoor recreation issues are often complex, and resolution of a problem typically involves the cooperation of a diverse group of people and interests. This SCORP provides an opportunity to become aware of issues facing Iowa outdoor recreation. It recommends diverse actions and provides contact points for individuals or groups wishing to learn more about each issue.

Many of the discussions on issues have been derived from more lengthy, in-depth studies or planning efforts. Those efforts often originated because of professional concerns, user group pressures, and other expressions of public inputs aimed at correcting a deficiency.

The SCORP has always been a requirement of the federal government to maintain eligibility for participation in the Land and Water Conservation Fund. Such eligibility has been important in that Iowa has received over \$43 million since this program originated in 1965 to cost-share recreation-related acquisition, development and planning activities.

The reader is urged to make use of the primary contacts identified. They and the staff which they represent are a valuable storehouse of information to help clarify issues and provide guidance and assistance to anyone interested in improving outdoor recreation in Iowa.

IOWA'S RECREATION RESOURCES

THE NATURAL RESOURCE BASE

Introduction

The sea of tall grasses that once was Iowa is now largely a sea of intensively cultivated row crops. Table 2-1 shows that almost 95% of the state's area is in agricultural land. Wooded acres (2.0 million) occupy roughly 29% of the seven million acres originally present. Marshlands which originally occupied 1.5 million acres now total only about 115,000 acres. There are 1.8 million acres of Iowa that are classified as non-agricultural land.

	Millions of acres	Percent of total
Total area	36.0	100.0
Water area	.2	.6
Land area	35.8	99.4
Agricultural land	33.5	93.1
Woodland	2.0	5.6
Crops	26.2	72.8
Pasture, rough land	6.3	17.5
Non-agricultural land	1.8	5.0
Urban	1.6	4.4
Transportation	.8	2.2
Recreation	.4	1.1
Residential	.2	.6
Other	.2	.6
Other	.2	.6

Table 2-1

The Land

In 1938, then Secretary of Agriculture Henry A. Wallace wrote the following in the U.S.D.A. Yearbook of Agriculture:

"Nature treats the earth kindly, man treats her harshly. He overplows the cropland, overgrazes the pastureland, and overcuts the timberland. He destroys millions of acres completely. He pours fertility year after year into the cities which in turn pour what they do not use down the sewers into the rivers and oceans... This terribly destructive process is excusable in a young civilization. It is not excusable in the United States."

Henry Wallace and hundreds of leaders since his day have made inroads on correcting some of the problems identified in 1938, but a land use ethic has been slow to evolve, and much of what went on in 1938 still goes on in 1990.

Land and land use in Iowa means agriculture. Over 90% of Iowa's land is in farms, with the bulk used to grow harvested crops. In 1984, 90% of those crops were shipped out of the state, and 28.5% of the state's production was exported overseas.

Of all the jobs in Iowa in 1988, 80% were directly or indirectly related to agriculture.

Agriculture is important to Iowa; and the land or soil resource is obviously of major importance to agriculture. Recent figures indicate that in the last 100 years the state has lost one-half of its original average 16" of topsoil. At 1984 rates of erosion, averaging 9.4 tons per acre per year in Iowa, soil scientists project that soil losses are two times more than can be tolerated for sustained, efficient agricultural production.

The problem is more than just agricultural. Erosion yields sedimentation which fills watercourses and impoundments. We lose water storage, drainage and flood protection potentials. Water quality is reduced; water-based recreation potentials are reduced; aquatic habitats are adversely affected; and water treatment costs escalate.

STATUS OF CONSERVATION PRACTICES

<u>Conservation Practice</u>	<u>Total Needs</u>	<u>Amount Applied</u>	<u>Percent Applied</u>
Terraces (miles)	331,488	65,099	20
Sediment and Water Control Basins (miles)	48,785	4,743	10
Conservation Tillage (acres)	20,233,388	6,088,917	30
Erosion Control Structure (no.)	87,045	20,906	24
Stripcropping (acres)	1,377,016	433,492	31
Grass Waterway (acres)	427,331	212,767	50
Contouring (acres)	12,915,153	5,004,190	39
Diversions (miles)	12,647	4,835	38
Ponds (no.)	81,962	41,379	50
Pasture & Hay Planting (acres)	3,598,756	1,568,399	44
Tree Planting (acres)	388,624	47,446	12
Wildlife Habitat (uplands, acres)	1,388,769	437,150	31
Ag Waste Management System (no.)	25,233	1,974	8
Farmstead Windbreak (acres)	126,121	61,519	49
Subsurface Drainage (miles)	633,397	290,966	44

Table 2-2

Iowa's current soil loss is estimated at 241,000,000 tons annually, the highest average annual loss in the nation. The state's annual losses are not only among the greatest in volume, but are also the highest in fertility value.

In 1982, of a total of 26.4 million acres of cropland, 19 million (or 72%) suffered an average annual soil loss that exceeded their replacement rate. Currently only 7.4 million acres (or about 28%) of Iowa's cropland acreage is considered adequately treated to control erosion within acceptable levels. The status of 1985 soil conservation practices are shown in Table 2-2.

As stated earlier, there have been advances which illustrate a gradual increasing awareness of the need for stewardship of Iowa's most basic resource:

1. Continued progress on county soil surveys, one of the most basic tools for guiding land use decisions. 71 counties are now mapped, with the remainder to be completed at a rate of 5 per year.
2. 1973 - Iowa was the first state in the nation to provide cost-share incentives to landowners for installing permanent soil conservation practices.
3. 1979 -- The Iowa Till program was initiated to provide incentives for group action in crop residue management for erosion control.
4. 1971 -- Iowa was the first state in the nation to enact an erosion control law.
5. 1971 -- Iowa developed its conservancy district program.
6. Since 1959 -- Iowa has appropriated funds to accelerate watershed planning efforts.
7. 1979 -- Nonpoint source pollution planning process produced as part of the state's Sec. 208 Water Quality Plan.
8. 1979 -- Mines and Minerals Division of the State Soil Conservation Department revised rules on mined land reclamation, requiring coal miners to comply with state reclamation laws regarding environmental protection.
9. 1979 -- Public survey of 8,000 Iowans to evaluate perceptions of Iowa's resource conservation needs.

10. 1980 -- Iowa Soil 2000 legislation established a statewide master plan for dealing with the state's soil erosion problem.
11. 1982 -- County land preservation and use commissions established and charged with an inventory of land use changes since 1962.
12. 1983 -- Iowa was the first state in the nation to offer no-interest loans as an alternative financing option for landowners to consider in the financing of permanent soil conservation practices.
13. 1986 -- Rapid increases in minimum tillage practices. Iowa farmers lead the nation in acres of cropland planted with conservation tillage methods. The survey shows 12 million acres of Iowa land were planted with conservation tillage in 1985, an increase of 20% from 1984 and 1983.

Woodlands

The 1990 Iowa Forest Resources Plan graphically illustrates the change in forest cover between the time Iowa was first surveyed and 1976. This change is shown here in Figure 2-1.

This de-forestation trend that began with settlement of the state 150 years ago has been reversed according to a 1990 survey of Iowa's forest resources conducted by the U.S. Forest Service. According to this report, total forested acres in Iowa increased from approximately 1.6 million acres in 1974 to about 2 million acres in 1990. The number of acres of trees planted in Iowa has steadily risen between 1985 and 1989. In 1985, less than 4,000 acres of trees had been planted. By 1989, this figure had nearly doubled to just under 7,500 acres planted to trees. However, most of the increase in forested acres has probably come from cattle pastures and cropland that have been allowed to revert to woodlands. Some of the increase is due to aggressive tree planting encouraged by state and federal initiatives for rural areas. Iowa has also seen a 16 percent increase in urban wooded areas.

Woodlands are important to Iowa's environment, economy, recreation, and fish and wildlife resources.

Environmental Benefits

* Water quality is vital to a healthy environment. Forested watersheds yield clear water at a low rate of flow.

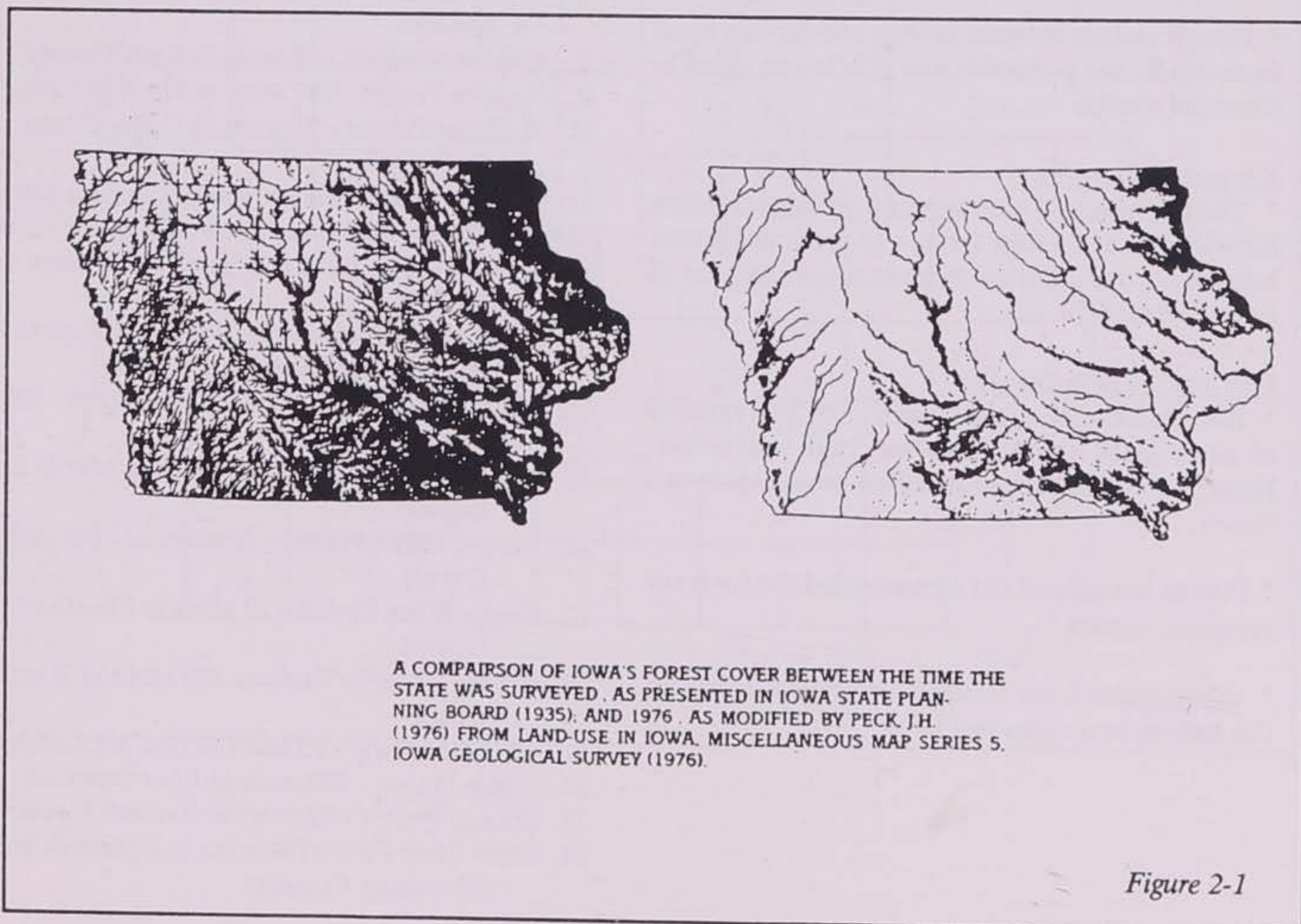


Figure 2-1

* Air quality is improved by trees and forests through production of oxygen and the capture of carbon dioxide.

* Forests play an active role in slowing global warming by storing carbon and, thereby, reducing carbon dioxide buildup in the atmosphere.

* Relatively undisturbed woodlands provide opportunities for scientific study and protect the natural diversity found there.

Economic Benefits

* Fuelwood, lumber and other timber products are used by landowners.

* Income is derived from the sale of timber. Reports to the DNR in 1988, indicate an annual payment of \$6.82 million to Iowa landowners for timber.

* Sawmills, veneer mills, pulp mills, pallet plants and millwork operations provide 5.7 percent of all manufacturing employment in Iowa with an annual payroll of \$210 million.

* Iowa forests contribute a total of \$712 million each year to the state's economy.

* Energy savings in home heating and cooling result from windbreak protection and shading provided by trees and shrubs.

Recreation Benefits

* Visiting state and county parks, stream corridors, state wildlife and forest areas, city parks and greenbelts, trails, and lakes are more enjoyable because of treest and woodlands.

Fish and Wildlife Benefits

* Trees and woodlands are required by many species of game birds and animals for food and shelter. Examples include; squirrel, ruffed grouse, deer and turkey.

* Forests are natural and necessary habitat for many nongame species.

* Clean water from forested watersheds enhances fish habitat in streams and lakes.

Prairie

Iowa's rich prairie soils provide the base for much of the state's economy. Only small, isolated tracts of native prairie remaining occupying some 30,000 acres, with 3,000 acres in protected status. Approximately 1,000 acres are in public ownership. At the time of settlement prairies occupied approximately 28 million acres. In essence, those areas that were not woodlands were prairie, savanna and natural lakes and marshes.

Anything so rare that only one-tenth of one percent of it remains warrants special consideration. In Iowa that special consideration is best represented in 27 tracts of native prairie designated as state preserves. They are listed below and their locations are shown in Figure 2-2.

1. Anderson Prairie - 200 acres in Emmet County
2. Cayler Prairie - 160 acres in Dickinson County
3. Clay Prairie - 2.6 acres in Butler County
4. Crossman Prairie - 10 acres in Howard County
5. Dinesen Prairie - 20 acres in Shelby County
6. Doolittle Prairie - 25 acres in Story County
7. Five Ridge Prairie - 300 acres in Plymouth County
8. Freda Haffner Prairie - 110 acres in Dickinson County
9. Gitchie Manitou - 91 acres in Lyon County
10. Hayden Prairie - 240 acres in Howard County
11. Hoffman Prairie - 30 acres in Cerro Gordo County
12. Kalsow Prairie - 160 acres in Pocahontas County
13. Kish-Ke-Kosh Prairie - 17 acres in Jasper County
14. Liska-Stanek Prairie - 20 acres in Webster County
15. Loess Hills Pioneer State Forest - 300 acres in Harrison and Monona Counties
16. Loess Hills Wildlife Management Area - 300 acres in Plymouth County
17. Marietta Sand Prairie - 10 acres in Marshall County
18. Mount Talbot Prairie - 30 acres in Plymouth County
19. Nestor Stiles Prairie - 10 acres in Cherokee County
20. Rolling Thunder Prairie - 123 acres in Warren County
21. Sheeder Prairie - 25 acres in Guthrie County
22. Steele Prairie - 200 acres in Cherokee County
23. Stinson Prairie - 32 acres in Kossuth County
24. Stone State Park - 200 acres in Plymouth and Woodbury Counties

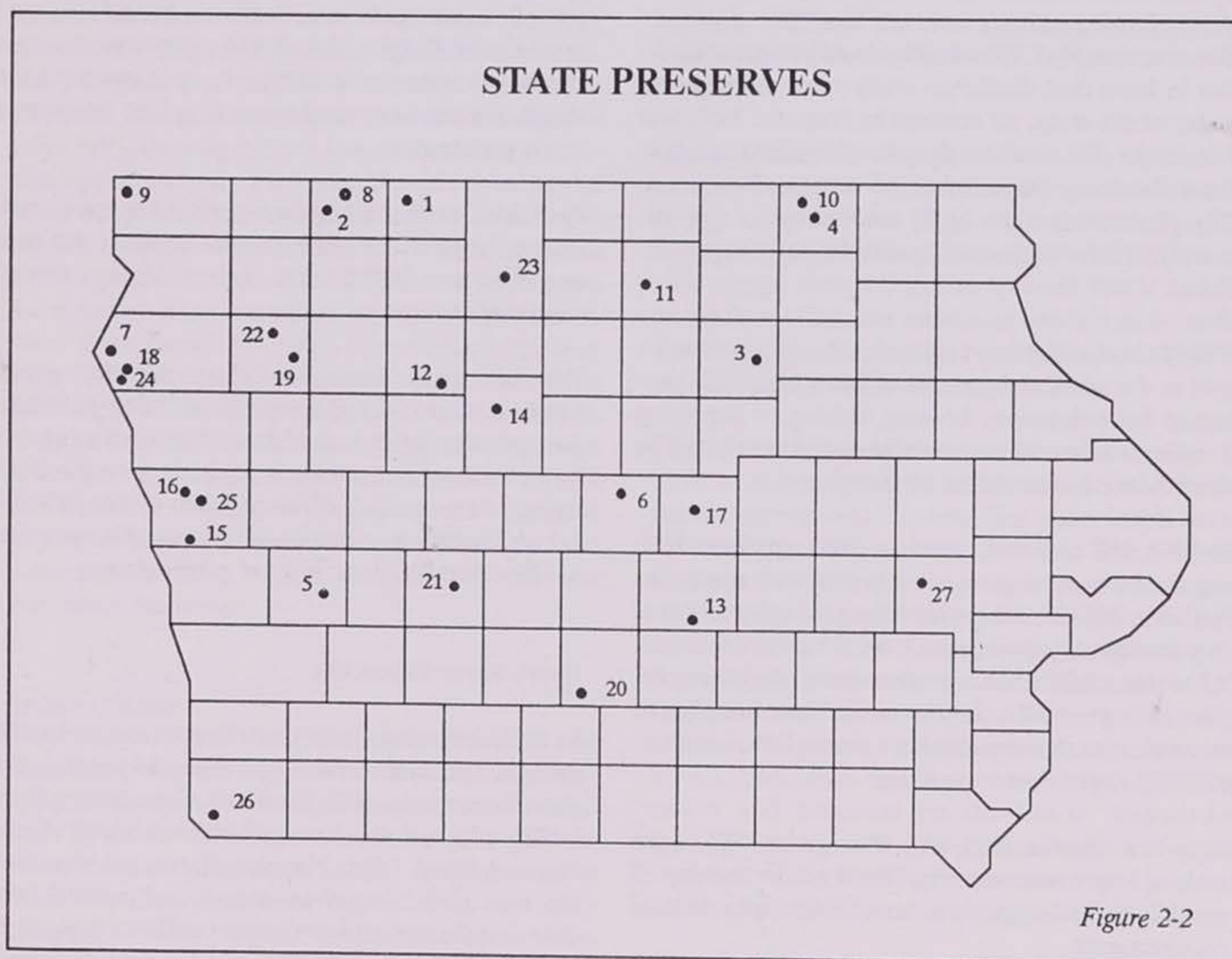
25. Turin Loess Hills Preserve - 50 acres in Monona County
26. Waubonsie State Park - 10 acres in Fremont County
27. Williams Prairie - 30 acres in Johnson County

There are many other, usually small, prairie remnants scattered across the state. Often occurring along railroad rights-of-way or in other areas not subject to the intensified land uses that eliminated 99.99 percent of Iowa's prairie lands. The Iowa Natural Areas Inventory has identified numerous prairie parcels. Ongoing efforts of the Iowa Department of Natural Resources, the Iowa Natural Heritage Foundation and The Nature Conservancy are directed toward protection and management of these remaining parcels. They are of very high priority relative to the goal of protecting and interpreting Iowa's natural heritage.

Water

The typical perception of Iowa is not that of a state rich in water resources. However in many respects that is a misperception. Iowa's major border rivers, the Mississippi and Missouri total 494 miles in length and provide 212,000 acres of diverse river environments located in close proximity to a large segment of the state's people. In addition, Iowa is the only state bordered by two navigable rivers. Congress recognizes the Mississippi as both a fish and wildlife refuge and a major transportation channel. This is the only such designation in the nation.

Additional Iowa water resources can be briefly summarized as follows:



Cold Water Systems	258 miles (296 acres)
Interior Warm Water	
Rivers and Streams	6,593 miles (51,588 acres)
Artificial Lakes (200)	17,312 acres
Natural Lakes (37)	32,886 acres
Artificial Marshes (21)	8,890 acres
Natural Marshes	21,471 acres
Four Federal Reservoirs	
(conervation pool)	30,250 acres
Farm Ponds (47,700)	49,000 acres
Interior Total Acres	211,693 acres
Mississippi River (Pools 9-19)	194,496 acres
Missouri River (183 miles)	17,427 acres
GRAND TOTAL	423,616 acres

A list of Iowa's water resources by county can be obtained from the Iowa DNR.

Water Quality in Iowa

There are nearly 1,700 municipal and industrial facilities in Iowa that discharge wastewater directly to a water of the state, all covered by National Pollutant Discharge Elimination System (NPDES) permits from the Iowa Department of Natural Resources. Compliance rates are high, amounting to approximately 90% for both municipal and industrial permittees.

Thirty-six chemical and bacterial standards must be met in the lakes and streams of Iowa which are protected for swimming, boating, fishing or supplying drinking water. All of Iowa's lakes and nearly half its streams are protected for these uses.

In 1983, 157 of Iowa's municipalities, or about 16% required some degree of upgrading of treatment facilities, with 67 of these facilities posing some threat to water quality during periods of low streamflows. All of these facilities have either completed construction and returned compliance or have been given schedules by the department to complete construction within the next two years.

Sixty-two cities in 1988, and 49 more in 1989 began making improvements. The IDNR goal is to bring all municipal discharges into compliance with federal requirements.

Nonpoint source pollutants are much more difficult to ascertain and to control. Iowa's four major sources are agriculture, urban runoff, construction sites and mining, with agriculture by far the most significant.

Most of Iowa's lakes and streams are affected by agricultural runoff. In a study of 107 Iowa lakes in 1979, 47 were found to be below their potential for recreational and fishery uses because of the effects of nonpoint source pollution.

Sediments, nutrients and pesticides are the primary agricultural pollutants. No statewide figures are available, but some examples will illustrate the point. Sediment entering the Mississippi River, primarily arising from Iowa croplands, ranges from 10 to 1,000 tons per square mile, with almost half of the state's area which drains to the Mississippi yielding over 1,000 tons per square mile. Another example -- of the 9.8 million tons of sediment carried annually by the Cedar River near Cedar Falls, 9.1 million tons (93%) is attributed to cropland erosion.

Recent research indicates that 427,800 tons of total nitrogen and 10,000 tons of available phosphorous enter Iowa waters from corn and soybean fields each year. Controlling erosion would serve to control this loss of valuable nutrients which, upon entering the state's surface or ground water supplies, becomes a costly pollutant.

Pesticides are the third primary nonpoint source pollutant. In 1982, herbicide use in the state was estimated at over 26,000 tons. Insecticide use totaled almost 4,000 tons.

Even with an accelerated soil conservation program, Iowa's erosion-related nonpoint pollution problems are so severe that measurable statewide water quality improvements are not likely to occur over the short term. The magnitude of the problem is seen in Table 2-2 which compares Iowa's soil conservation practice needs with the current level of practice use.

Iowa's River Resources

In 1981, following a two-year effort to systematically evaluate the state's rivers, marshes and natural lake shorelines, the Iowa Conservation Commission (now DNR) adopted the "Iowa Protected Water Areas General Plan." That planning document identified the best remaining river, marsh and natural lake shorelines in each of Iowa's nine landform regions. It further provided proposed amendments to Iowa's Scenic River Act (those amendments were passed by the Iowa Legislature in 1984), and a planning process to implement protection programs along high priority waters.

On May 2, 1985, the Iowa DNR, acting in accord with Chapter 108A (Iowa Protected Water Areas Act of 1984), designated the Boone River in Hamilton County as Iowa's first PWA. This action followed a two-year planning effort to develop management strategies, cost estimates, resource assessments and landowner contracts. During 1990, four additional protected water areas have been designated. Details of Protected Water Areas Program can be found in Chapter 4.

The Statewide Protected Water Areas General Plan and the individual management plans, are formal supplements to the 1988 SCORP. Recommendations in each should be considered as official SCORP recommendations as well.

Border Rivers

Iowa could be referred to as the "Land Between Two Great Rivers" since the Missouri and Mississippi Rivers form much of the state's west and east borders, respectively (Figure 2-3). The Missouri is the nation's longest river and the Mississippi is the most majestic. These rivers offer Iowans and residents of other mid-America states numerous outdoor recreation opportunities. They also provide a variety of water supply and commercial transportation benefits. These diverse uses and the rivers' multi-state and multi-agency associations combine to create an arena for many outdoor recreation and environmental issues. Even though the rivers have similar uses, they have different issues associated with them. The Mississippi River was developed with locks and dams and the Missouri River was developed using large upstream reservoirs, channelization, and river width constrictions. These development methods have impacted the river environments differently, and subsequently have resulted in distinctly different recreation resources.

Missouri River

The Missouri River along Iowa's west border is best described today as a trapezoidal-shaped channel carrying relatively swift flowing water at amounts regulated by man. No islands exist in its main channel. Some remnant side channels and backwater areas exist, but they have been cut off from the main channel. These remnant areas and the publicly-owned woodlands along the river do provide fish and wildlife habitat and associated recreation opportunities. The main channel receives recreation boating activity and some commercial and sport fishing.

This character of the Missouri River came about due to its developments for flood control, navigation, hydroelectric power generation, bank stabilization, and land reclamation. A fish and wildlife mitigation study completed in 1981 by the Corps of Engineers concludes that 100,200 acres of aquatic habitat and 421,800 acres of terrestrial habitat will have been lost over the entire four-state project area by the year 2003.

A 1979 report by the Iowa Geological Survey entitled "Changes in the Channel Area of the Missouri River in Iowa, 1879-1976" quantifies the losses along Iowa's western border. Table 2-3 summarizes the results. Changes between 1879 and 1923 were the result of the river's natural phenomenon and the data exemplifies the balance (or give and take) of overall river habitat. The channel decreased in length by about 14 miles, between 1890 and 1923, but the channel area increased by about 5,200 acres. Man-induced changes began in 1923 and the river's balance was lost as is evident by the "cross the board" reduction in river features.

Missouri River developments have also accelerated riverbed erosion or degradation along Iowa's western border between Sioux City and Council Bluffs. The amount of degradation between the years 1930 and 1980 ranges from 1.7 feet at Council Bluffs and 8.3 feet at Sioux City. An additional two feet of degradation near Sioux City is projected by the year 1990 and an additional one foot by the year 2000.

This riverbed degradation has caused and will continue to cause significant losses of fish, wildlife and recreation resources by lowering water levels in the river and its abandoned oxbow lakes. The Corps of Engineers evaluated conceptual measures to stop or reverse degradation and concluded that none hold much promise. Thus, they are merely monitoring the degradation process to collect additional data to verify the conclusion reached to date regarding degradation, its impacts, and measures to stop or reverse it. A coordination task force was formed in 1985 to review and comment on the Corps' degradation monitoring program. This team consists of representation from state agencies, local and regional entities, special interest groups, and universities.

Border Streams

Mississippi, Missouri and Big Sioux

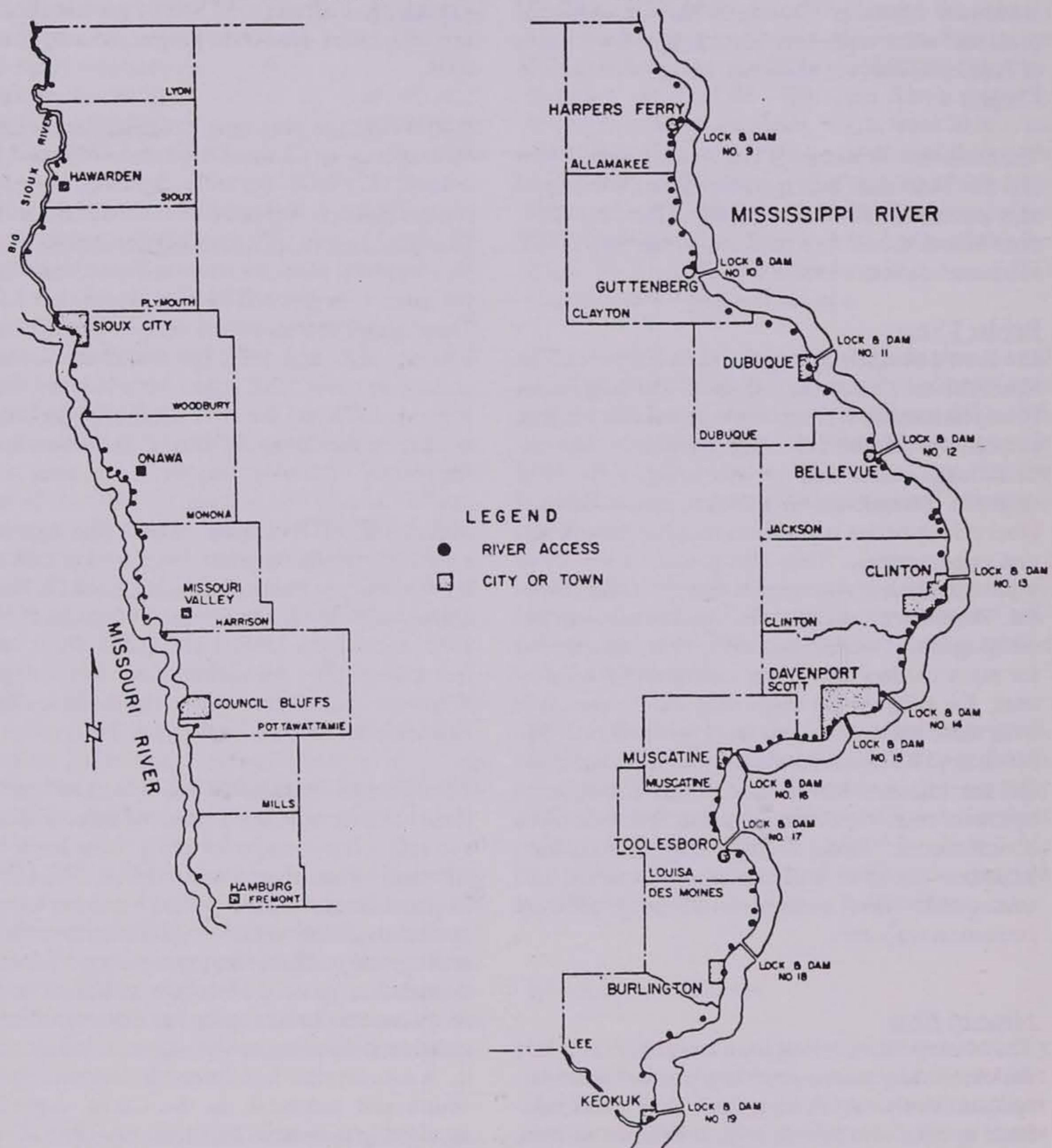


Figure 2-3

Summary of Missouri River Channel Feature Changes in Iowa 1879-1976

Years Time Period	River Miles		Channel Area		Water Area		Island Area		Bar Area	
	%	Miles	%	Acres	%	Acres	%	Acres	%	Acres
1879-1890	+2	+ 3.65	-11	- 9,086	-37	-21,140	-41	- 3,986	+99	+14,671
1890-1923	-7	-14.65	+ 7	+ 5,240	+25	+ 9,031	+98	+ 5,705	-32	- 9,496
1923-1976	-9	-18.00	-80	-61,652	-66	-30,228	-100	-11,513	-100	-19,911

Table 2-3

Mississippi River

The Mississippi River in Iowa is a striking contrast from the Missouri River. It is a diverse fish, wildlife, and recreation resource and supports more than 10 times the commercial navigation traffic of the Missouri River. Two Congressional mandates set the stage for the Mississippi's multi-purpose use and management: 1) a national commercial navigation system; and 2) a national wildlife refuge system. Three hundred and thirteen (313) miles of the navigation system and 61,111 acres of the refuge system are in Iowa along its east border.

The Mississippi River was free-flowing until navigation dams were constructed in the 1930s. The upper portion of each pool still retain much of the free-flowing river character and have several heavily timbered islands amongst meandering side channels. The central portion of each pool tends to have extensive marsh areas and backwater lakes. The portion directly above each dam resemble reservoirs with expansive, relatively uninterrupted water areas.

Most of the islands and flood plains along the river are publicly-owned. The Upper Mississippi River National Wildlife and Fish Refuge constitutes the majority of the public land. Some of the public land is leased to private individuals for permanent or seasonal homes. The bluffs are mostly privately-owned with scattered public lands.

Sport fishing is the most popular recreation activity on the river. Hunting, boating, camping, picnicking, swimming, and beach use are also very common activities. The Great River Road provides a good route for those driving for pleasure. Numerous overlooks allow travelers an opportunity to get a

panoramic view of the river and its valley. Commercially operated riverboat rides have become very popular tourist attractions.

The maintenance and expansion of the navigation system, however, is threatening the river's environmental well-being. The navigation dams initially created thousands of acres of backwater lakes and wetlands, but they also reduced the river's ability to maintain these acres or to create new ones. Sedimentation is therefore transforming these environmentally productive water areas into land areas. Increasing commercial navigation traffic is resulting in more conflicts with fish, wildlife, and recreation uses.

GAME AND NONGAME WILDLIFE

Introduction

Wildlife resources are a product of the land. The numbers and diversity of species are a direct reflection of available habitat and the quantity and quality of that habitat depends on how the land is used. Most of Iowa's land is used for agricultural purposes and is under private ownership.

Species diversity is a good indicator of the stability of a natural system. Every Iowa farmer knows that much of his labor and expense in arriving at a good harvest is directed toward cultivation techniques and farm chemicals aimed at maintaining a very unstable situation in his crop fields. The ideal crop field is a pure monoculture made up of a single desirable crop species. Expensive chemicals and intensive cultivation are required to maintain that monoculture.

Taking a step back and looking at the state as a whole, it is the interspersed of cropfields with woodlands, pastures and other idle lands that constitute the state's wildlife production capabilities. To have survived in Iowa, wildlife species must have been adaptable to agricultural land use, and it is little wonder that most game species fit into the broad category of "farm game wildlife."

Current Situation

Many nongame wildlife species have not fared well as land use intensified in Iowa. Eighteen species of amphibians and reptiles are listed as threatened or endangered in Iowa. Of the seventy-two species of mammals once found in Iowa, eleven no longer occur in the state, four are endangered and five are threatened. Bird species once known to have nested in Iowa include two which are now extinct, eight which have been extirpated, and fourteen species now on the state threatened or endangered lists.

A few desirable species provide marked exceptions to the overall trend of diminishing wildlife numbers and diversity in Iowa. There are more white-tailed deer in Iowa now than at any time in the 20th century. Wild turkeys which were extirpated in Iowa by 1900 have been reintroduced with amazing success. However, many of the fish and wildlife which have flourished in Iowa as land use intensified are indicators of an ecosystem in trouble rather than on which is healthy. Examples include starlings, house sparrows and carp. These are somewhat analogous to weeds in the cornfield, i.e., exotic species which are quick to fill an ecological niche once occupied by a native species that was in balance and played a part in a healthy, diverse ecosystem.

The Future

Later sections in this SCORP address issues and programs dealing with game and nongame fishery and wildlife species in Iowa. There appears to be a growing realization on the part of the public that these species and their well-being are important. In and of themselves they often provide high quality outdoor recreational experiences for both hunters and nonhunters. Equally as important, their very presence or absence, and trends in populations either up or down, provide useful barometers reflecting the condition of Iowa's natural landscape.

Continued acquisition, management and research efforts are necessary. The base of support and funding for wildlife management has expanded some in recent years with the initiation of a Wildlife Habitat Stamp Program, an Iowa income tax check-off program for nongame wildlife efforts and federal cost-sharing increases. However current funding levels from all sources are miniscule relative to the magnitude of the challenge.

Iowa's Wildlife - Endangered Species

Mammals

Iowa is a meeting ground for mammals whose ranges center in other parts of the country. The Red Squirrel and Red-backed Vole east of Iowa, Woodland Vole, Grasshopper Mouse, and Pygmy Shrew west of Iowa are examples of mammals whose normal ranges are outside of Iowa. The Big Free-tailed Bat and Cotton Rat are examples of animals with a southern distribution; a number of species from the eastern deciduous woodland terminate their ranges in Iowa. Some like the Pronghorn and Prairie Dog, were restricted and nearly prevented from becoming part of the Iowa fauna by the barrier effect of the Missouri River. These factors combine to make Iowa an interesting place to study mammals.

Large-scale conversion of the tall-grass prairie to agricultural use, draining most wetlands and grazing or logging of most woodlands has had an adverse effect on Iowa mammals; however, 60 of the 72 native species yet occur in the state, though some are sporadic visitors and others are very rare.

Birds

There is good documentation of historical trends in Iowa's bird populations. R.M. Anderson wrote a statewide review of the status of birds in 1907; Phil DuMont wrote a similar report in 1933, and in 1970, Woodward Brown published a status update. These works, along with information from the members of the Iowa Ornithologists' Union and field biologists of the State Department of Natural Resources, were utilized in compiling a list of rare birds for Iowa. One Iowa bird appears on the federal endangered species list. This is the Peregrine Falcon, which migrates through Iowa and nested in northeast Iowa in years past and still may do so. The Bald Eagle is also on the federal list with only eight nests in Iowa.

The Peregrine Falcon is successfully being introduced in Iowa's larger urban areas utilizing tall buildings as nesting sites. This program is funded primarily through the income tax checkoff program.

Birds seem to be accurate and sensitive indicators of the general condition of the environment; hawks are on the top of a food chain and reflect the general health of their prey; certain warblers need quite specific sites for nesting. Before any more species disappear from the state, as has happened in the case of at least ten Iowa birds, we should be moved to action.

Reptiles and Amphibians

Iowa's herpetofauna includes over 70 species or subspecies. These reptiles and amphibians constitute an interesting and important part of the state's fauna. There are no known extirpations in Iowa, although the Wood Turtle, Speckled Kingsnake, Western Slender Glass Lizard and Great Plains Skink exist in very low numbers and may well soon disappear from the state. Habitat destruction, largely through degradation of streams and draining of marshes, has forced these animals into smaller and smaller areas; for example, the Massasauga once occurred widely across the state, but is now found in a very few widely scattered locations.

Iowa occupies an important position in reptile and amphibian protection; it is located on the fringe of many species' ranges and thus can act as a sentinel for changes in population shifts or declines. What happens on the edge of an animal's range may be a forecast for the future of its entire range. These organisms can be useful in making inferences about our past environmental conditions. They are slow to migrate, adapt poorly and have narrow environmental tolerances. Thus, relict populations can give a clue to what conditions existed during postglacial times. With a fairly static human population in Iowa and with the concern shown in recent years for rare species, perhaps we can protect our remaining populations so they will always be part of the Iowa landscape.

Fish

Perhaps members of Iowa's aquatic communities have been most seriously affected by human activities, particularly pollution, stream channelization and agricultural intensification. The fish populations in the state have not been intensively studied for over

twenty years, but it appears that a number of species are either gone from Iowa's waters or in some danger of disappearing. Fortunately Seth Meek and Ellsworth Call did considerable collecting just before the turn of the century so we have some idea of what species were present then. Later workers did follow-up studies in some of the areas to determine what species were still present and it appears that at least seven species have disappeared from Iowa.

A full list of the status of Iowa's endangered species of wildlife can be obtained from the Iowa DNR.

Iowa's Endangered Plants

Contrary to the impression many people have that Iowa has little to offer except agricultural crops, it is an interesting place to study and appreciate native wild plants. The diversity of plant life is a result of the state's physical location; it is a meeting ground for plants from the Great Plains, the extreme northern U.S., the eastern deciduous forest and the southeast woodlands and coastal plain. The dissected topography of northeast Iowa, especially in the "driftless area", provides habitats reminiscent of those normally found in northern Minnesota or northern Wisconsin and here are found such rare plants as Bunchberry, Bearberry, Dwarf Scouring Rush, Shinleaf, Low Sweet Blueberry and Twinflower. The dry, west-facing loess hills in western Iowa along the Missouri River provide habitat similar to that of the Great Plains and here are found many species characteristic of western United States. Careful looking may turn up rare plants such as Buffalo Grass, Buffalo Berry, Tumble Grass, Slender Beardtongue and Prickly-pear Cactus. The dry woodlands of southern Iowa harbor trees like Pawpaw, Persimmon, Sassafras and Blue ash. The dissected, moist woodlands of eastern Iowa, where some elements of the eastern deciduous woodland end, may disclose such beautiful, delicate and rare plants as Jeweled Shooting Star, Showy Ladyslipper, Hooker's Orchid and Twinleaf.

Iowa has some very unusual habitats where some of the rarest plants in the state are found. In the northwest a number of "fens" are found; these are springy areas on hillsides with upwelling, calcareous water where one may find rare plants like Arrowgrass, Bog Willow, Northern Bog Orchid and Beaked Rush and the insect-eating Sundew. Fens in northeast Iowa still harbor Adder's tongue fern, small-fringed gentian and Bog Birch. Because so many of Iowa's marshes and prairie potholes have

been drained, some marsh or aquatic plants are having trouble existing in the state. Some of the rarest are Bogbean, Water Marigold, Water Shield and Water Wort. Growing on cold air slopes in northeast Iowa are plants that normally are found in boreal America like balsam fir and twin flower. Sandy areas in Iowa harbor some exceedingly rare plants like the curious lower vascular plant Cleft Phlox, Erect Dayflower, Royal Fern, Cinnamon Fern and Golden Corydalis.

Traveling around Iowa, poking into the remote corners, may pay dividends like seeing a plant so rare that it occurs in only one place in the state, or you may see over 90% of the world's population of a certain species. There are experiences to be savored; they may not be possible tomorrow. While some Iowa plants are very rare, others have not been so lucky as to survive. Most of the state has been plowed, drained or grazed, and because many of the streams have been channelized, many plants lost their prime habitat and have disappeared. Over 80 plants which formerly grew here can no longer be found and at least 35 others are now known from a single location in Iowa. Many of these rarities require special habitats and specific conditions; in some cases, a form of management is needed to maintain their habitat.

Only recently has the government begun to think about the problem of protecting rare species of plants. In December of 1973, passage of the U.S. Endangered Species Act (Public Law 93-205) supplied the needed impetus for the protection of endangered and threatened plants as well as animals. In January, 1975, the Secretary of the Smithsonian Institution presented to Congress House Document No. 94-51, "A Report on Endangered and Threatened Plant Species of the United States," which listed 2,099 species, or approximately 10% of the native flora. Three plants which occur in Iowa appeared on this list; they are Monkshood (*Aconitum noveboracense*), Mead's Milkweed (*Asclepias meadii*) and Prairie Bushclover (*Lespedeza leptostachya*). Considerable field checking has occurred to determine the status of these plants in Iowa. They are proposed for inclusion on the federal endangered threatened species list; at present, Monkshood, Prairie bush clover, Western (*Platanthera praeclara*) and eastern (*Platanthera leucophaea*) prairie fringed orchids and Meads Milkweed appear on the federal list and is termed "threatened."

Plants considered endangered or threatened in Iowa have been identified; they deserve utmost caution and loving care if they are to be a part of our children's world. An attempt is being made to locate all sites in Iowa of plants termed 'endangered'; when found, the site should be protected and acquired by the state, if possible. This is where public support of the DNR's acquisition program is essential.

A complete list of endangered, threatened, extirpated (gone from Iowa) or 'status undetermined' plants may be obtained from the DNR.

CULTURAL RESOURCES

Introduction

The settlement and later development of Iowa has been strongly related to the natural resource patterns of the state. Early settlers followed the river courses and valleys to find suitable land for agriculture. The dependency on water for travel and upon the forest for wildlife and building materials dictated this pattern. As man adapted to the prairie environment settlement spread rapidly throughout the state.

The rich natural resources of the state attracted a wide variety of peoples and for many, it provided an abundant life. The cultural background of these settlers and educational system that developed within the state have provided Iowa with an extremely high human resource capability and proud heritage.

History

The sequence of man in Iowa prior to its European history is termed pre-historic, meaning before written history. In the absence of writing we must depend entirely upon archeological records consisting of tools, weapons, ornaments, and pottery as well as the skeletal remains of the Indians themselves. About 12,000 years ago, long before the coming of the first white man, small groups of stone-age hunters lived within the borders of Iowa. These hunters were Indians whose remote ancestors first migrated from northeastern Siberia and gradually spread across the North and South American continents. The earliest known evidence indicates these hunters called Paleo-Indians, flourished from 10,000 B.C. to 7000 B.C.

The story continues with subsequent archaic Indians and woodland mound builders. The great Indian invasions about A.D. 1200 brought an end to the mound builders and replaced woodland cultures with the forerunners of Iowa's future, the flourishing agricultural communities in the eastern and western parts of Iowa. Known as the Upper Mississippi and the Missouri pattern, these tribes overcame the ecological barrier of the prairies and adjusted to combined buffalo hunting and systematic agricultural practices. Unlike their predecessor's dependence upon woodland environment, these tribes harvested the wealth of the prairies and their cultural success was followed by an aggressive expansion around 1300 A.D. Thus the Mississippi and Missouri Rivers forming the eastern and western boundaries of the state became the gateways to new cultural development. The eastern groups of tribes eventually expanded west and in historic times became known as the Ioway, hence the namesake of the state.

The historic period in Iowa began in 1673 A.D. when the first French missionaries, Marquette and Joliet, described eastern Iowa in the course of their travels on the Mississippi. Not unlike the history of white civilization, Indian development during the thousands of years previous to the missionaries arrival was marred by conflicts, migrations, and economic changes. Their disintegration, however, under the impact of western civilization was due less to the technological superiority of the European invaders than to their inadequate biological resistance to some common diseases. It is estimated that at the time of white settlement, six to eight thousand Indians lived in Iowa. An accurate figure is difficult due to lack of census and nomadic nature of the various tribes. These tribes wandered throughout the region paying little attention to boundaries as there were no fixed limits of land claimed by the various tribes. As the settlement moved westward many conflicts and incidents occurred between the white settlers and the Indians. The eastern tribes were pushed into new areas and each tribe had to adjust to new locations. In less than twenty years, through a series of land cessions, settlement of Iowa forced the Indian from the state.

Lured by the natural wealth of this region, trappers, traders, and explorers penetrated the area. Fur trade was brisk with many posts, later to become major Iowa cities, establishing along the rivers by the American Fur Company. Lead mining in eastern Iowa was exploited by Julian Dubuque establishing

the first settlement in Iowa -- Dubuque. Lewis and Clark explored the Missouri in 1804, while survey parties under Zebulon Pike explored the Mississippi in 1805. Much of the exploration of the land between the two rivers was made between 1820 and 1835 by Stephan Kearney, a young military man with a keen eye for detail and perfection.

Due to the large amount of eastern publicity given to the state based upon earlier reports and surveys, settlers continued to pour into the new land. Cabins and settlements sprang from the prairie, wagons rolled over Indian tracts, while boats plied the streams. In pursuit of property the early settlers followed the stream and valley courses until they found a level fertile piece of land suitable for farming, with potential for a mill site, and containing suitable timber for building purposes. Later settlers expanded beyond the water courses and valleys into the prairie areas of the state. Iowa's rich soil turned under the breaking plow and forest cover fell before the axe, cultivated crops replaced the native grass and domestic herds grazed where buffalo once roamed. Iowa's population grew from 50 persons in 1832 to 43,000 within eight years.

Culture

The first wave of settlement into the area, later to become the State of Iowa, was almost totally of American origin, particularly from New England, New York, Pennsylvania, and the southern states. Settlement after 1840 changed due to the status of alien immigration and many foreigners sought the freedom and opportunity offered by Iowa. The many desirable qualities offered by the state, in particular its rich soils, attracted immigrants from Germany, Great Britain, Ireland, and Scandinavia. By 1850 about 10 percent of the 192,214 people in Iowa were foreign born. The most numerous being the Germans, the second being Irish, third Norwegian, fourth English, fifth Swedish, and smaller numbers from a variety of European countries.

During the process of travelling to Iowa these foreign immigrants learned to speak English quickly and became Americanized quite rapidly, largely due to necessity of communicating with previous English speaking settlers established in the state. However, many of the foreign immigrants settled near or with earlier arrivals of the same nationality. As a result this became somewhat of a barrier to complete assimilation due to the absence of a need to go beyond

their immediate area for their basic requirements and consequently the need to be understood by the English speaking settlers.

This location by nationality persists in Iowa even today. Many nationalities are represented in Iowa's history and the large number of localized festivals and celebrations indicate their present day influence within the state.

Religion

The presence of a wide variety of nationalities in the state was accompanied by a diversified religious background. The early clergymen that followed the wake of the first settlers were characterized by graduates of divinity, lay preachers, and those moved to religion through revival meetings and anxious to relay the message to their brethren. Early churches were non-denominational cooperative efforts of members of many faiths. The strong influence of religion was characterized by revival meetings, circuit riders, and camp meetings.

Educators and newspaper editors alike, put forth great efforts to stimulate an interest in church activities by opening schools to religious meetings and by publishing notices of these meetings, events, and services. Fortunately the settlement of Iowa was preceeded by the religious hysteria which swept over Europe and eastern United States. Consequently, Iowa was free from persecutions, hangings, and intolerance characterized by this hysteria. The isolated and often hard life of a settler strengthened their dependency on religion and the family bible was an essential item of the pioneers belongings. New settlers often looked for help and advice to members of the same church who had preceeded them.

Religion tended to be the strongest in the isolated towns, cabins, camps, and settlements while many of the river towns, characterized by a mixture of people and lower than average moral standards, represented little or no adherence to religion. Recreation for the early settlers quite often consisted solely of religious oriented or sponsored activities.

The general history of religion in Iowa does not vary except in specifics, from that of the rest of the United States as most of the settlers were members of nationally organized religious groups. The strong religious background of Iowa was characterized in many of its early political leaders.

Education

The strong desire for religion by the early pioneers was closely followed by an eagerness for education and in many instances education and religion became synonymous. Early church facilities were used for educational purposes until such a time as a school building could be constructed.

As settlement spread over the state, the church and schoolhouse soon followed. The first school was established in Iowa in 1830 north of Keokuk. Like many of the schools that followed, it was built of logs and contained very little equipment or books. This school and many like it were largely privately financed and operated. The school term was relatively short consisting of a few months during the winter. Until after the Civil War many Iowans received their elementary education under these conditions and those desiring higher education could attend a private academy or college. Many of these higher educational schools were administered by religious organizations.

The advent of public schools in the state was hindered by the lack of an established county and township system within the state for the regulation of a school system. After considerable debate and political problems, the territory of Iowa in 1840 adopted the Michigan School Law of 1838. The evolution of the public school system was relatively slow due to personal involvement and interest in developing homesteads and establishing a government to provide for statehood. The lack of organization in this early period resulted in individualized systems in which each teacher developed the program as they felt best suited the local needs.

Like the religious centers, the one room schoolhouse contributed to the early recreation of the settlers in the form of spelling bees, picnics, plays, and contests and played a large role in the cohesiveness of the community.

The opportunity for higher education during this early period was still essentially limited to privately operated academies and colleges and to some extent delayed the arrival of a public high school system. However, in 1849 the Iowa School Law was changed to authorize the establishment of schools of higher grades, and the first high school was established in 1851 in Muscatine County. Private and denominational colleges within the state served as the only

opportunity for education beyond the high school level and provided a much needed service to the state. However, it was felt that in order to provide equal opportunity to all settlers within the state, a State University should be created and in 1847 the idea was approved.

The growth of the educational system within the state progressed rapidly after the initial start and has led to one of the finest systems within the United States. Iowa continues to maintain high educational standards as can be attested to by its leading position within the United States with regards to literacy.

SUPPLY OF RECREATION IN IOWA

Iowans can participate in activities in many varied recreation areas across the state. It is important to monitor the supply of these recreation areas to help guide acquisition and development decisions. Such knowledge is basic in reducing overcrowding, protecting the recreation resource base and expending limited funds and manpower wisely to meet public needs.

Outdoor Recreation Resources and Facilities Inventory (ORRF)

In the early 1970s the Conservation Commission developed a system for the preparation and storage of a detailed state-wide outdoor recreation inventory. The system is comprised of quantitative information concerning outdoor recreation facilities across Iowa that are entered and stored on a large computer database. The inventory process strives to compile information for every individual outdoor recreation area in Iowa; including all federal, state, county, municipal, private, and semi-private areas.

Figure 2-4 shows inventory figures available for outdoor recreation areas across the state. This figure also reports the total number of facilities in the state. The database includes over 5,100 recreation areas. The inventory can be manipulated in many different ways depending upon the information desired from the data. Many planning agencies of all types use the inventory for recreation data for regional planning, trail planning, County Conservation Board recreation plans, etc., as well as comprehensive recreation planning at the state level.

MEGA

In addition to the Outdoor Recreation Resources and Facilities Inventory, the DNR has also developed a comprehensive facility maintenance and inventory management system called MEGA. The two inventories overlap in some areas, however MEGA is a much larger and more detailed data base. The objectives of MEGA are as follows.

1. Maintenance. The system provides information for estimating, prioritizing, and controlling the facility maintenance budget and facility maintenance projects.
2. Engineering. The system provides a record of all man-made facilities including the facility's condition, size, year constructed, and so on. This provides useful data for engineering, planning, and for staff administrators.
3. Grants. Many facilities are cost-shared with federal funds. The various federal agencies expect the DNR to maintain accountability for projects that were cost-shared with federal funds.
4. Accounting. The system provides accounting controls for fixed assets in a manner similar to a private sector business. The lack of such records has been a source of continuing criticism in the annual state audit reports.

At this point, most of the initial MEGA data has been collected and entered into a complete system. It is expected that this system will provide good data for future policy and budget decisions by the DNR.

Recreation Agencies in Iowa

The provision of outdoor recreation opportunities is shared by many public and private agencies in Iowa. One of the keys to efficient and well balanced programs is coordination between these individual agencies. If cooperation is to take place, each agency must understand its role in relation to the other agencies. It should be stressed that coordinated programming by all sectors of government and private enterprise is important in helping to provide greater opportunities for the recreationist.

The following tables and graphs give information regarding those that provide outdoor recreation in Iowa. Table 2-5 shows the amount of land owned and managed by each of the agency types. Figure 2-5 is a

IOWA DEPARTMENT OF NATURAL RESOURCES
OUTDOOR RECREATION RESOURCES
AND FACILITIES INVENTORY

SUMMARY REPORT FOR 5,193 AREAS

TOTAL ACRES	650,627 ACRES	CAMPING		
LAND		MODERN	20,022	UNITS
RECREATION LAND	490,615 ACRES	NON-MODERN	13,529	UNITS
PUBLIC HUNTING	377,847 ACRES	PRIMITIVE	1,626	UNITS
WATER		PICNIC SHELTERS		
NATURAL LAKE	47,052 ACRES	OPEN	2,358	SHELTERS
ARTIFICIAL LAKE	96,686 ACRES	ENCLOSED	442	SHELTERS
MARSH		SWIMMING POOLS		
NATURAL	19,944 ACRES	SWIMMING	415	POOLS
ARTIFICIAL	37,223 ACRES	WADING	290	POOLS
RIVER FRONTAGE		LODGE UNITS		
WARM WATER	839 MILES	RESORT ROOMS	7,149	ROOMS
COLD WATER	78 MILES	CABINS	802	CABINS
BOATING		SHOOTING RANGES		
BOAT RAMPS	1,243 LANES	SKEET	17	RANGES
DOCK SLIPS	3,794 SLIPS	TRAP	89	RANGES
RENTAL ESTABLISHMENTS	970 UNITS	SPORTING CLAYS	3	RANGES
BEACH FRONTAGE	97,828 FEET	RIFLE & PISTOL	67	RANGES
TRAILS		ARCHERY	83	RANGES
ALL TRAILS	2,693 MILES	SPORT AREAS		
EQUESTRIAN	669 MILES	SOFTBALL	1,112	DIAMONDS
FOOT	1,690 MILES	BASEBALL	558	DIAMONDS
BICYCLE	946 MILES	GAME COURTS	1,145	COURTS
SONWMOBILE	784 MILES	PLAYGROUNDS	2,784	GROUND
ORV	118 MILES	PLAYFIELDS	2,982	ACRES
CROSS-COUNTRY	626 MILES	TENNIS COURTS	1,345	COURTS
ROADS		GOLF COURSES		
HARD-SURFACED	946 MILES	PAR 3	7	COURSES
NON-SURFACED	1,464 MILES	9 HOLE	305	COURSES
FACILITIES		18 HOLE	102	COURSES
INTERPRETIVE	274 AREAS	WINTER SPORTS AREAS	340	AREAS
HANDICAPPED	432 AREAS	ICE SKATING AREAS	249	AREAS
SITES		LATRINES		
ARCHAEOLOGICAL	72 AREAS	MODERN	3,442	UNITS
HISTORIC	337 AREAS	PIT OR VAULT	2,114	UNITS

Figure 2-4

OWNERSHIP AND MANAGEMENT OF IOWA'S RECREATION LANDS

		OWNERSHIP						
		COUNTY	FEDERAL	MUNIC.	PRIVATE	STATE SEMI-PRIV	TOTAL	PERCENT
M	COUNTY	84,162	0	704	703	10,594	790	96,953
A	FEDERAL	0	112,216	0	0	0	0	112,216
N	MUNICIPAL	54	21	45,448	789	130	33	46,475
A	PRIVATE	245	143	114	36,008	0	1,527	38,037
G	STATE	1,857	87,868	1,696	72	241,365	0	332,858
E	SEMI-PRIV	380	0	80	13,218	1	10,494	24,088
M								
E	TOTAL	86,698	200,248	48,042	50,790	252,090	12,759	650,627
N								
T	PERCENT	13.3	30.8	7.4	7.8	38.7	2.0	100.0

Federal	Municipal	Semi-private
U.S. Soil Conservation Service	Municipal Park and Recreation Departments	Boy Scouts, Girl Scouts, and Affiliates
U.S. Army Corps of Engineers	Municipal Park and Recreation Boards	YMCA and YWCA
U.S. Fish and Wildlife Service	City Councils	4-H
National Park Service	Schools	Other special needs groups
State	Private	
Dept. of Natural Resources	Private Enterprise	
County	Individuals	
County Conservation Boards	Churches	

Table 2-5

graphic representation of land by ownership and by management.

Iowa's Recreation Supply

To get a feel for the supply of recreation facilities across the state, the ORRF inventory can be used to compare and contrast at the municipal, county, region, or state levels. A printout showing the total number of facilities in the state was presented in Figure 2-4. To show comparisons in different portions of the state, we can break down this state total by planning regions (Figure 2-6). Table 2-6a shows the number of facilities in each region. These figures can be compared with the population by region figures at the bottom of the table.

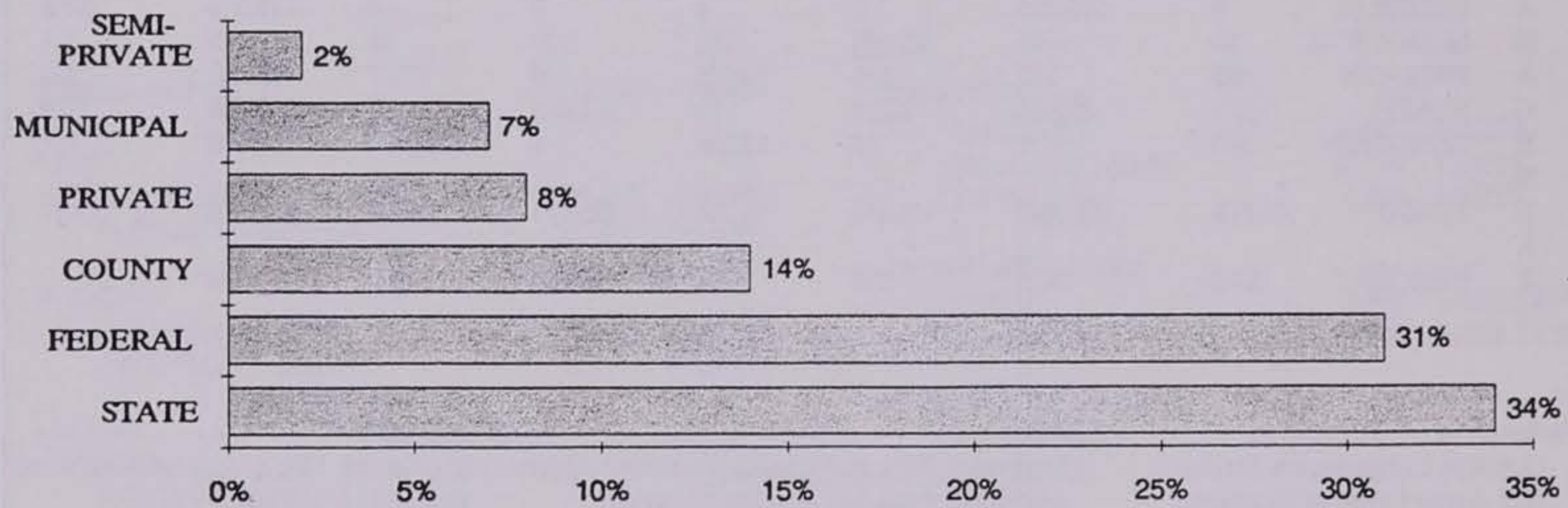
Table 2-6b does not show actual need. What it shows is how each area of the state compares to the others in terms of facilities per population. These figures can serve as a guide to where facilities are needed to make their distribution equitable across the entire state.

Table 2 -6b shows relative recreation need based on comparable needs in other regions of the state. The numbers represent the increase in facilities in the region that are needed to keep that region equal (based on facilities per person) to the other regions in the state. For example, if a region has 20% of Iowa's population, the need figure shows how many facilities are needed to give that region 20% of the facilities of a specific type for the state.

The need figure in Table 2- 6c show two things. First, the figures can be used to compare actual need from region to region for prioritization purposes. Second, the figures can be used as a goal for supplying a region with recreation facilities. For example, if the need figure is (2), the region needs to be supplied with 2 more facilities of that type to meet the standard for facilities per person for that region.

These standards were examined as guidelines to help form standards for Iowa. One should remember however, that these figures are generic in nature and assume standards to be correct for all areas. A county by county recreation need analysis can be obtained from the Iowa DNR.

OWNERSHIP OF IOWA'S RECREATION LANDS



MANAGEMENT OF IOWA'S RECREATION LANDS

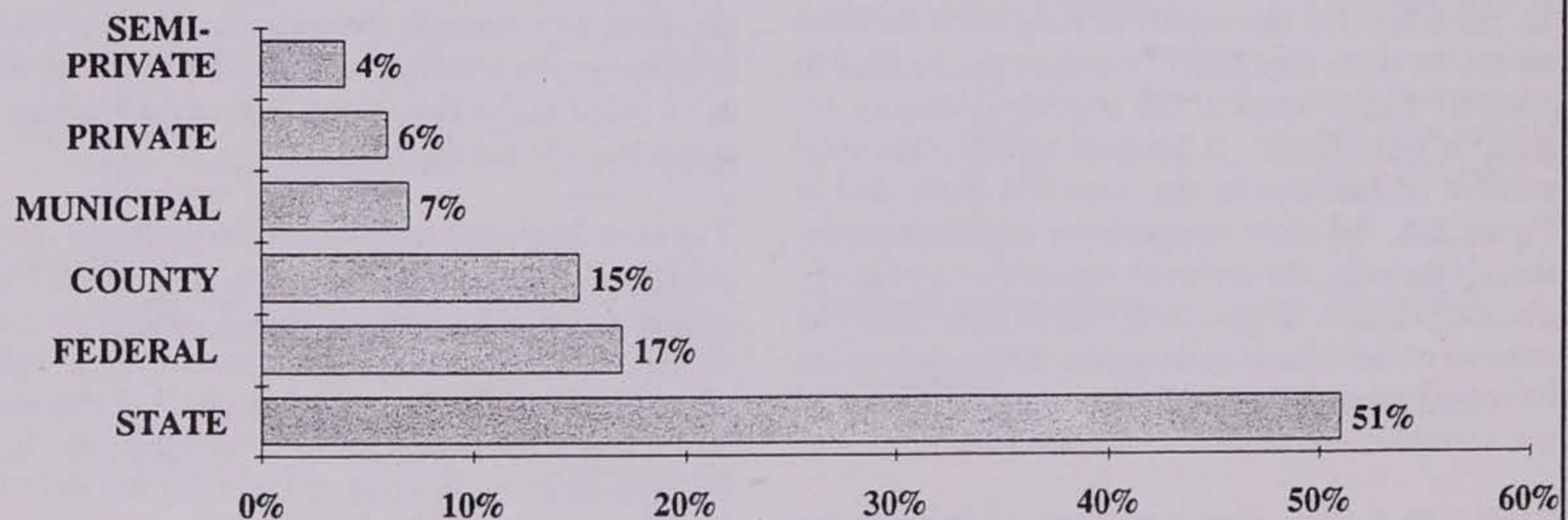


Figure 2-5

RECREATION PLANNING REGIONS

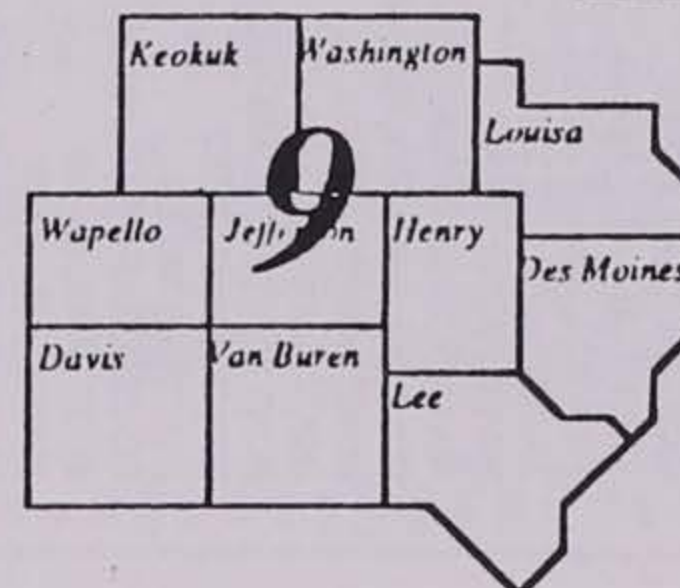
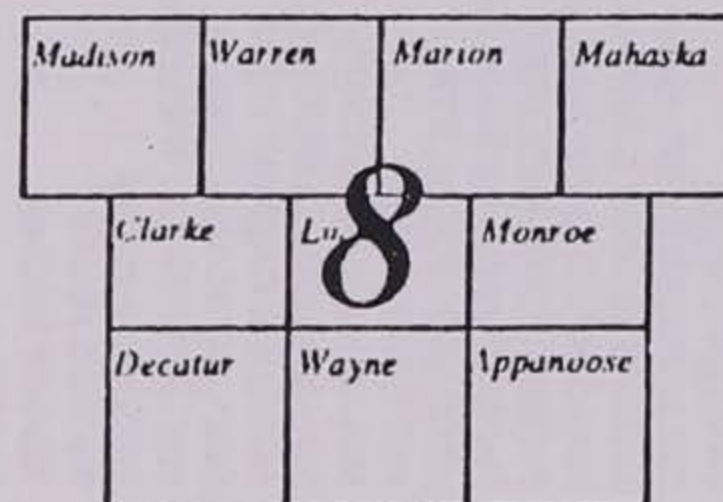
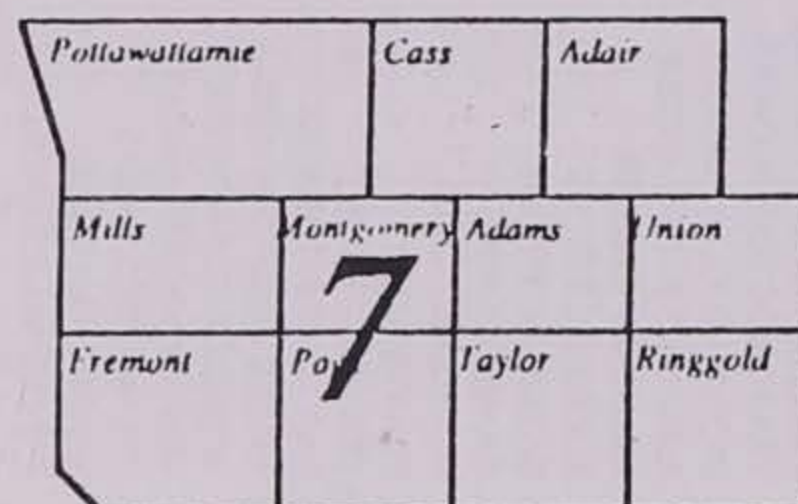
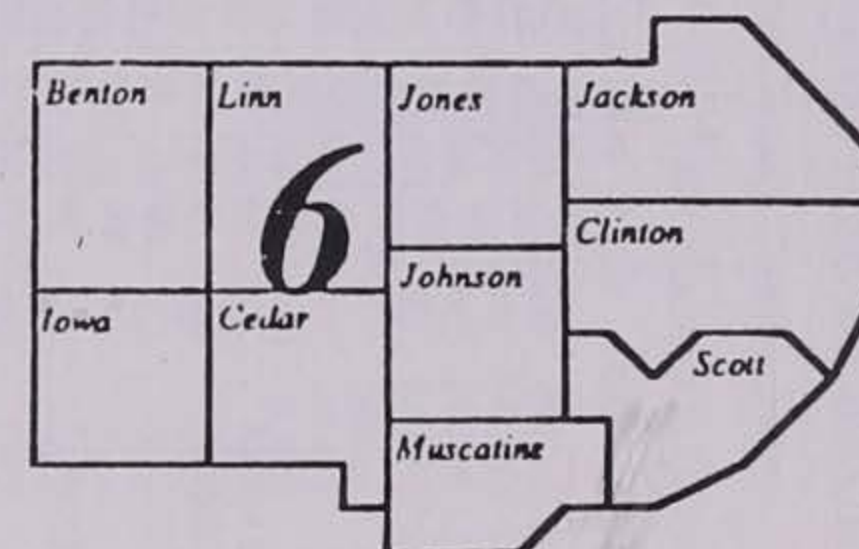
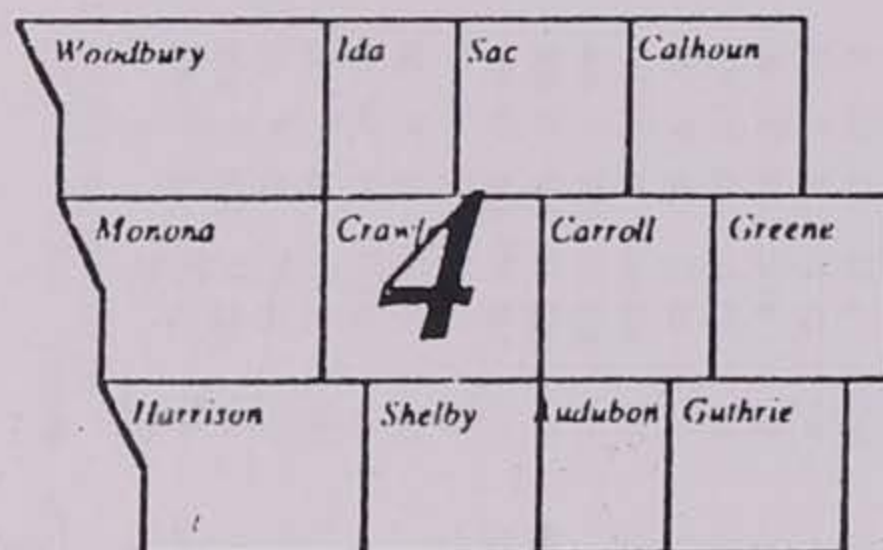
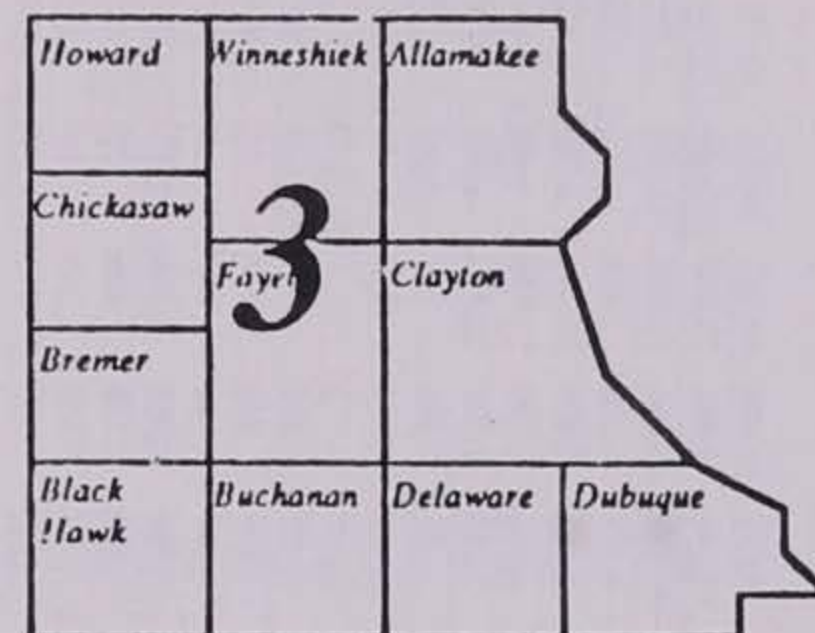
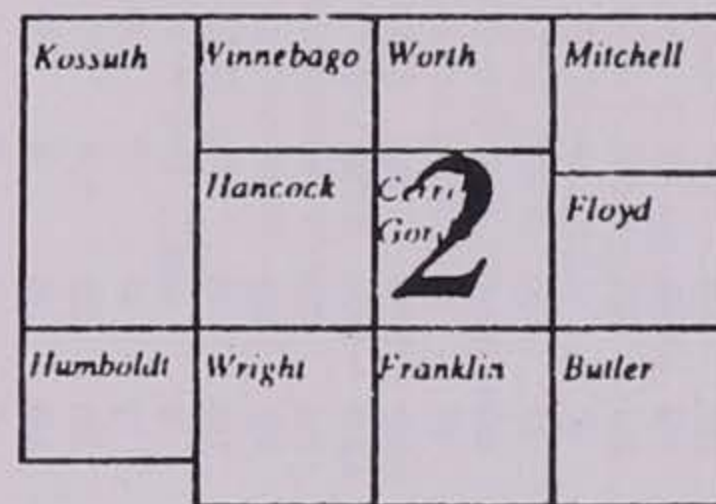
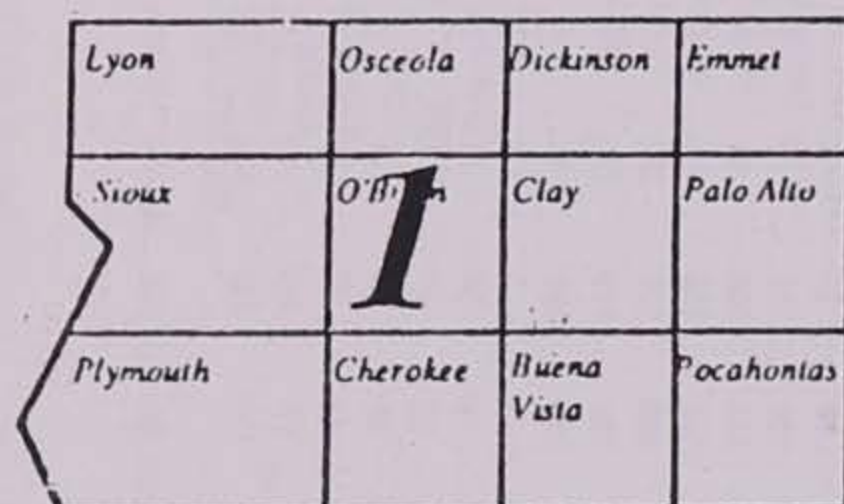


Figure 2-6

SUPPLY OF RECREATION BY RECREATION AREA

	RECREATION PLANNING REGIONS									TOTAL
	1	2	3	4	5	6	7	8	9	
TOTAL OUTDOOR RECREATION ACRES	66,012	40,794	111,752	59,897	88,898	94,381	29,728	99,179	59,986	650,627
LAND ACRES	25,795	26,369	98,750	47,150	78,482	72,088	22,768	71,703	47,510	490,615
PUBLIC HUNTING AREA	27,516	24,613	84,975	30,673	45,264	62,898	11,606	55,490	34,812	377,847
NATURAL LAKE ACRES	32,604	5,742	1,605	4,777	376	113	1,112	10	713	47,052
ARTIFICIAL LAKE ACRES	539	423	925	3,116	10,400	33,026	3,335	38,705	6,217	96,686
NATURAL MARSH ACRES	7,470	6,012	223	4,641	206	506	90	97	699	19,944
ARTIFICIAL LAKE ACRES	58	2,952	10,190	1,245	1,005	12,470	1,607	839	6,857	37,223
RIVER FRONT MILES	55	81	317	86	185	217	19	29	53	1,043
WARM WATER RIVER FRONT MILES	46	73	238	82	156	140	24	35	47	839
COLD WATER RIVER FRONT MILES	3	4	57	2	3	5	0	0	2	78
BOAT RAMPS LANES	135	71	110	89	145	430	63	105	95	1,243
DOCK SLIPS	344	148	785	178	845	444	73	360	617	3,794
BOAT RENTAL ESTABLISHMENTS	34	24	260	17	81	61	60	325	108	970
BEACH FRONT FEET	48,837	5,150	8,401	7,961	10,063	6,211	2,585	4,870	3,750	97,828
ALL TRAIL MILES	120	120	569	320	439	406	185	286	248	2,693
EQUESTRIAN TRAIL MILES	30	33	115	74	126	118	54	62	58	669
FOOT TRAIL MILES	98	101	270	182	323	271	79	160	207	1,690
BIKE TRAIL MILES	17	58	175	118	230	112	68	68	101	946
SNOWMOBILE TRAIL MILES	14	137	170	119	99	93	31	65	56	784
ORV TRAIL MILES	3	8	24	31	5	25	0	19	3	118
CROSS-COUNTRY SKI MILES	31	49	85	49	114	103	49	45	102	626
HARD-SURFACED ROAD MILES	65	61	124	99	160	153	95	109	80	946
NON-SURFACED ROAD MILES	162	137	220	157	215	157	162	143	111	1,464
INTERPRETIVE FACILITIES	19	32	32	17	60	50	15	25	24	274
HANDICAPPED ACCESSIBLE FACILITIES	43	68	40	45	97	58	25	37	19	432
ARCHAEOLOGICAL SITES	8	4	18	2	13	9	3	7	8	72
HISTORICAL SITES	21	24	40	37	63	42	31	28	51	337
MODERN CAMPING UNITS	1,983	1,270	2,461	1,671	3,729	3,744	1,253	2,105	1,806	20,022
NON-MODERN CAMPING UNITS	570	937	2,084	1,561	1,843	3,025	763	1,671	1,075	13,529
PRIMITIVE CAMPING UNITS	103	109	327	138	216	223	169	62	279	1,626
OPEN PICNIC SHELTERS	265	180	355	202	410	335	191	183	237	2,358
ENCLOSED PICNIC SHELTERS	72	33	43	74	102	62	8	20	28	442
SWIMMING POOLS	57	41	45	44	78	66	28	26	30	415
WADING POOLS	39	33	23	27	72	46	18	19	13	290
RESORT ROOMS	4,762	816	372	204	309	322	150	151	63	7,149
CABINS	169	41	80	98	158	108	53	30	65	802
SKEET SHOOTING RANGES	4	0	4	1	1	1	0	4	2	17
TRAP SHOOTING RANGES	12	3	29	4	3	18	9	6	5	89
SPORTING CLAY RANGES	1	0	1	0	0	0	0	1	0	3
RIFLE & PISTOL RANGES	11	3	7	8	6	19	1	5	7	67
ARCHERY RANGES	8	4	16	9	10	15	4	4	13	83
SOFTBALL FIELDS	93	72	181	98	234	215	75	68	76	1,112
BASEBALL FIELDS	48	32	49	78	114	104	41	34	58	558
GAME COURTS	101	79	212	114	301	138	66	50	84	1,145
PLAYGROUNDS	253	255	404	283	497	398	242	182	270	2,784
PLAYFIELDS	288	237	560	250	526	619	136	177	189	2,982
TENNIS COURTS	148	128	191	155	286	189	84	69	95	1,345
PAR 3 GOLF COURSES	0	0	0	0	4	1	1	1	0	7
9 HOLE GOLF COURSES	45	43	30	32	48	39	23	22	23	305
18 HOLE GOLF COURSES	14	7	14	8	25	17	6	3	8	102
WINTER SPORTS AREAS	32	28	56	26	81	69	15	13	20	340
ICE SKATING AREAS	39	20	45	23	62	32	4	9	15	249
MODERN LATRINE	422	280	425	380	705	563	193	215	259	3,442
PIT OR VAULT LATRINE	151	142	362	175	319	335	174	232	224	2,114
POPULATION	186,274	178,181	370,596	234,979	653,392	600,646	186,689	154,658	201,340	2,766,755

Table 2-6a

NEED FOR RECREATION FACILITIES BY RECREATION REGIONS

Based on County Comparison

	RECREATION PLANNING REGIONS								
	1	2	3	4	5	6	7	8	9
TOTAL RECREATION ACRES	22,208	(1,107)	24,603	4,640	(64,753)	(46,866)	(14,174)	62,810	12,639
LAND ACRES	(7,236)	(5,227)	33,034	5,482	(37,381)	(34,422)	(10,337)	44,278	11,807
PUBLIC HUNTING ACRES	2,077	279	34,364	(1,417)	(43,968)	(19,130)	(13,890)	34,369	7,316
NATURAL LAKE ACRES	29,436	2,712	(4,697)	781	(10,736)	(10,102)	(2,063)	(2,620)	(2,711)
ARTIFICIAL LAKE ACRES	(5,970)	(5,804)	(12,026)	(5,095)	(12,433)	12,036	(3,189)	33,300	(819)
NATURAL MARSH ACRES	6,127	4,728	(2,448)	2,947	(4,504)	(3,824)	(1,256)	(1,018)	(752)
ARTIFICIAL MARSH ACRES	(2,448)	555	5,204	(1,916)	(7,786)	4,389	(905)	(1,242)	4,148
RIVER FRONT MILES	(15)	14	177	(2)	(61)	(10)	(52)	(30)	(23)
WARM WATER RIVER MILES	(10)	19	126	10	(43)	(43)	(33)	(12)	(14)
COLD WATER RIVER MILES	(3)	(1)	47	(4)	(15)	(12)	(5)	(4)	(4)
BOAT RAMP LANES	51	(9)	(56)	(17)	(149)	160	(21)	36	5
DOCK SLIPS	89	(96)	277	(144)	(51)	(380)	(183)	148	341
BOAT RENTAL ESTABLISHMENTS	(31)	(38)	130	(65)	(148)	(150)	(5)	271	37
BEACH FRONT FEET	42,251	(1,150)	(4,703)	(347)	(13,040)	(15,027)	(4,016)	(598)	(3,369)
ALL TRAIL MILES	(61)	(54)	208	92	(197)	(179)	4	135	52
EQUESTRIAN TRAIL MILES	(16)	(10)	26	17	(32)	(28)	9	25	9
FOOT TRAIL MILES	(16)	(8)	44	38	(77)	(96)	(35)	65	84
BIKE TRAIL MILES	(47)	(3)	48	38	7	(93)	4	15	32
SNOWMOBILE TRAIL MILES	(39)	87	65	52	(86)	(78)	(22)	21	(1)
ORV TRAIL MILES	(5)	0	8	21	(23)	(1)	(8)	13	(6)
CROSS-COUNTRY SKI TRAIL MILES	(11)	8	1	(4)	(34)	(33)	7	10	57
HARD-SURFACED ROAD MILES	1	0	(3)	19	(63)	(52)	31	56	11
NON-SURFACED ROAD MILES	63	43	24	33	(131)	(161)	63	61	4
INTERPRETIVE FACILITIES	1	14	(5)	(6)	(5)	(9)	(3)	10	4
HANDICAPPED ACCESSIBLE FACILITIES	14	40	(18)	8	(5)	(36)	(4)	13	(12)
ARCHAEOLOGICAL SITES	3	(1)	8	(4)	(4)	(7)	(2)	3	3
HISTORIC SITES	(2)	2	(5)	8	(17)	(31)	8	9	26
MODERN CAMPING UNITS	635	(19)	(221)	(29)	(999)	(603)	(98)	986	349
NON-MODERN CAMPING UNITS	(341)	66	272	412	(1,352)	88	(150)	915	90
PRIMITIVE CAMPING UNITS	(6)	4	109	0	(168)	(130)	59	(29)	161
OPEN PICNIC SHELTERS	106	28	39	2	(147)	(177)	32	51	65
ENCLOSED PICNIC SHELTERS	42	5	(16)	36	(2)	(34)	(22)	(5)	(4)
SWIMMING POOLS	29	14	(11)	9	(20)	(24)	0	3	0
WADING POOLS	19	14	(16)	2	4	(17)	(2)	3	(8)
RESORT ROOMS	4,281	356	(586)	(403)	(1,379)	(1,230)	(332)	(249)	(457)
CABINS	115	(11)	(27)	30	(31)	(66)	(1)	(15)	7
SKEET SHOOTING RANGES	3	(1)	2	0	(3)	(3)	(1)	3	1
TRAP SHOOTING RANGES	6	(3)	17	(4)	(18)	(1)	3	1	(1)
SPORTING CLAY RANGES	1	0	1	0	(1)	(1)	0	1	0
RIFLE & PISTOL RANGES	6	(1)	(2)	2	(10)	4	(4)	1	2
ARCHERY RANGES	2	(1)	5	2	(10)	(3)	(2)	(1)	7
SOFTBALL FIELDS	18	0	32	4	(29)	(26)	0	6	(5)
BASEBALL FIELDS	10	(4)	(26)	31	(18)	(17)	3	3	17
GAMECOURTS	24	5	59	17	31	(111)	(11)	(14)	1
PLAYGROUNDS	66	76	31	47	(160)	(206)	54	26	67
PLAYFIELDS	87	45	161	(3)	(178)	(28)	(65)	10	(28)
TENNIS COURTS	57	41	11	41	(32)	(103)	(7)	(6)	(3)
PAR 3 GOLF COURSES	0	0	(1)	(1)	2	(1)	1	1	(1)
9 HOLE GOLF COURSES	24	23	(11)	6	(24)	(27)	2	5	1
18 HOLE GOLF COURSES	7	0	0	(1)	1	(5)	(1)	(3)	1
WINTER SPORTS AREAS	9	6	10	(3)	1	(5)	(8)	(6)	(5)
ICE SKATING AREAS	22	4	12	2	3	(22)	(13)	(5)	(3)
MODERN LATRINES	190	58	(36)	88	(108)	(184)	(39)	23	9
PIT OR VAULT LATRINES	9	6	79	(5)	(180)	(124)	31	114	70
POPULATION	186,274	178,181	370,596	234,979	653,392	600,646	186,689	154,658	201,340

NOTE: Numbers in parenthesis () indicate deficiencies.

Table 2-6b

NEED FOR RECREATION FACILITIES BY RECREATION REGIONS

Based on Recreation Standards

	STANDARD	RECREATION PLANNING REGIONS									TOTAL
		1	2	3	4	5	6	7	8	9	
BOAT RAMPS	1,000	(51)	(107)	(261)	(146)	(508)	(171)	(124)	(50)	(106)	(1,524)
DOCK SLIPS	400	(122)	(297)	(141)	(409)	(788)	(1,058)	(394)	(27)	114	(3,123)
BEACH FRONT FEET	40	44,180	695	(864)	2,087	(6,272)	(8,805)	(2,082)	1,004	(1,284)	28,659
EQUESTRIAN TRAIL MILES	5,000	(8)	(3)	41	27	(5)	(3)	17	31	18	116
FOOT TRAIL MILES	2,500	23	30	122	88	61	31	4	98	127	584
BIKE TRAIL MILES	1,000	(170)	(120)	(196)	(117)	(423)	(488)	(119)	(87)	(101)	(1,821)
SNOWMOBILE TRAIL MILES	3,000	(48)	78	46	40	(118)	(108)	(31)	14	(11)	(139)
ORV TRAIL MILES	3,000	(59)	(51)	(99)	(48)	(212)	(175)	(62)	(32)	(64)	(804)
INTERPRETIVE FACILITIES	20,000	10	23	13	5	27	20	6	17	14	136
CAMPING UNITS	150	1,414	1,128	2,401	1,803	1,432	2,988	940	2,807	1,818	16,732
SWIMMING POOLS	15,000	45	29	20	28	34	26	16	16	17	231
SKEET SHOOTING RANGES	100,000	2	(2)	0	(1)	(6)	(5)	(2)	2	0	(11)
TRAP SHOOTING RANGES	100,000	10	1	25	2	(4)	12	7	4	3	61
RIFLE & PISTOL RANGES	50,000	7	(1)	0	3	(7)	7	(3)	2	3	12
ARCHERY RANGES	50,000	4	0	9	4	(3)	3	0	1	9	28
SOFTBALL FIELDS	2,000	0	(17)	(4)	(19)	(93)	(85)	(18)	(9)	(25)	(271)
BASEBALL FIELDS	5,000	11	(4)	(25)	31	(17)	(16)	4	3	18	5
GAME COURTS	3,000	39	20	88	36	83	(62)	4	(2)	17	223
PLAYGROUNDS	3,000	191	196	280	205	279	198	180	130	203	1,862
PLAYFIELDS	8,000	265	215	514	221	444	544	113	158	164	2,636
TENNIS COURTS	2,000	55	39	6	38	(41)	(111)	(9)	(8)	(6)	(38)
GOLF COURSES	25,000	52	43	29	31	51	33	23	20	23	303
WINTER SPORTS AREAS	20,000	23	19	37	14	48	39	6	5	10	202
ICE SKATING AREAS	20,000	30	11	26	11	29	2	(5)	1	5	111
PLANNING REGION POPULATION		186,274	178,181	370,596	234,979	653,392	600,646	186,689	154,658	201,340	2,766,755

NOTE: Numbers in parenthesis () indicate deficiencies.

Table 2-6c

IOWA'S RECREATION ACTIVITY

IOWANS IN THE 90's

The modest growth of Iowa's population over the last 30 years has occurred at a manageable and fairly predictable pace. Changes within the population's place of residence, employment, age and other social and economic factors have also been predictable. From an outdoor recreation planning perspective, all of these changes are equally important factors to consider.

During the 1950's, Iowa's population switched from predominantly rural to predominantly urban. This change became almost an exodus during the 1980's due primarily to hard economic times in rural Iowa. As a result, many recreation programs, both urban and rural, must reevaluate the needs of their users.

As might be expected, migration into Iowa along with the rural to urban shift, has taken place mostly in those counties having large urban centers or in counties adjacent to large urban centers. Figure 3-1 shows those counties with a 10% or greater population decrease and counties that experienced an increase in population between 1980 and 1988. Figure 3-2 represents projections of population change by county between the years 1990 and 2000. Only 10 counties are projected to increase in population while 59 are projected for decreased population. The need for reevaluation of recreation programs will continue. This is further exemplified by Iowa's aging population.

A composite summary of Iowa's population by age and gender is provided in Table 3-1. Iowa's population make up is changing, 36.2 percent of the people are under 25 and Iowa's median age is 33.3 years. The

POPULATION CHANGE BY COUNTY 1980 - 1988

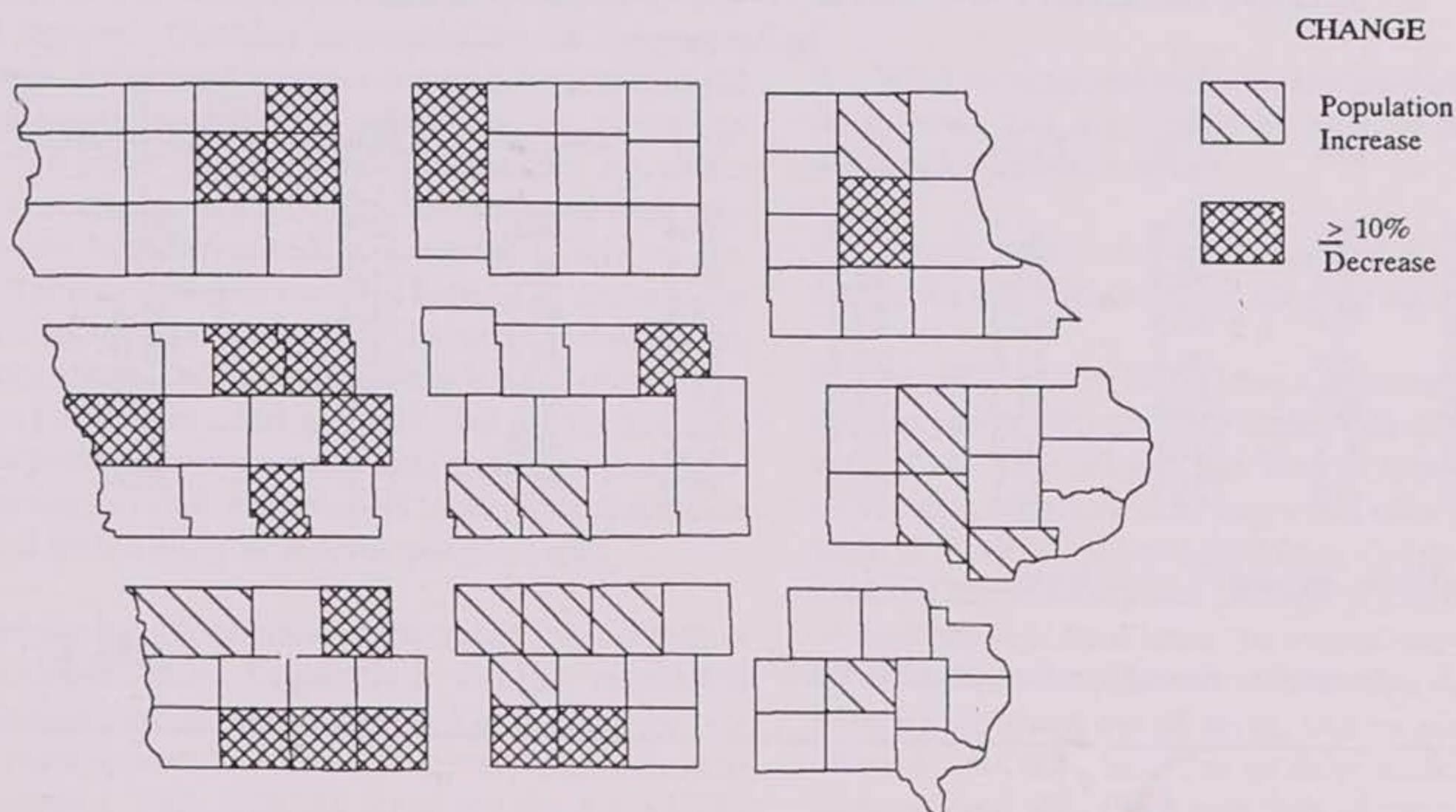


Figure 3-1

Source: Woods and Poole Economics, Inc., Washington D.C.

PROJECTED POPULATION TRENDS 1990 - 2000 By County

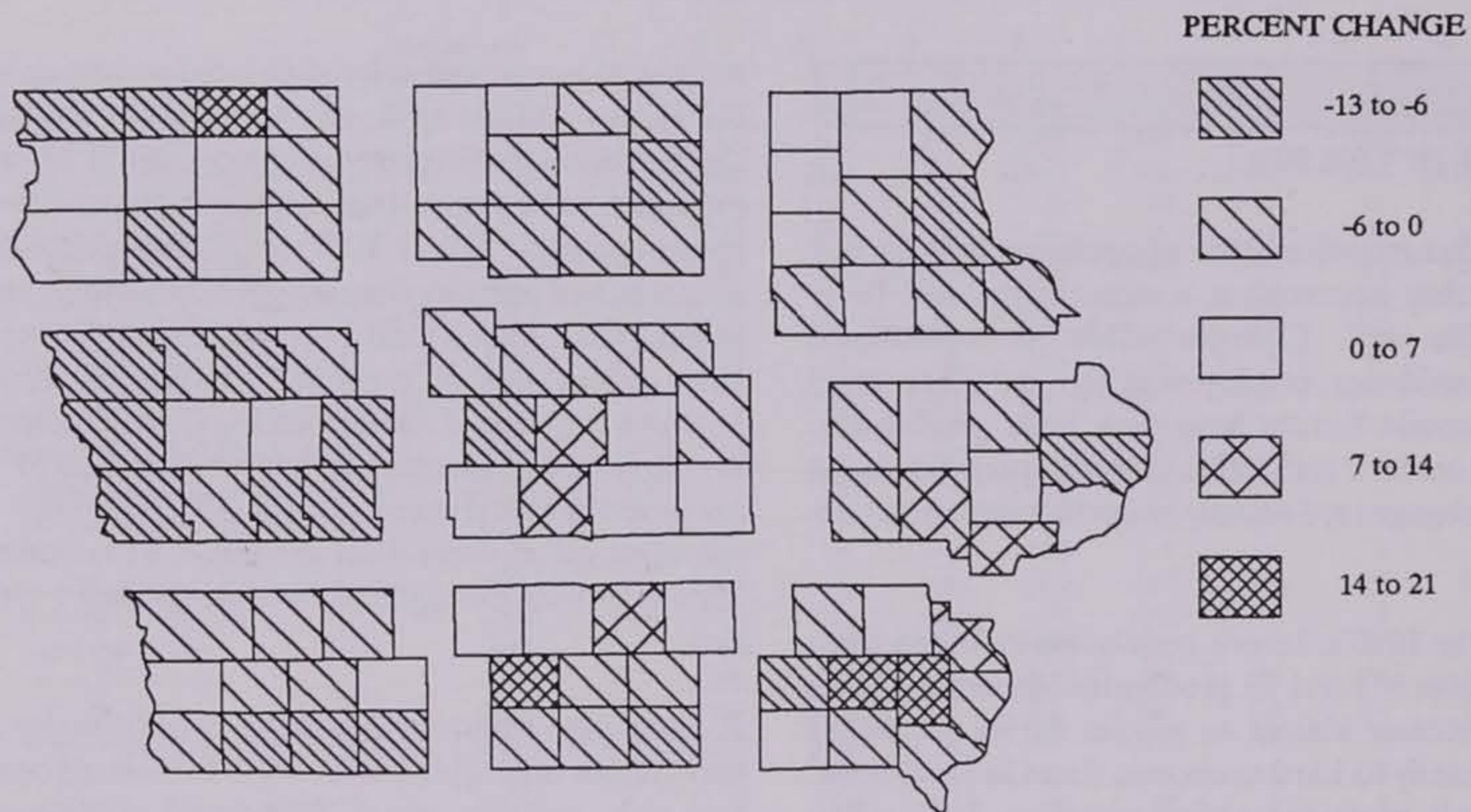


Figure 3-2

Source: Woods and Poole Economics, Inc., Washington D.C.

COMPARISON OF AGE AND GENDER OF IOWANS

In Percent

	0-4	0-24	25-54	55+	65+	MALE	FEMALE	MEDIAN AGE
1980	7.6	33.9	35.5	22.9	13.4	48.6	51.4	30.1
1985	7.9	30.5	38.2	23.5	14.2	48.7	51.3	32.0
* 1990	7.7	28.5	40.5	23.3	14.9	48.7	51.3	33.3
* 1995	7.2	28.1	41.6	23.2	15.2	48.8	51.2	35.0
* 2000	6.5	28.3	41.3	23.8	15.1	48.7	51.3	36.7
* 2005	6.3	27.8	40.3	25.7	15.1	48.8	51.2	---
* 2010	6.2	26.7	39.1	28.0	15.8	48.9	51.1	39.2

* Indicates estimated population

Source: Woods and Poole Economics, Inc., Washington D.C.

Table 3-1

past ten years have shown over a five percent decrease in the 25 and under age group, and a two percent increase in the 55 and older group. The median age of Iowans has also increased by over two percent. The trend of fewer persons in the under 25 age group coupled with an increase in the 55 and older group is projected to continue through the year 2010.

A breakdown of Iowa's population by race and gender indicates that Iowa has slightly more women than men. There has been little change in that ratio over the past ten years and little change is projected over the next twenty. Although there has been an increase in the population of blacks, asians, Indians, and other nonwhite races, whites continue to make up the vast majority of the population.

In addition to the population statistics mentioned above, Figure 3-3 and Figure 3-3a graphically show population indicators that have a direct affect on outdoor recreation participation. Patterns found in each map give indications of how certain recreation programs and facilities should be planned for specific counties. Combining these figures with other population and recreation participation data can help direct outdoor recreation planning decisions.

The implications of these population figures are significant in relation to outdoor recreation needs and demands. While overall population in Iowa has slightly increased between 1980 and 1988, there has continued to be a shift in age and urban/rural ratio of Iowans. Growing concentrations of Iowans in urban areas result in higher demands for recreational opportunities within the urban centers, as well as within short day-use driving distances. As urban areas increase in population, many expand their corporate boundaries with consequent effects on the cultural and natural resource base. The demand for development on lands adjacent to or near these urban areas often lead to speculative pricing of property to the point where cost is prohibitive for recreational purposes. However, many local governments are beginning to require developers to set aside recreation land within many new developments areas.

Surveys have consistently shown that urban dwellers participate more frequently in outdoor recreation pursuits than do rural residents. The demand for recreation opportunities "close to home" will continue to increase. Also with the trend toward a gradually older Iowa population, recreation opportunities must be available to meet the needs for more passive leisure time opportunities.

Three other factors that seemingly affect participation rates and the way people recreate are income, education, and occupation. While there is no hard rule for calculating the exact effects of these factors, a general analysis of them for a given area can aid decision makers in projecting recreation needs.

OUTDOOR RECREATION SURVEYS

Iowans have a wide variety of recreation activities to choose from in the state and several general surveys have been conducted to determine what outdoor recreation activities Iowans prefer and how often they participate. Other, more specific surveys have been undertaken to gather detailed information regarding specific outdoor recreation activities.

1985 Iowa Recreation Participation Survey

A telephone survey was last conducted in 1985 to determine general outdoor recreation information. The objectives of this survey was:

1. What recreational activities Iowans pursued outdoors in Iowa and how often they participated in these activities.
2. How far people travel to participate in these activities.
3. What recreational activities Iowans would like to do in Iowa, but are unable because of limited or unsuitable recreation areas.
4. Trends concerning increases and decreases in recreation participation over the past three years.

In 1966, 1970 and 1975 the Iowa Conservation Commission and in 1985 the DNR undertook detailed surveys of the recreational activities of Iowans. The survey data constituted an important element of the 1968, 1972, 1978, 1985 and 1990 State Comprehensive Outdoor Recreation Plans (SCORP). The objectives of these surveys have been: to secure unbiased and accurate determinations of what Iowans do in their leisure time spent out of doors; and to analyze and interpret the data in order to help guide decision makers faced with the constraints of increasing demands, a dwindling resource base, and limited funding.

PERCENT URBAN POPULATION 1980

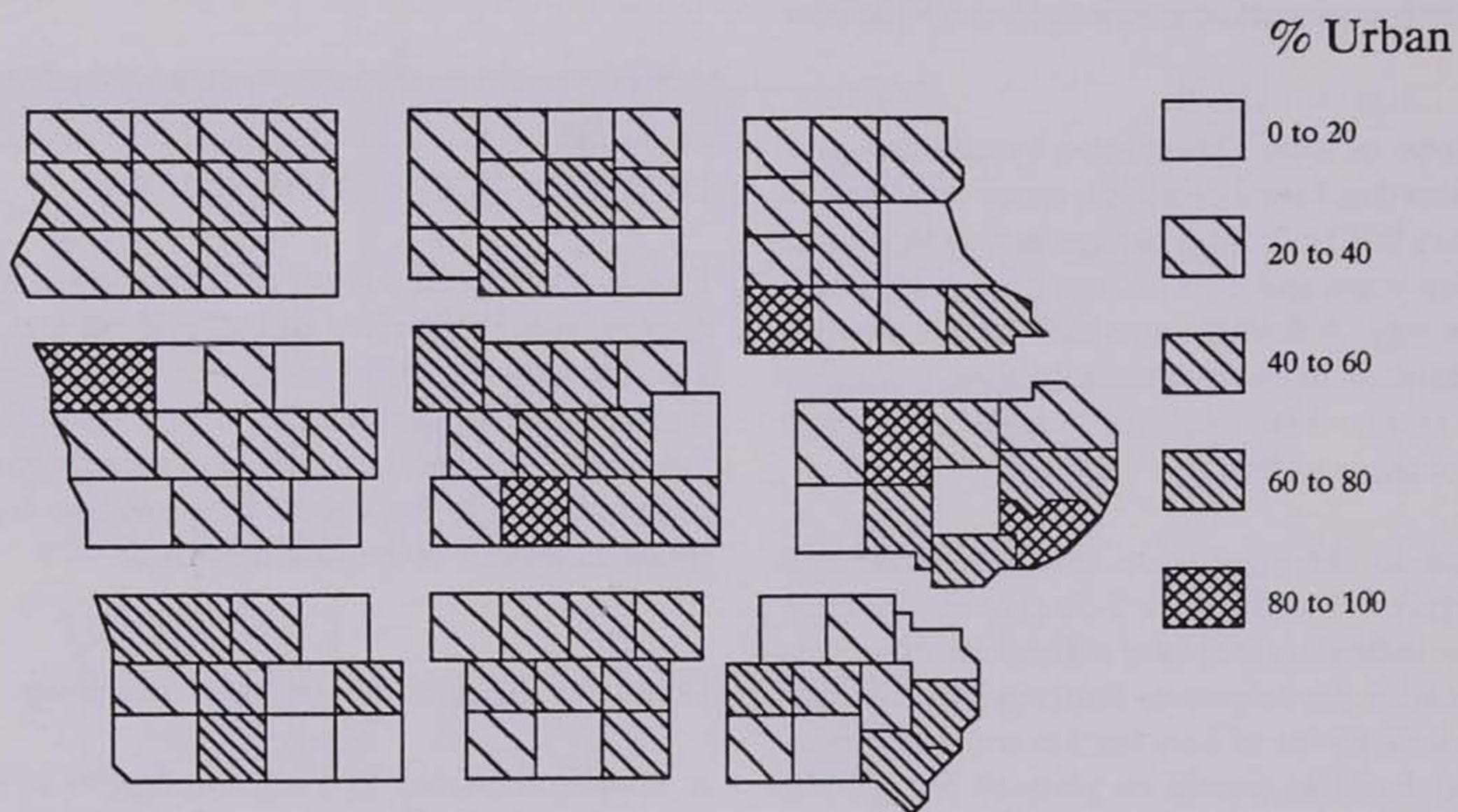


Figure 3-3

Source: 1980 Iowa Census

1980 MEDIAN AGE BY COUNTY

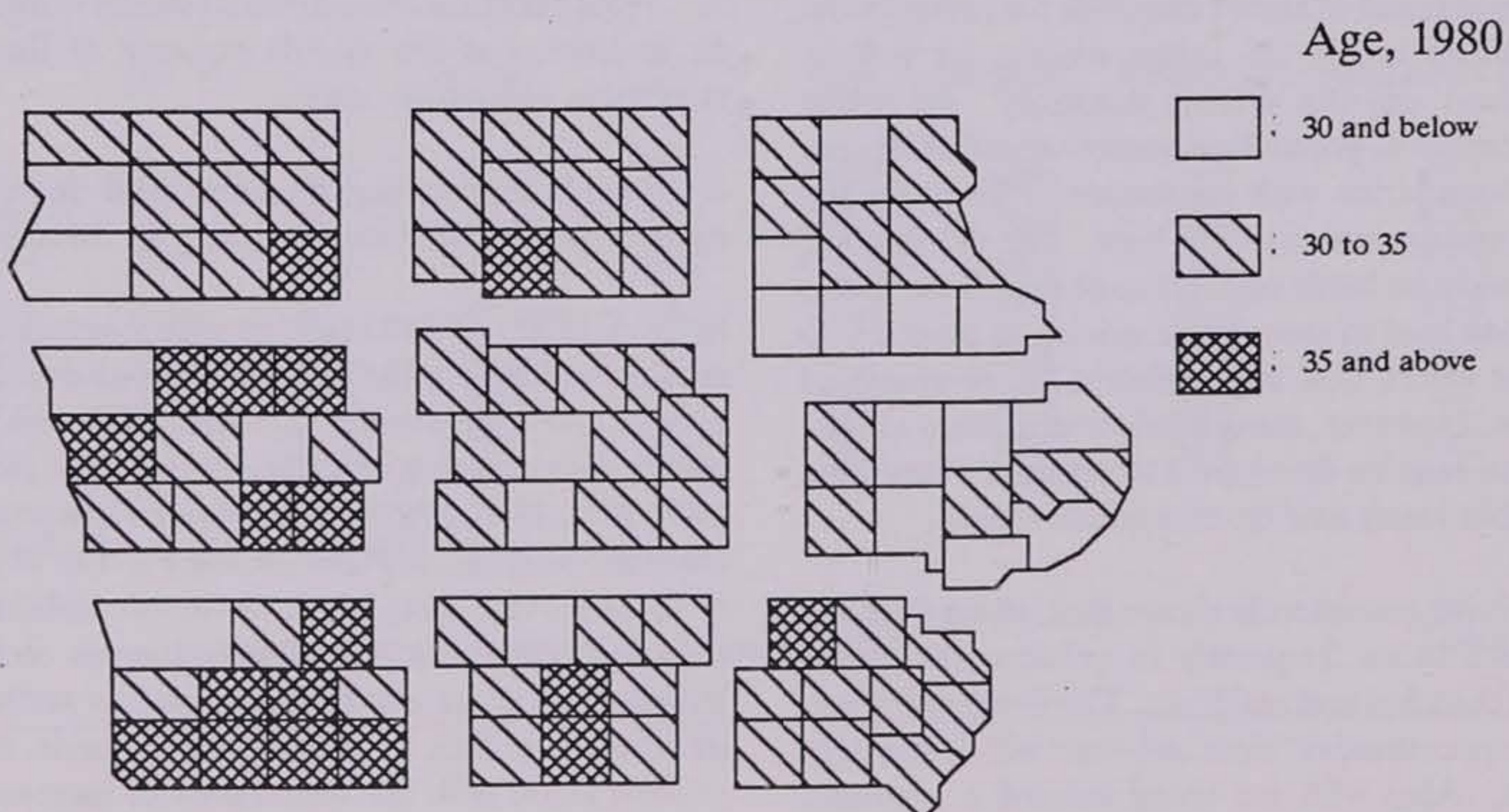


Figure 3-3a

Source: 1980 Iowa Census

Method

The 1985 recreation participation survey was based on a sample of all Iowa's heads of households. The survey measured participation in twenty-four popular recreational activities taking place around the state. Survey data were collected through telephone interviews of a sample of Iowa's heads of households. A total of 508 interviews were taken. The interview was based on participation in outdoor recreation activities for the one year period from September 1984 to August 1985.

Activity participation

For the twenty-four activities, 157 million outdoor recreation activity occasions (one person participating in an activity for all or part of one day) occurred in 1985. This figure averages out to seventy-four activity occasions per Iowan in 1985. As can be seen below, the five most popular outdoor recreation activities in Iowa (by estimated activity occasions) for 1975 and 1985 were:

1975	1985
1. Driving for pleasure	1. Driving for pleasure
2. Hiking	2. Fishing
3. Bicycling	3. Bicycling
4. Fishing	4. Hiking
5. Picnicking	5. Golfing

Over the 10 year period, the activities with the largest increases in rank were:

Gain in rank:

1. Softball	+6
2. Golfing	+4
3. Ice fishing	+3
4. Fishing	+2
Pool swimming	
Off-road motorcycling	
R.V. camping	

and the largest decreases in rank were:

Decline in rank:

1. Nature study	-7
Tennis	
3. Power boating / water skiing	-3
4. Hiking	-2
Picnicking	
Canoeing / Kayaking	

Figure 3-4 shows the actual number of activity occasions for each of the activities in 1985. Figure 3-5 shows the percent of Iowans who participated in each of the activities.

Distance to participate

The survey also asked how far from home the respondent went to participate in an activity. The average Iowan is most likely to participate in softball, cross-country skiing, and nature study close to home (within 12 miles) while traveling furthest for sailing, beach swimming, and downhill skiing (an average of 440 miles). For the five most popular activities (see above), the participant traveled an average of 80 miles. The average distance for all 24 activities was 132 miles.

Latent recreation participation

As part of the outdoor recreation participation survey, Iowans were asked what activities they would like to do more of but couldn't due to limited and unsuitable recreation areas. Those activities listed most often include fishing, boating and water skiing, camping, downhill skiing, and bicycling.

This unfulfilled participation must be taken into account along with the actual participation when figuring the recreation need for facilities and programs state-wide. Both latent and actual participation in the 24 activities can be found in Figure 3-6.

Trends in Iowa

Although the survey methods were slightly different in the 1975 and 1985 surveys, some comparisons and trends can be seen from the two sets of data.

Iowans were asked in the participation survey how the amount of time their family members spent on outdoor recreation activities had changed over the last three years. Of all Iowans, 29% responded that their time increased, 25% said it had decreased, and 46% stated that their time devoted to outdoor activities had stayed about the same. Those showing the largest increases in time in outdoor activities tended to be young, single people in large towns with above average incomes. Also, the more children in a family, the more the tendency was to see an increase in time spent outdoors.

ACTIVITY OCCASIONS for selected outdoor activities

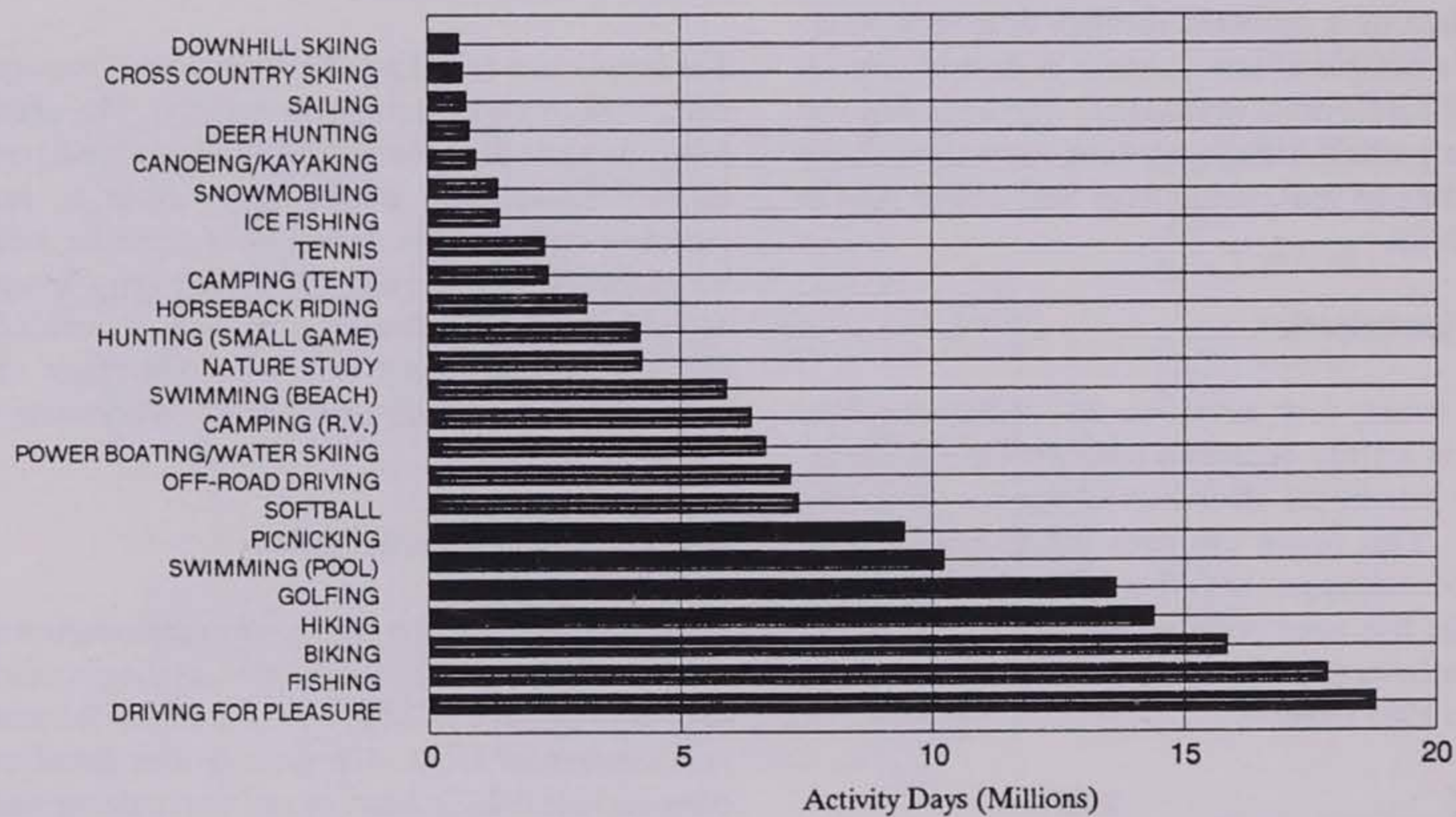


Figure 3-4

PERCENT OF IOWANS PARTICIPATING for selected outdoor activities

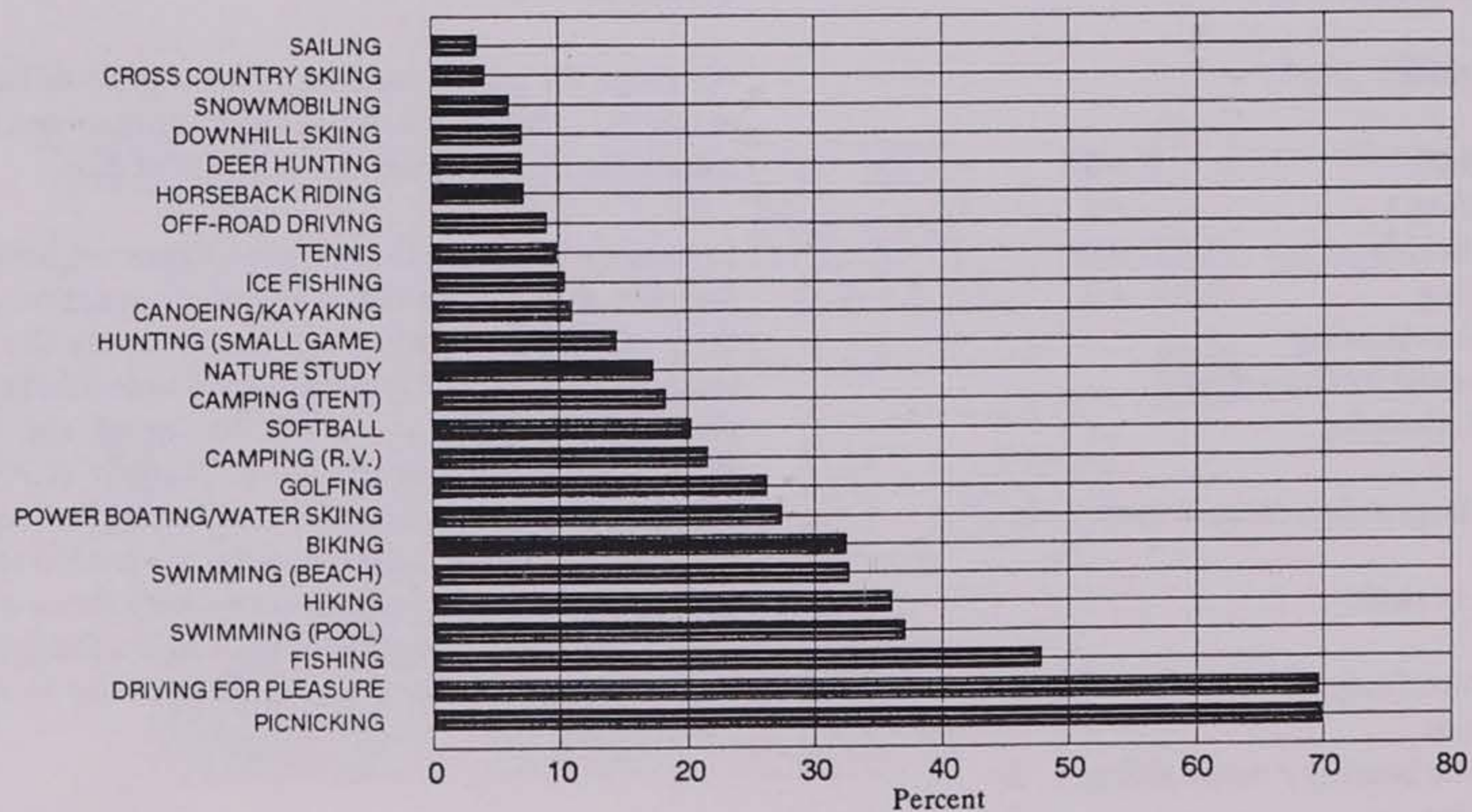


Figure 3-5

Comparisons with national recreation data

Some comparisons can be made between Iowa and national participation data in terms of percentage of the population participating in specific activities. Differences in survey method between the 1983 national survey and the 1985 Iowa survey make comparisons somewhat difficult. However, significant insights into recreation participation on the state and national level can be obtained even with these limitations.

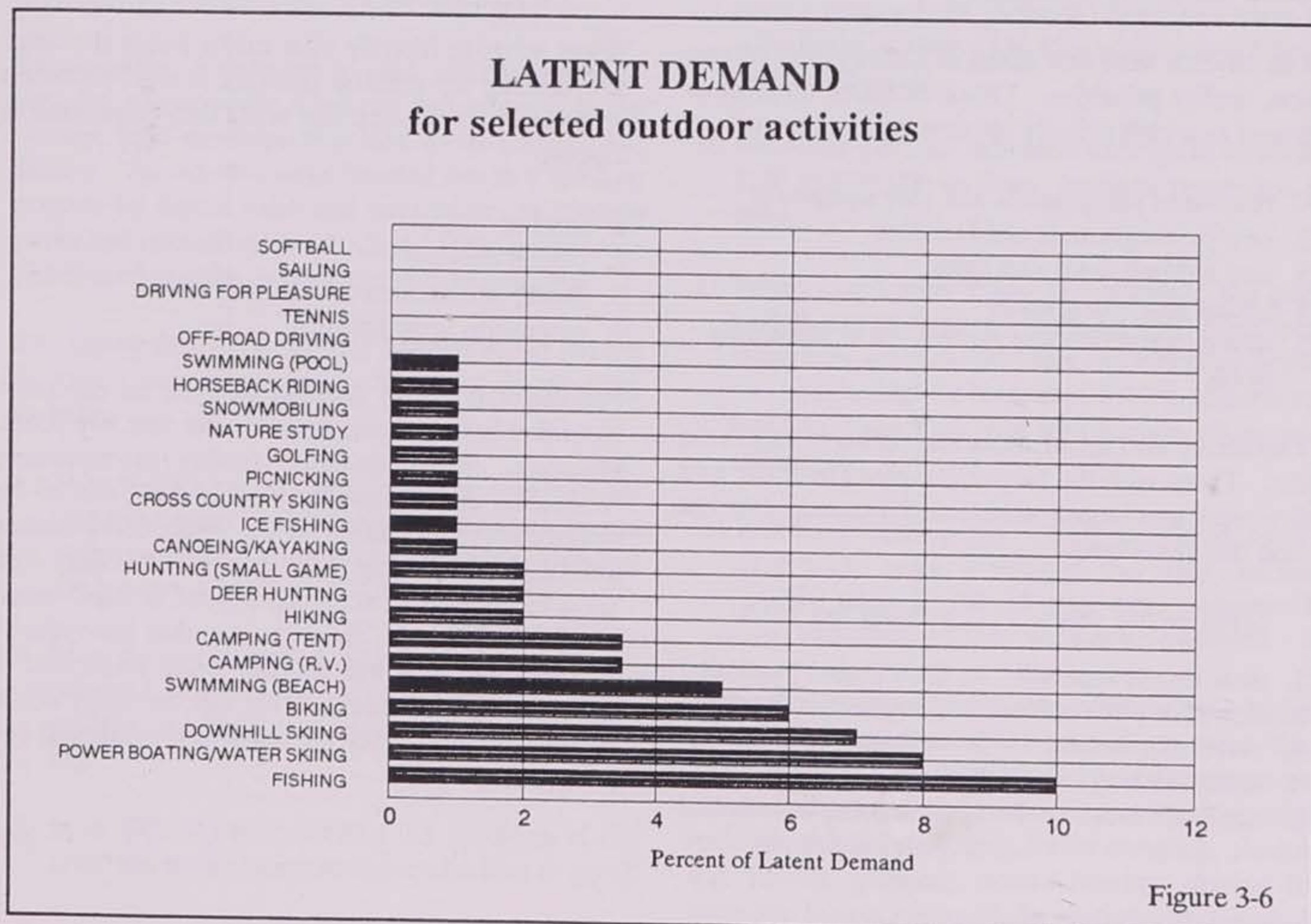
For all listed outdoor activities (Figure 3-7), the figures show Iowa's participation rate to be generally higher than the national rates. Iowans have significantly higher participation rates in ice fishing, golfing, and snowmobiling. However, Iowans have much lower participation rates in tennis, sailing, and hiking.

OTHER IOWA RECREATION DATA

Two surveys were completed in 1990 to assess the needs of Iowa's recreation participants. These were the 1990 Municipal Recreation Survey and the 1990 State Park Visitors Survey. They are briefly discussed here. Summaries of these survey results can be obtained from the Iowa DNR.

1990 Municipal Recreation Survey

The 1990 Municipal Recreation Survey was completed with two objectives in mind. The first was to identify local priorities for outdoor recreation developments and identify past and future trends in the use of municipal recreation facilities. The second objective was to compile information dealing with specific issues important to municipal recreation programs around the state. The surveys were completed by city officials.



COMPARISON OF RECREATION PARTICIPATION U.S. and Iowa for selected outdoor activities

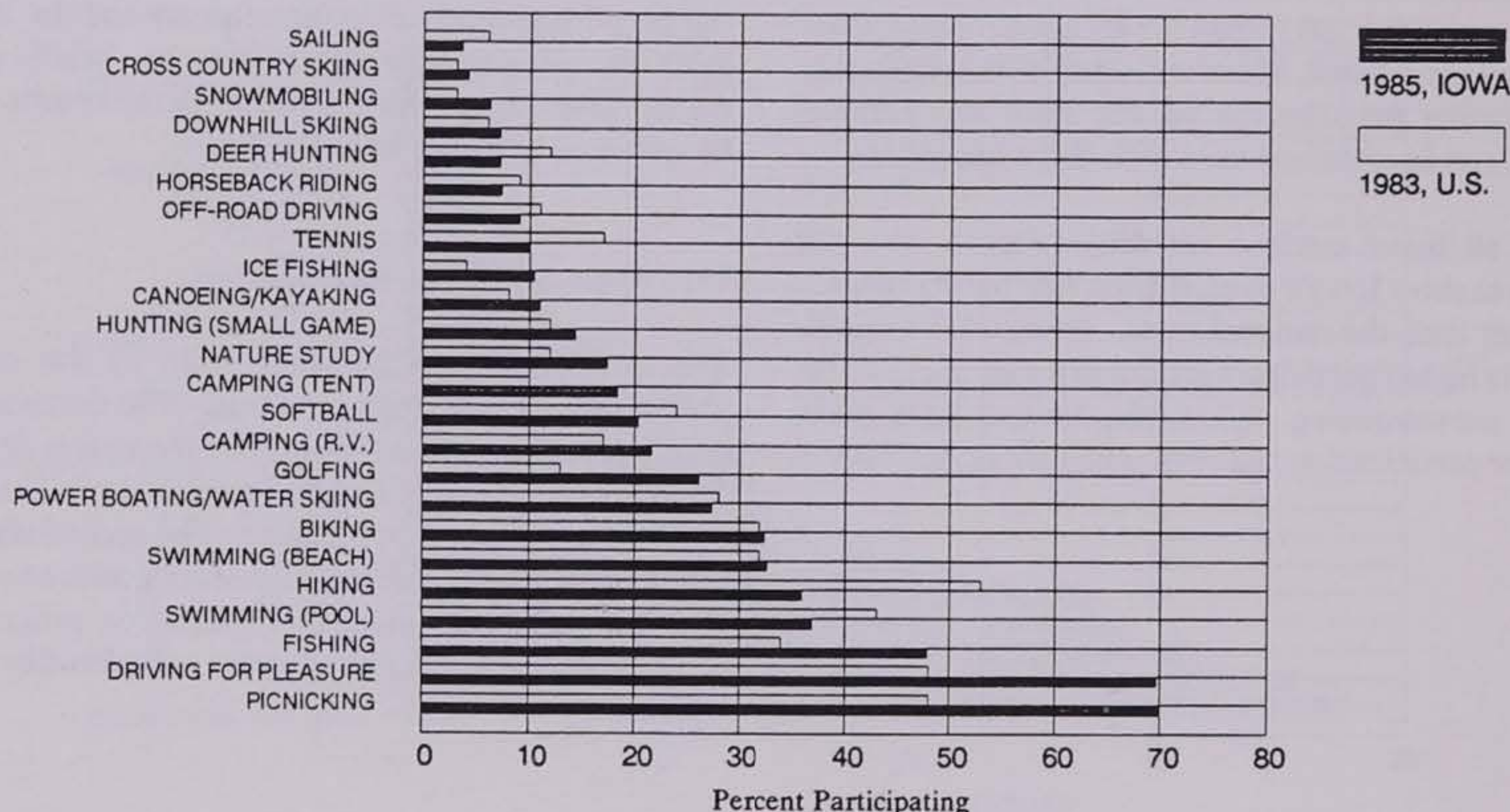


Figure 3-7

The officials were first asked to identify their recreation facility priorities. Those facilities most mentioned as a high priority for development were:

1. renovated playgrounds and play equipment
2. new picnic grounds and facilities
3. new softball fields and lights
4. hiking and biking trails
5. new construction and renovation of swimming pools

The survey also asked about recreation trends in the city. Those with the largest increases over the past five years and largest anticipated increases over the next five years were:

- | previous five years | coming five years |
|-----------------------------|---|
| 1. little league baseball | 1. little league baseball |
| 2. slow/fast pitch softball | 2. slow/fast pitch softball |
| 3. swimming lessons | 3. volleyball leagues |
| 4. volleyball league | 4. biking |
| 5. run/walk races | 5. swimming lessons and physical fitness training |

When asked to identify what major issues the cities saw causing the greatest changes in city recreation programs over the next five years they responded as follows:

1. funding
2. citizen demand
3. facility maintenance and renovation
4. recreation programming

Funding and citizen demand were by far the most identified issues of concern over the next five years. However, citizen demand, facility maintenance, renovation and recreation programming can all be linked back to the funding issue. Many communities indicated they do not have adequate budgets that allow for more than maintenance and in many cases, existing facilities are obsolete. Another issue identified and one that will become more important is Iowa's aging population. This will definitely affect citizen demand for certain types of recreational opportunities.

Numerous communities are seeking restored LAWCON funding levels to those of the late seventies and early eighties. This program supplies funds for the needs most Iowa communities are experiencing, the provision of adequate outdoor recreation opportunities.

Iowa's Resource Enhancement and Protection (REAP) program in many ways compliments other funding sources but it is not a substitute for a program such as LAWCON. Grant funds available to cities and counties are directed toward acquisition, establishment and maintenance of natural parks, preserves and open space. Projects popularly funded through LAWCON (i.e. sports complexes, baseball/softball diamonds, playground equipment, swimming pools, tennis courts, etc.) are not eligible for funding under the REAP program.

1990 State Park Visitor Survey

A survey was conducted by DNR staff during the summer and early fall of 1990. the survey's purpose was to evaluate the strengths and weaknesses of Iowa's state recreation system. In addition to the evaluation, the survey provided a description of state park visitors and the type of activities pursued.

Surveys were distributed to park visitors willing to take the survey home, fill it out and return it in the postage paid envelope provided as they exited the facility. The surveys were handed out in a random manner by day of week and time of day at 52 state parks and recreation areas. Over 2,000 surveys were distributed and the return rate was nearly 55%.

The survey data led to several findings about visitors in Iowa's recreation areas. Some of the findings include:

1. Most visitors knew of and visited the area because they live nearby (30.7%), had previous experience at the park (20.2%) or chose the park because of the scenery it provides (14.4%).
2. Most visitors identified the main activity they participated in while at the park included fishing, camping (trailer), general relaxation and picnicking.
3. Most (95.1%) visitors rated the condition of the area they were visiting as either excellent or good.

4. On average, park visitors indicated they spent per day during their visit, the following:

Fuel - \$8.36	Park Fees - \$7.62
Food - \$14.96	Miscellaneous Supplies - \$7.97
Motel - \$23.31	

5. Visitors indicated park staff were neatly dressed (95.9%), courteous (96.2%) and helpful (90.6%).
6. When asked what activities the visitors would like to more of in state parks they responded with more playground equipment, swimming, cabins, lakes and RV hook-ups.
7. The percent increase in time spent participating in the following activities was greater than responses indicating a decrease or the same level of participation: vacation traveling, fishing, driving for pleasure, and hiking.
8. Over one-half of the survey respondents (54.2%) indicated they spent more money on outdoor recreation in Iowa in 1989 than compared to five years ago.
9. Over the past three years, over one-half of the survey respondents indicated their visitation to state parks increased (54.4%) while only 7% indicated a decrease.
10. Fifty-four percent indicated they spent between \$100 and \$1,000 on Iowa outdoor recreation in 1989.
11. When asked what types of recreation the park visitors expect to spend the most time participating in over the next five years, the following activities had the highest response: fishing, general relaxation, picnicking, visit with friends, hiking and swimming.
12. Visitors returning the survey indicated Iowa's state parks were developed the right amount (64.1%) while 33.7% felt they were underdeveloped and 1.9% felt they were overdeveloped.

Numerous outdoor recreation activities had higher participation rates over the past three years than those activities recorded with decreased participation rates. Activities with greater rates of participation include: vacation traveling, trailer camping, picnicking, fishing, bicycling, power boating, driving for pleasure, hiking, nature study, visiting with friends in

state parks and recreation areas, visiting historical areas, attending fairs and attending festivals.

1989 Recreational Trail Usage Study

The 1987 General Assembly, recognizing the value of and the need for a statewide recreational trails system, directed the Iowa Department of Transportation (DOT), along with other state agencies and special interest groups to "prepare a long-range plan for the acquisition, development, promotion and management of recreational trails throughout the state." As part of the plan preparation, a telephone survey of Iowa residents was conducted in April and May of 1989 by Grapentine Company, Inc. to determine Iowan's attitudes toward recreational trails. The following conclusions were found.

1. Heavy trail users (persons who participated in four or more trail activities in 1988) tend to be younger, married with children, lived in Iowa at least 10 years and have above average income.
2. The most frequently mentioned trail activities were "Go walking near home for recreation and exercise", "Go walking at a park, picnic area or other place away from home" and "Go bicycling near home."
3. Median number of miles traveled to participate in a trail activity was fewer than 40 miles or less than a one hour drive. The trail activity with the greatest median distance was over 60 miles for horseback riding. The trail activity with the lowest median miles traveled to participate was cross country skiing at approximately 3 miles.
4. Female heads-of-households participate in trail activities at a slightly higher rate than male heads-of-households. Over one-half of all respondents indicated that children participate along with the adults in these activities.
5. Activities that respondents indicated they would like to do more of in Iowa, bicycling was the most frequently mentioned. Bicycling was followed by backpacking/hiking, horseback riding, and canoeing. The main reason given for not participating more was limited recreational areas in the state.

Some of the implications drawn from survey results were that there exists a large market for trail usage by walkers, hikers, and cyclists and because of a high level of resident interest, the development of trails can contribute to the economic growth of the state. The survey also indicates that trails should be designed to meet the needs of the family and should be convenient to the state's largest population centers and/or located near major tourist attractions in order to accommodate the greatest number of potential users.

Survey of Public Attitudes on Open Spaces in Iowa

Crowley Market Research Company conducted a telephone attitude survey for the Department of Natural Resources in December 1987 to help evaluate the attitudes and opinions of Iowans about the current protection of open spaces and the need for future acquisition and protection of open spaces.

Objectives of the survey included; to measure attitudes about current and future open spaces in the state, to examine opinions of possible actions the state could take, test reaction to protection methods other than acquisition, to measure the perception of importance of protecting various open space types and to test the reaction to various sources of funding for open space protection.

To briefly summarize the finding of the survey, Iowans:

1. Nearly all Iowans (99%) visit open spaces in the state with the most popular being those areas associated with water.
2. Most Iowans (82%) feel open spaces are "very Important" to the quality of life in the state. When asked why open spaces should be protected, three-fourths of the reasons given related to human use and enjoyment while the remainder related to resource protection and conservation.
3. From 90 to 99% of Iowans agree that the following open spaces are "very important" or "somewhat important": Wildlife areas, woodlands, endangered species areas, parks, lakeshores, historical/archaeological sites, marshes, trout streams, prairies, river valleys, and urban woodlands.

4. The majority of Iowans (79%) favor public ownership of open spaces. 89% agree that existing open spaces be improved, that more be acquired (76%) and that private open spaces should become under state protection.
5. 84% of Iowans favored city and county zoning as an alternative protection method to acquisition and 75% favored property tax incentives.

In summary, Iowans:

1. Showed strong support for open space protection efforts and this support is spread evenly throughout the state, with no statistical differences between rural and urban areas.
2. Are aware of natural open spaces
3. Visit open spaces and feel strongly that such areas are important to the quality of life
4. Feel more money should be directed at expanded protection efforts.

Projections concerning outdoor recreation

Based on reported levels of activity in 1966, 1972, 1976, and 1985, and on national trends and Iowans' survey responses, Table 3-2 is the current projection of trends in the 24 surveyed activities. The table shows an increasing demand for trail oriented activities (biking, hiking, all-terrain vehicle driving, horseback riding, canoeing, and cross-country skiing) traditional outdoor recreation activities (swimming, camping and fishing) and sport oriented activities (golf and softball). Popular activities such as pleasure driving, picnicking, boating and water skiing, and hunting are not seen increasing in demand as those mentioned above, but holding steady with significant participation rates.

Future facility priority needs will most likely be in the area of developing multi-use trail and sporting facilities, as well as supplying adequate levels and maintenance of swimming, fishing, camping, and picnicking facilities. An effort must be made to locate these facilities equitably throughout the state so all Iowans can enjoy participating relatively close to home (Table 2-6, Iowa's Recreation Supply). The state must also be flexible enough to supply facilities in special demand situations.

PARTICIPATION PROJECTIONS

for selected outdoor activities

	Fed.	State	Co.	Mun.	Priv.
DRIVING FOR PLEASURE					
FISHING					
BIKING					
HIKING					
GOLFING					
SWIMMING (POOL)					
PICNICKING					
SOFTBALL					
OFF-ROAD DRIVING					
POWER BOATING/WATER SKIING					
CAMPING (R.V.)					
SWIMMING (BEACH)					
NATURE STUDY					
HUNTING (SMALL GAME)					
HORSEBACK RIDING					
CAMPING (TENT)					
TENNIS					
ICE FISHING					
SNOWMOBILING					
CANOEING/KAYAKING					
DEER HUNTING					
SAILING					
CROSS COUNTRY SKIING					
DOWNHILL SKIING					




 HIGH PROBABILITY OF INCREASE
 MODERATE PROBABILITY OF INCREASE
 LOW PROBABILITY OF INCREASE

Table 3-2

THE HISTORY OF THE CITY OF BOSTON

FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME

BY
JOHN H. COLEMAN

IN TWO VOLUMES.
VOL. I.

BOSTON:
PUBLISHED BY
J. B. LEECH, 15 N. BOSTON ST.

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VOL. I.

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1855.

THE HISTORY OF THE
CITY OF BOSTON

FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME

BY
JOHN H. COLEMAN

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VOL. I.

CURRENT RECREATION ISSUES

The planning and decision-making process is an important task, one which warrants significant amounts of time and effort. By thoughtfully considering and systematically establishing project priorities (and the mechanism to accomplish each), the DNR hopes to accomplish several purposes:

1. To achieve intra- and inter-agency knowledge and support of proposed actions;
2. To inform legislators and other Iowa leaders and opinion-shapers on agency objectives and the reasoning behind them;
3. As a result of the first two purposes, the ultimate objective is to best serve the Iowa public through efficient use of funds and manpower to accomplish needed recreational programs, projects, and resource management/protection.

The following are brief synopses of issues, priorities, plans, programs, and budget requests aimed at guiding state-level efforts during the next five years. Assembling and writing each will not make them happen; nor does printing them in such a manner make them inalterable. Priorities can and will change. They change partly due to changes in services demanded by the public; they change partly in response to unforeseen opportunities too good to pass up, or in response to unforeseen difficulties too great to overcome.

ADDRESSING STATE ISSUES

During the preparation of the 1990 SCORP, the Iowa DNR undertook a program evaluation within the agency to identify critical broad issues which would require planning and program priorities. These issues were identified and priorities were established to help guide the actions needed over the next five years.

The following issues and actions represent those identified areas of concern which will be given special attention during the years '90-'95. It should be em-

phasized that this action summary deals primarily with unresolved priorities and does not cover those important programs and activities which comprise day-to-day operations. Priorities usually exist because there is a need which is not being adequately dealt with by existing program efforts. By emphasizing the important issues or areas of concern, proper actions are more likely to be initiated or intensified to develop responsive programs which will alleviate these unmet needs. Even though the Iowa DNR is the lead recreation/resources agency at the state level, many state priorities will require actions by other state entities, other levels of government or the private sector.

THE ISSUES

The following is a list of the Iowa SCORP issues for actions to be taken from 1990 - 1995. The sequence of the listing does not reflect any specific order of priority.

1. Increased resource protection efforts on existing public areas to provide continued high quality recreation experiences.
2. Expand/increase resource protection areas to meet current and future demand.
3. Demand for recreation opportunities in unique natural settings.
4. Intensified management to accommodate incompatible uses.
5. Better distribution of public lands and waters in Iowa.
6. Expanding and maintaining facilities to meet existing demand.
7. Shortage of public forestland for recreation.
8. Public access to Iowa's rivers and streams.

9. Recreation management to prevent degradation of unique areas.
10. Increasing demands for interpretive programs on park and recreation areas.
11. Demand for winter sports on parks, forests, and state recreation areas.
12. Funding mechanisms for meeting program needs.
13. Public wildlife management area land acquisition.
14. Wildlife management on public lands.
15. Wildlife management on private lands.
16. Fish and wildlife research.
17. Maintenance of faunal species diversity in Iowa.
18. Encouragement and increased funding of non-consumptive uses of wildlife and nongame programs.
19. Acquisition and development of nongame wildlife resources.
20. Enhancement of urban habitat for wildlife on public lands.
21. Acquisition, development, and management for fish resources.
22. Provide the Iowa Legislature with an agenda for outdoor recreation legislative actions to be taken in the next five years.
23. Development of recreational trails.
24. Municipal outdoor recreation programs.
25. Acquisition for recreational trails.
26. Open space protection - rural and urban.
27. New development on state park and recreation areas in accord with master plans.
28. Rehabilitation/renovation of state parks and recreation areas to provide safety, comfort and convenience for users.

29. Environmental education.
30. Definition of roles of public agencies and the private sector in various recreation/resource protection programs.
31. Continue the role of the county conservation boards as a provider of outdoor recreation experiences in Iowa.

ISSUE 1

INCREASED RESOURCE PROTECTION ON EXISTING PUBLIC AREAS TO PROVIDE CONTINUED HIGH-QUALITY RECREATION EXPERIENCES

DESCRIPTION

Conservation, acquisition, and proper management for public recreation. More public park and forest lands is needed to adequately meet the needs of Iowans.

CURRENT ACTIONS

1. Boundary encroachment surveys and problem-solving to protect integrity of areas.
2. Silt retention structures and other soil conservation practices on and around state-owned lakes to maintain high-water quality for fishing.
3. Dredging and improved water supply of state-owned lakes.
4. Master planning, including environmental impacts of facility siting and vegetative management planning.

NEEDED ACTIONS

1. Continued and increased funding for watershed protection for stream and lake improvement.
2. Continued and increased funding for lake/dam renovation and repairs.

3. Continued and increased funding for high quality trail construction and renovation in a manner requiring minimal maintenance under high levels of use.

4. Continued analysis of deer population trends on and around state parks, recreation areas and forests, assessment of impacts on natural areas, and development of management recommendations to prevent depredation on and near park and recreation areas that would upset vegetative quality.

5. Assessment of impacts of equestrian and off-road vehicle use on public areas and development of policies and rules to prevent any identified negative impacts.

ISSUE 2

EXPAND/INCREASE RESOURCE PROTECTION AREAS TO MEET CURRENT AND FUTURE DEMAND

DESCRIPTION

Iowa ranks very low in terms of recreation and natural resource areas available for public use and enjoyment. Many existing areas are over-used or lack development potential. Others possess significant potential for development if funds were available. An aggressive program of acquisition and development is needed to protect remaining natural resources and to provide for public benefits.

CURRENT ACTIONS

1. State forest acquisition.
2. Development of state parks and state recreation areas.
3. Public/private cost-sharing to acquire unique natural areas.
4. Des Moines Recreational River and Greenbelt
5. Resource Enhancement and Protection Program

NEEDED ACTIONS

1. Increased acquisition of forest lands.
2. Expansion of existing state parks and recreation areas.
3. Missouri River Mitigation Program.
4. Maintain or increase current funding levels via REAP, Habitat Stamp Fund, private sources, etc.

ISSUE 3

DEMAND FOR RECREATION OPPORTUNITIES IN UNIQUE NATURAL SETTINGS

DESCRIPTION

Increasing popularity of recreation in "primitive" surroundings represents unmet demand, particularly near major population centers.

CURRENT ACTIONS

1. Public/private cost-sharing program to acquire unique natural areas.
2. State Preserves System.
3. Area master planning, including recommendations on management of high quality natural areas.
4. Back-packing trails and primitive camping areas.
5. Iowa Natural Areas Inventory survey of parks, forests, and recreation areas.
6. Resource Enhancement and Protection (REAP).
7. Statewide Recreational Trails Program.
8. Protected Water Areas Program.

NEEDED ACTIONS

1. Site specific management of existing areas with unique natural features.
2. Improved public education regarding appropriate recreational uses of high quality natural areas.
3. Continued aggressive acquisition of unique, high-quality natural areas.
4. Increased funding for acquisition of unique natural areas.

ISSUE 4

INTENSIFIED MANAGEMENT TO ACCOMMODATE INCOMPATIBLE USES

DESCRIPTION

Diverse forms of recreational uses and users lead to conflicts, many of which can be eliminated or reduced through proper planning and management. Other conflicts require additional acquisition and development if all users are to realize a satisfying, high quality recreational experience.

CURRENT ACTIONS

1. Iowa Natural Areas Inventory program identifies fragile and unique natural resources, enabling innovative planning and development to protect those resources while providing interpretive experiences for the public.
2. Master planning that recognizes potential conflicts.

NEEDED ACTIONS

1. Additional land acquisition to allow separation of incompatible uses.
2. Refined regulation and management of certain uses within areas.
3. Funding for facility construction designed to minimize conflicts.

ISSUE 5

BETTER DISTRIBUTION OF PUBLIC LANDS AND WATERS IN IOWA

DESCRIPTION

Some of Iowa's best natural areas and dispersed recreation opportunities are far removed from population centers. Additional high quality areas and programs located to be more accessible to a greater number of Iowans are needed.

CURRENT ACTIONS

1. REAP open space funds for state forest and fish and wildlife area acquisition.
2. Habitat stamp acquisition program by the state and counties.
3. Expanded Dingell-Johnson program aimed at construction of four new lakes in areas of high need.
4. State Protected Water Areas program.

NEEDED ACTIONS

1. Improved public access to lakes, rivers and streams through REAP program and Land and Water Conservation Fund.
2. Continued funding/staffing for state Protected Water Areas program via REAP and other sources.
3. Continued funding for forest and fish and wildlife area acquisition via REAP, Wildlife Habitat Stamp Fund and other sources.

ISSUE 6

EXPANDING AND MAINTAINING FACILITIES TO MEET EXISTING DEMAND

DESCRIPTION

There is oftentimes an excessive lag between the time when a public recreation facility becomes worn out or obsolete and the time when funds permit the renovation or replacement of those facilities.

CURRENT ACTIONS

1. REAP funded capital improvement program.
2. Priority for L&WCF cost-sharing for park renovations/repair.
3. Annual capital improvement budget.
4. Expanded Dingell-Johnson, Wallop-Breaux fishery program.
5. Des Moines Recreational River and Greenbelt cost-shared projects.
6. Park and Institutional Road Fund program.

NEEDED ACTIONS

1. Increased General Fund support.
2. Increased L&WCF apportionments.

ISSUE 7

SHORTAGE OF PUBLIC FORESTLAND FOR RECREATION

DESCRIPTION

Forestlands in Iowa provide a unique high quality recreation resource. The types of opportunities provided are not met by more intensive development on existing areas. New areas are needed to maintain the highly desirable, resource-related outdoor opportunities traditionally available on such sites.

CURRENT ACTIONS

1. REAP funded acquisitions of forest and fish and wildlife areas.
2. State Forest Resources Plan.
3. Conservation Reserve Program and emphasis on reforestation.
4. State managed nursery and reforestation program.

5. Emphasis by District Foresters on recreation/fish and wildlife values in dealing with private forest owners.

6. Implementation of the Forest Resources Plan, 1990.

7. Management assistance to cities, counties, and other state resource management entities.

8. Management of forest campgrounds and other recreational facility developments on state forests by State Park staff.

NEEDED ACTIONS

1. Increased funding for forest acquisition.
2. Greater incentives for private forestland protection and planting and allowing public use.

ISSUE 8

PUBLIC ACCESS TO IOWA'S RIVERS AND STREAMS

DESCRIPTION

Iowa's rivers and streams offer substantial opportunity for increased public use and enjoyment. Public demand for such opportunities is increasing, with public access being a key limiting factor.

CURRENT ACTIONS

1. Marine Fuel Tax funding for state and local access projects.
2. Continued development of existing water access sites.
3. Maintenance of updated priority list of water access projects.
4. Esource Enhancement and Protection (REAP).
5. Development and implementation of the four new Protected Water Area Management Plans.
6. Des Moines Recreational River and Greenbelt.

NEEDED ACTIONS

1. Formalized planning program for water access goals and objectives, including a needs assessment.
2. Improved public awareness of water access opportunities.
3. Cooperative endeavors with the Iowa Department of Transportation and with county road departments to incorporate water access projects in road and bridge projects.
4. Improved watershed protection to improve stream quality.

ISSUE 9

RECREATION MANAGEMENT TO PREVENT DEGRADATION OF UNIQUE AREAS

DESCRIPTION

Overuse and incompatible use of public recreation areas may destroy or degrade the very features which make the area attractive and popular in the first place. Careful planning and management can reduce this threat.

CURRENT ACTIONS

1. Preserves System.
2. Iowa Natural Areas Inventory of public lands to identify unique and fragile resources, and development of plans for managers to protect and interpret those resources.
3. Master planning process which recognizes such areas.
4. Administrative rules and code protection of certain areas and resources.

NEEDED ACTIONS

1. Establish natural area acquisition priorities.
2. Develop management plans for existing and new natural areas.

3. Professionalization of property management staff to include skills in identifying, managing, and interpreting unique or unusual natural areas.
4. Public education to recognize acceptable and unacceptable uses of such areas.
5. Environmental review of construction proposals.
6. Field, herbarium, and zoological collection surveys.

ISSUE 10

INCREASING DEMANDS FOR INTERPRETIVE PROGRAMS ON PARK AND RECREATION AREAS

DESCRIPTION

Public response to limited efforts to date illustrates a very large desire on the part of the public for expanded programs in this area.

CURRENT ACTIONS

1. Campground movies, lectures, story telling, etc.
2. Interpretive trails and brochures.
3. Nature centers.
4. Master planning which assesses interpretive needs, opportunities, etc.
5. In-service training of Park and Recreation Bureau staff.
6. Iowa Natural Areas Inventory of public areas and recommendations on interpretation.

NEEDED ACTIONS

1. Improved training of area managers in interpretation.
2. Additional funding for personnel and facilities.

ISSUE 11

DEMAND FOR WINTER SPORTS ON PARKS, FORESTS, AND STATE RECREATION AREAS

DESCRIPTION

Iowans have only recently awakened to some of the winter recreation opportunities previously overlooked. Demands continue to increase for cross-country ski and snowmobile trails.

CURRENT ACTIONS

1. Signed, groomed snowmobile trails on state parks, forests, recreation areas, and road rights-of-way.
2. Ice fishing opportunities on state lakes.
3. Cross country and snowmobile trails.

NEEDED ACTIONS

1. Assessment of impacts of winter ORV use on natural areas.
2. Expanded use of cooperative trail grooming arrangements with clubs and local county conservation boards.
3. Improved access to lake areas for ice fishing.

ISSUE 12

FUNDING MECHANISMS FOR MEETING PROGRAM NEEDS

DESCRIPTION

No single mechanism exists to guarantee a stable operating budget which is important to the ability to provide areas and facilities of exceptional quality to meet public demand for such areas and facilities.

CURRENT ACTIONS

1. State Park Gift Program.
2. Marine Fuel Tax.
3. Park and Institutional Road Fund.
4. General Fund.

NEEDED ACTIONS

1. Increased General Fund Support for operational needs.
2. New sources of stable revenue.

ISSUE 13

PUBLIC WILDLIFE MANAGEMENT AREA LAND ACQUISITION

DESCRIPTION

Unless land acquisition funds are increased substantially, acquisitions will be limited to only the highest priority projects.

CURRENT ACTIONS

1. Resource Enhancement and Protection (REAP).
2. Fish and Game Trust Fund (license receipts).
3. Wildlife Habitat Stamp receipts -- priority on upland game habitat.
4. Nongame Wildlife Fund (Chickadee Checkoff).
5. Federal Cost-sharing (Pittman-Robertson).
6. State Waterfowl Stamp -- for wetland acquisition.
7. Prairie Pothole Joint Venture.

NEEDED ACTIONS

1. Accelerated acquisition of land adjacent to or within identified, high-priority wildlife management areas for expansion and more efficient management.
2. Acquisition by the state of non-contiguous tracts of land when needed to solve specific management problems.

ISSUE 14

WILDLIFE MANAGEMENT ON PUBLIC LANDS

DESCRIPTION

Publicly-owned wildlife areas are managed to maximize the production of wildlife and wildlife-related outdoor recreation. Such areas not only produce high populations of game and nongame wildlife, but also attract wildlife from adjoining private lands as winter conditions force wildlife to seek food and shelter for survival.

CURRENT ACTIONS

1. Development and implementation of short and long range management goals and plans.
2. Acquisition within stated priorities for large, manageable wildlife areas.
3. Ongoing research on habitat management techniques, wildlife population counts, new crops and cropping practices, etc.
4. Food plot and other wildlife management endeavors on state park, state forest and state recreation areas for wildlife viewing and appreciation.

NEEDED ACTIONS

1. Each public resource area in Iowa, while having a designated primary purpose, should be managed for compatible, multiple public uses and benefits. Areas currently closed to hunting (i.e., state parks) should be examined to determine if redesignation as "state recreation areas" is in order. Such redesignations would allow for hunting and would provide a management tool for control of deer herds where called for to reduce resource damage and crop depredation.

2. Similarly, wildlife areas should be assessed for potential expansion of public use opportunities, but only where such use is compatible with the designated primary purpose.

3. Wildlife areas should be managed at an optimum level where results are commensurate with efforts and costs.

4. Exploration of all options aimed at increased efficiency of management:

- a. Contracting with local agencies or individuals.
- b. Cooperative agreements with local county conservation boards.
- c. Intersectional transfers within the Iowa DNR.
- d. Providing resident management staff on major wildlife areas.
- e. Removal of resident management staff from specified sites where more cost-effective alternatives are available.

ISSUE 15

WILDLIFE MANAGEMENT ON PRIVATE LANDS

DESCRIPTION

The majority of all hunting activity takes place on private land. A special effort should be made so that these private lands are managed to enhance the wildlife resources on them.

CURRENT ACTIONS

1. Technical assistance to landowners.
2. Coordination/cooperation with SCS, ASCS, FmHA, etc.
3. Incentive programs to provide cost-sharing or tax breaks for practices benefitting game and nongame wildlife.
4. Educational programs.
5. Incorporation of positive environmental and wildlife practices in national farm programs (i.e. CRP).

NEEDED ACTIONS

1. Continued technical assistance to private landowners who possess an interest in wildlife but lack the knowledge to manage their land accordingly.
2. Cost-sharing in establishment of cropping practices which will be of benefit to the farmer and to wildlife resources as a means of providing demonstration areas, e.g. establishment of warm season grass pastures, shelterbelts, and food plots.
3. Continuation of incentive programs aimed at reducing property tax liabilities for landowners who retain/manage wildlife habitat on their property.
4. Expand participation in programs of other agencies in order to gain maximum wildlife benefits:
 - a. State lands -- Board of Regents, Department of Social Services, Department of Transportation.
 - b. Proper mitigation and enhancement projects under purview of Fish and Wildlife Coordination Act.
 - c. Involvement with Iowa Department of Agriculture, ASCS, Iowa State University Extension Service, etc. to incorporate practices beneficial to wildlife resources as well as serving to reduce erosion and improve overall farm management.

ISSUE 16

FISH AND WILDLIFE RESEARCH

DESCRIPTION

Scientific research geared toward improved management techniques or practices is a crucial part of most scientific advances. A fuller understanding of each species, its habitat needs, its relationship with Iowa's agricultural practices, etc. enable wise management choices that will optimize the benefits to be derived.

CURRENT ACTIONS

1. On-going monitoring of game and nongame fish and wildlife populations and habitat trends.
2. Long-term research of wildlife impacts on agricultural crops.
3. Reintroduction of extirpated species, including radio telemetry research to monitor dispersal, survival and adaptation of species.
4. Upper Mississippi River Environmental Management Program.

NEEDED ACTIONS

1. Continued collection of population data on wildlife species is required by law and provides the information base from which decisions on management and regulation changes are made.
2. Continued involvement in crop research, including different cultural methods for existing crops, introduction of different types of crops and new use practices of existing crops.
3. Development of short, medium, and long-range plans as a basis for securing broadened state-level funding.

ISSUE 17

MAINTENANCE OF FAUNAL SPECIES DIVERSITY IN IOWA

DESCRIPTION

Both game and nongame fish and wildlife management efforts are aimed at maintenance of a diverse and stable high quality natural environment. Most of Iowa is an intensively cropped monoculture. Natural areas and the diverse plant and animal communities they support, while comprising a small percentage of the land area of Iowa, nevertheless constitute a vitally important part of the Iowa landscape.

CURRENT ACTIONS

1. Acquisition, management and protection of fish and wildlife habitat for game and nongame species.
2. Reintroduction of barn owls, river otters, prairie chickens, and other species of fish and wildlife.
3. Technical assistance and incentive programs to improve or restore fisheries and wildlife habitat on private lands and waters.

NEEDED ACTIONS

1. Develop land management techniques to enhance areas for nongame wildlife in urban and rural areas (e.g. designing areas, wildlife plantings, and food plots).
2. Develop and implement additional management techniques to enhance existing nongame fisheries and wildlife populations (e.g. nesting structures, etc.).
3. Restoration or reintroduction of endangered or extirpated species by releasing individuals which have been captively reared, rehabilitated, or acquired in trade with other states.
4. Research to provide information on the status or management of nongame fish and wildlife species.
5. Inventory of urban areas to make land use recommendations to retain natural areas/wildlife during urban development.

ISSUE 18

ENCOURAGEMENT AND INCREASED FUNDING OF NONCONSUMPTIVE USES OF WILDLIFE AND NONGAME PROGRAMS

DESCRIPTION

The overall goal of encouraging nonconsumptive uses of wildlife is to stimulate an interest and appreciation of wildlife. Only an informed, knowledgeable public can make wise resource decisions, and only an interested public will attempt to become informed.

CURRENT ACTIONS

1. Staffing in Wildlife Bureau includes Nongame Specialist and an Urban Wildlife Biologist.
2. Chickadee Checkoff for nongame wildlife provides funds for acquisition/development and educational programs.
3. Nongame Support Certificate provides additional opportunity for nonhunters to contribute to management programs

NEEDED ACTIONS

1. Prepare informative brochures, educational packets and articles that will answer questions frequently asked by the public and provide ready-made sources of information for public distribution.
2. Making contacts with the news media to provide information on nonconsumptive uses of wildlife and the nongame program.
3. Educational programs, special events, workshops, and talks to educators, youth group leaders, county conservation boards, city managers, conservation organizations, and the general public.
4. Providing demonstration areas to publicly display wildlife plantings, bird feeding, nest boxes, and other techniques that the public can employ to enhance areas for wildlife.
5. Promoting an accelerated advertising program to solicit more contributions to the income tax checkoff.
6. Developing alternative sources of nongame funding (e.g. federal funds, grants).

ISSUE 19

ACQUISITION AND DEVELOPMENT OF
NONGAME WILDLIFE RESOURCES

DESCRIPTION

Wildlife management areas provide substantial benefits for both game and nongame species. However, there are opportunities to enhance those benefits on wildlife areas and to provide special areas the major benefits of which accrue to nongame wildlife.

CURRENT ACTIONS

1. Chickadee Checkoff income tax contribution.
2. Nongame Support Certificate.
3. Specific management practices on all public land aimed at enhancing nongame wildlife populations.

NEEDED ACTIONS

1. Acquire lands which contain important habitat for rare or unique nongame species or lands with rich viewing opportunities for public contact with nongame species.
2. Provide observation platforms, trails, signs, etc., at key locations to enhance the opportunity for people to view and learn about wildlife.
3. Implement a small grants program to assist research, management, and public education efforts.

ISSUE 20

ENHANCEMENT OF URBAN HABITAT FOR
WILDLIFE ON PUBLIC AND PRIVATE LANDS

DESCRIPTION

Most people in Iowa live in cities and towns. Their most frequent opportunity for exposure to wildlife is in an urban setting. Programs are needed to enlighten urban dwellers on the wildlife that lives with them in urban settings, their habitat needs, and a better understanding of wildlife management and ecological principals that apply in urban and rural Iowa.

CURRENT ACTIONS

1. Technical assistance to cities and schools on planning and managing wildlife in urban settings.
2. Special events for urban residents aimed at installing an awareness of wildlife populations and habitat needs.
3. Inventories/assessments of urban habitats and the development of recommendations for improving same.

NEEDED ACTIONS

1. Provide landscape plans, cost estimates benefits, phase-in steps, and list of contacts for materials and equipment to municipalities requesting assistance in site or land management planning.
2. Accumulate information on greenspace planning, values of wildlife, economic considerations, minimum viable areas, landscaping, maintenance costs, erosion control, pollution control, buffers, watershed filtration, recreation and social implications of having open/wildlife areas. Distribute this information to municipalities by 1995 to assist their zoning ordinance, and development planning and policy-setting processes.
3. Conduct inventories of wildlife and habitats in 10 major Iowa cities.

ISSUE 21

ACQUISITION, DEVELOPMENT, AND MANAGEMENT FOR FISH RESOURCES

DESCRIPTION

Fishing continues to be one of the most universally popular outdoor recreation activities for Iowans. Intense management of fish populations coupled with management of the water resources and watersheds of the state is essential.

CURRENT ACTIONS

1. Public-owned Lakes Watershed Protection cost-sharing.
2. Iowa new fishing lakes program.
3. Coordinated public recreation access program.
4. Ongoing monitoring of fish populations and sport/commercial utilization of fishery resources.

NEEDED ACTIONS

Maintain/accelerate the following:

1. Aquatic Resource Education Program.
2. Shoreline protection on selected lakes.
3. Handicapped accessible fishing piers.
4. Fish cleaning stations.
5. Lake aeration systems.
6. Acquisition, development, and maintenance of fisherman access.
7. Fishing jetties.
8. Rock reef construction in 10 Iowa lakes.
9. Fish riffle construction in several Iowa rivers.
10. One-time, high priority capital improvement projects.

11. Four new fishing lakes located in areas of need.
12. Trout stream acquisition, with goal of placing 5% of Iowa's coldwater streams in public ownership.
13. Update angler survey for Iowa.

ISSUE 22

PROVIDE THE IOWA LEGISLATURE WITH AN AGENDA FOR OUTDOOR RECREATION LEGISLATIVE ACTIONS TO BE TAKEN IN THE NEXT FIVE YEARS

DESCRIPTION

To guarantee that Iowans will continue to enjoy outdoor recreation activities within the state, the Iowa Legislature must be kept informed of public outdoor recreation concerns and priorities. In this way, legislation may be passed that will assure outdoor recreation programs and facilities to meet Iowan's future needs.

CURRENT ACTIONS

Proposed legislation under consideration include:

1. To broaden the funding base for Iowa's fish and wildlife programs. Beneficiaries of these programs extends beyond those who hunt, fish and trap.
2. To require installation of filter strips along meandered streams and sovereign lakes in the state as the DNR is responsible for the cost of silt removal.
3. to control and prevent soil erosion and siltation from activities which disturb land adjacent to lakes, rivers, streams, marshes and wetlands by requiring the installation of silt control structures prior to conducting such activities.
4. To give peace officers implied consent authority (to test for intoxication) for boat operators in cases where a boating accident has occurred.
5. To require the applicant of a hunting licenses, for those born after January 1, 1967, bear the responsibility for having the hunters safety certificate prior to issuance of the license.

6. To establish a permit process for authorizing the use of fireworks in state parks by qualified groups and maintaining the existing prohibition of the use of fireworks in state parks except where permission is received.

NEEDED ACTIONS

1. Continued support/funding for REAP and other programs to fill unmet needs through additional revenues to protect and enhance Iowa's natural resource heritage for the 21st century.
2. Participation in a legislative study committee relating to economic development and the relationship between economic development, transportation, natural resources, and other infrastructure programs in support of a diversified state economy.
3. Natural resources protection plan.
4. Historical/archeological resources plan.

ISSUE 23

DEVELOPMENT OF RECREATIONAL TRAILS

DESCRIPTION

Trail activities are becoming increasingly popular outdoor recreation pursuits in Iowa. With this growth comes a need for planning new areas to augment existing trails and facilities. By planning these trails as a system rather than trail by trail, a network of inter-related trails and recreation facilities can be developed around the state.

CURRENT ACTIONS

1. The Iowa Snowmobile Trails Program.
2. Coordination with organizations having an interest in recreation trails.
3. Establishment of the Iowa Statewide Trails Plan Advisory Committee.
4. Trail development, redevelopment, and renovation.

NEEDED ACTIONS

1. Maintain and publicize an up-to-date inventory of existing recreation trails in Iowa.
2. Research relationship between trails and tourism/economic development including an investment analysis of trail development.
3. Review state and federal policies and laws pertaining to trails and recommend policy change and/or legislation if necessary.
4. Provide guidelines and coordination for the planning, development, maintenance, and promotion roles of federal, state, county, municipal, and private entities.
5. Determine administration (staff and funds) requirements of a statewide trails program.
6. Establish a public participation process to receive input on the development of Iowa's trails program.
7. Develop a trails marketing program.

ISSUE 24

MUNICIPAL OUTDOOR RECREATION PROGRAMS

DESCRIPTION

Providing outdoor recreation programs and facilities at the municipal level of government continues to be a priority among Iowans. However, with limited funding and increasing concerns with liability it is becoming a much harder task.

CURRENT ACTIONS

1. Coordinating municipal programs with county, state, and federal agencies for cost-sharing of projects.
2. Planning, developing, and maintaining outdoor recreation programs and facilities for individual municipalities.

NEEDED ACTIONS

1. Acquiring increased funding from existing sources and finding new outdoor recreation funding sources for the future.
2. Satisfying citizen demand for more and better recreation programs and facilities.
3. Increasing maintenance on city outdoor recreation facilities that are growing older with no money for renovation or replacement.
4. Increasing effort in the area of recreation programming adding variety of programs as well as programs for all ages.
5. Adjust programming accordingly for the decline of population from smaller cities and rise of population in larger cities.
6. Increase programming and add facilities for the "team sports" trend in municipal outdoor recreation.

ISSUE 25

ACQUISITION FOR RECREATIONAL TRAILS

DESCRIPTION

Increasing popularity of recreational trail activities during summer and winter months represents unmet demand, particularly near major metropolitan areas.

CURRENT ACTIONS

1. Implementation of the Statewide Recreational Trails Plan via DOT's Trail Grant Program, the Protected Water Areas program and other avenues.
2. Resource Enhancement and Protection (REAP).
3. Land and Water Conservation Fund.

NEEDED ACTIONS

1. Increased funding for trail acquisition programs.

2. Continued state and local trail planning and coordination.
3. Additional land acquisition to allow separation of incompatible trail uses.

ISSUE 26

OPEN SPACE PROTECTION - RURAL AND URBAN

DESCRIPTION

Public opinion is increasingly supportive of the need to protect additional open spaces. The Iowa legislature directed the DNR to prepare an open spaces plan to help direct actions toward this purpose. Development and other land use pressures are threatening the supply of quality examples of Iowa natural resources.

CURRENT ACTIONS

1. Resource Enhancement and Protection (REAP) land acquisitions.
2. Protected Water Area (PWA) plan implementation.
3. Habitat Stamp Fund acquisitions program by the state and counties.
4. Land and Water Conservation Fund projects.

NEEDED ACTIONS

1. Additional funding for open space acquisition/protection programs.
2. Increased public education information and programs.
3. Increased landowner participation in natural resource conservation programs.
4. Adoption of conservation district zoning or other acceptable means of controlling land development and of protecting invaluable natural resource areas.

ISSUE 27

NEW DEVELOPMENT ON STATE PARK AND RECREATION AREAS IN ACCORD WITH MASTER PLANS.

DESCRIPTION

State park visitors have indicated the need for additional development in some of Iowa's state parks and recreation areas to increase visitor outdoor recreation satisfaction.

CURRENT ACTIONS

1. Land and Water Conservation Fund state projects.
2. Resource Enhancement and Protection (REAP) state projects.
3. Master planning, including environmental impacts of facility siting.
4. Park and Institutional Road Fund projects.

NEEDED ACTIONS

1. Continued master planning for state parks and recreation areas.

ISSUE 28

REHABILITATION, RENOVATION OF STATE PARKS AND RECREATION AREAS TO PROVIDE SAFETY, COMFORT, AND CONVENIENCE FOR USERS.

DESCRIPTION

To satisfy public demand for enjoyable outdoor recreation experiences, improvements to state park and recreation areas must be undertaken.

CURRENT ACTIONS

1. Park and Institutional Road Fund projects.
2. Resource Enhancement and Protection (REAP) state park and recreation projects.
3. Land and Water Conservation Fund project implementation.

NEEDED ACTIONS

1. Increased funding for park and recreation facility rehabilitation/renovation.
2. Continued stable funding of REAP.
3. Increased funding of the state side portion of LAWCON.

ISSUE 29

ENVIRONMENTAL EDUCATION

DESCRIPTION

Public education is the bottom line solution to the problem of environmental degradation and resource conservation.

CURRENT ACTIONS

1. Iowa Conservationist monthly publication.
2. Printing of numerous informational and educational pamphlets.
3. Environmental education features on public television and radio public service announcements.
4. Resource Enhancement and Protection (REAP) funding of the Conservation Education Board.
5. Development of classroom materials for environmental education programs.

NEEDED ACTIONS

1. Increased funding for environmental education purposes.
2. Increased penalties and enforcement of environmental laws.
3. Increased private sector participation.

ISSUE 30

DEFINITION OF ROLES OF PUBLIC AGENCIES AND THE PRIVATE SECTOR IN VARIOUS RECREATION/RESOURCE PROTECTION PROGRAMS.

DESCRIPTION

Limited public resources creates the need for increased participation by the private sector as a source of program funds and program coordination.

CURRENT ACTIONS

1. Policies of involving concerned/affected parties, both public and private, in planning projects.
2. REAP Alliance, REAP assemblies, REAP Congress, REAP Newsletter.
3. Involvement/communication with Iowa Association of County Conservation Boards, Iowa Park and Recreation Association, Iowa League of Municipalities, etc.

NEEDED ACTIONS

1. Greater involvement of the private sector in environmental protection and provision of outdoor recreation opportunities.

ISSUE 31

CONTINUE THE ROLE OF THE COUNTY CONSERVATION BOARD AS A PROVIDER OF OUTDOOR RECREATION EXPERIENCES IN IOWA

DESCRIPTION

The 99 county conservation boards (CCB) in Iowa have many of the same purposes and goals of the Iowa DNR. It is essential that on-going outdoor recreation programming be done at this level of government to provide facilities and services that are not provided by municipal or state agencies.

CURRENT ACTIONS

1. Conservation/ environmental education at CCB facilities.
2. Technical assistance to the public on a variety of conservation programs
3. Involvement in the Iowa REAP and habitat stamp funding programs to acquire and develop conservation/open space areas around the state.
4. Provide coordination with the Iowa snowmobile trails program.
5. Provide coordination between the DNR and CCB areas so Iowans can further enjoy outdoor recreation programs and facilities in the state.

NEEDED ACTIONS

1. Increase emphasis on environmental education at CCB facilities.
2. Increase efforts in tourism promotion to attract visitors and keep county users and expenditures within the county.
3. Standards of performance are needed to help guide an increased facility maintenance effort.
4. An increased effort must be made to maintain wildlife habitat in CCB areas through coordination with public and private organizations.

5. Immediate legislative attention must be given to the issue of liability on public recreation areas.

6. Increased emphasis must be given to public input in planning and implementing future CCB projects.



PRIORITIES

The following is a listing of general priorities for outdoor recreation in Iowa over the next five years. The priorities have been broken down into high, medium, and low by the following categories: acquisition, development, renovation, management, planning, and coordination. Whether an activity is classified as "high", "medium" or "low" does not reflect a level of importance but more a level of need or urgency of action. All priorities listed are considered high priority but due to a lack of adequate funding levels and/or the threat to a particular resource and/or level of use, a hierarchy of action is necessary.

ACQUISITION

HIGH

- * Acquisition for recreational trails.
- * Open space protection - rural and urban.
- * Expanding and maintaining facilities to meet existing demand.
- * Shortage of public forestland for recreation.
- * Acquisition, development and management for fish resources.
- * Public wildlife management area land acquisition.

MEDIUM

- * Better distribution of public lands and waters in Iowa.
- * Public access to Iowa's rivers, streams and lakes.
- * Acquisition and development of nongame wildlife resources.

DEVELOPMENT

HIGH

- * Expanding and maintaining facilities to meet existing demand.
- * Acquisition, development and management for fish resources.
- * Development of recreational trails.

MEDIUM

- * Demand for recreation opportunities in unique natural settings.
- * Public access to Iowa rivers and streams.
- * Increasing demands for interpretive programs on park and recreation areas.
- * Acquisition and development of nongame wildlife resources.
- * Enhancement of urban habitat for wildlife on public lands.
- * New development on state park and recreation areas in accord with completed master plans.

LOW

- * Demand for winter sports on parks, forests and state recreation areas.

RENOVATION

HIGH

- * Expanding and maintaining facilities to meet existing demand
- * Recreation management to prevent degradation of unique areas.
- * Rehabilitation/renovation of state parks and recreation areas to provide safety, comfort and convenience for users.

MANAGEMENT

HIGH

- * Increased resource protection on existing public areas to provide continued high quality recreation experiences.
- * Wildlife management on public lands.
- * Acquisition, development and management for fish resources.

MEDIUM

- * Expand/increase resource protection areas to meet current and future demands.
- * Intensified management to accommodate incompatible uses.
- * Wildlife management on private lands.
- * Maintenance of faunal species diversity in Iowa.
- * Encouragement and increased funding of nonconsumptive uses of wildlife and nongame programs.

PLANNING

HIGH

- * Provide the Iowa Legislature with an agenda for outdoor recreation legislative actions to be taken in the next five years.
- * Open space protection - rural and urban.

MEDIUM

- * Fish and wildlife research planning.
- * Environmental education.

LOW

- * Better distribution of public lands and waters in Iowa.
- * Demand for winter sports on parks, forests and state recreation areas.

COORDINATION

HIGH

- * Funding mechanisms for meeting program needs.

LOW

- * Municipal outdoor recreation programs.
- * Definition of roles of public agencies and private sector in various recreation/resource protection programs.

IMPLEMENTATION PLAN AND PROGRAM

During preparation of the 1990 SCORP, the Iowa DNR undertook a program evaluation within the agency to identify critical broad issues which would require planning and program priorities. Many issues were identified and priorities were established, as previously outlined, to help guide the actions needed. Listing of these 31 outdoor recreation issues and numerous priority actions is necessary to indicate the wide variety of factors confronting outdoor recreation in Iowa. In order to provide clear direction the State of Iowa is pursuing and will continue to pursue to provide quality outdoor recreation in the years to come, the following discussion identifies five priorities and related actions.

These priorities and actions represent those identified areas of concern which will be given special attention during the coming years. It should be emphasized that this action summary deals primarily with unresolved priorities and does not cover important programs and activities which comprise the DNR's day-to-day operations. By emphasizing priorities or areas of concern, proper actions are more likely to be initiated or intensified to develop responsive programs that will alleviate unmet needs.

THE PRIORITIES

The sequence of presentation should not be construed to indicate a higher priority relative to other priority issues or actions.

Acquisition of Public Land

Iowa ranks very low in terms of public natural resource lands and recreation lands. Many existing areas are over-used or lack development potential while demand for outdoor recreation and open space protection continues to increase.

Some of Iowa's best natural resources and recreation opportunities are far removed from population centers. There is a need to provide high quality areas and programs located so as to be more readily accessible to a greater number of people. Iowa's population centers are often located adjacent to the many Iowa rivers and streams that offer substantial recreation opportunities, and public demand for such opportunities continues to rise. Public access and recrea-

tional use of these natural features would be enhanced through land acquisition and proper facility development.

Issue Actions

1. Expand/increase natural resource protection to meet current and future demand through acquisition of fish and wildlife habitat areas, wetlands, areas of threatened and endangered plant and animal species.
2. Acquisition of land, easements, etc. for recreational trail development complimentary to the goals and objectives of the Iowa Statewide Trails Plan.
3. Acquisition of forested lands that compliment the goals and objectives of the Iowa Forest Resources Plan.
4. Acquisition and development of nongame wildlife resources.
5. Acquisition of land and waters to assure better distribution of recreational opportunities across the state and increased public access to Iowa's rivers, streams, and lakes.
6. Open space protection in both urban and rural environs.

Natural Resource Management and Protection

Increasing participation in diverse forms of outdoor recreation activities often leads to incompatible uses and user conflicts, many of which can be eliminated or reduced through proper management. Excessive use and incompatible use of public recreation areas can destroy or degrade the features which make the area attractive and popular in the first place.

Publicly-owned wildlife areas are typically managed to maximize the production of wildlife. These areas produce high populations of game as well as nongame wildlife. A special effort should be made so that private lands are also managed to enhance the wildlife resources on them.

Management efforts are aimed at maintenance of a diverse and stable high quality environment. Areas possessing diverse plant and animal communities, though they currently comprise a small percentage of land area, constitute a vitally important part of the Iowa landscape.

Issue Actions

1. Increase resource protection efforts on public areas to provide continued high quality recreation experiences.
2. Intensified management to accomodate incompatible uses, prevent resource degradation and maintain and enhance plant and animal diversity.
3. Continue, expand and enhance management for fish, wildlife and nongame wildlife resources on public areas and encourage similar management on private areas.
4. Use GIS to improve mapping and identification of unique natural areas and threatened and endangered species.

Recreation Facility Development and Rehabilitation

The number of Iowans participating in outdoor recreation has continued to increase for a variety of reasons. With greater participation comes greater demand for alternative recreation opportunities and improved facility maintenance.

State park visitors have indicated the need for improved facilities and additional development in some of Iowa's state parks and recreation areas to increase visitor satisfaction through increased safety, comfort, convenience, additional recreation opportunities and/or improvements to existing facilities.

The provision of outdoor recreation programs and facilities at the "close to home" local level continues to be a priority among Iowans. Municipal outdoor recreation surveys and county and municipal outdoor recreation inventories summarized in the previous chapters identify outdoor recreation needs and trends. The Department of Natural Resources will continue to periodically monitor county and municipal outdoor recreation trends and needs.

Issue Actions

1. Maintain and expand recreational facilities to meet current and future demand.
2. Continue to support and develop recreational trails complimentary of the Iowa Statewide Trails Plan.

3. Rehabilitate and renovate state parks and recreation areas and new development in accord with master plans, to provide safety, comfort, convenience and provide new recreational opportunities to meet current and future demand.

4. The DNR supports increased programming and the addition of facilities for "team sports" trend in municipal outdoor recreation.

5. DNR will continue to support satisfying citizen demand for more and better recreation programs and facilities at the state, county and municipal levels.

Outdoor Recreation Funding

It is important to identify a stable funding mechanism allowing operating budgets to be established in order to provide areas, facilities and programs to meet public demand. Only informed, knowledgeable public can make informed decisions and only interested public will attempt to become informed.

Issue Actions

1. Provide interpretive programs and trails, environmental education opportunities and nonconsumptive uses of wildlife and nongame programs.
2. Seek increased levels of funding from existing sources and support new sources of funding that will provide a stable source of adequate funding levels to maintain existing programs and initiate new programs to satisfy current and future demand.
3. Provide the Iowa Legislature with an agenda for outdoor recreation and environmental education and recommend legislative actions to be taken in the next five years.

Planning and Coordination

During these times of shifting population, changing age structure within Iowa's population and limited funds, the DNR shall continue to provide planning and coordination assistance for state and local outdoor recreation and conservation needs across Iowa through the Land and Water Conservation Fund, the Resource Enhancement and Protection (REAP) program and other incentives. Planning and coordination is necessary to make the most effective use of Iowa's outdoor recreational resources.

Issue Actions

1. Continue to host the regional REAP assemblies and REAP Congress on a biennial basis to receive public input on the REAP program and other open space issues.
2. Continue to assist and coordinate with the 15 Council of Government offices, the Iowa Park and Recreation Association, the League of Iowa Municipalities, and the Iowa Association of County Conservation Boards on outdoor recreation and conservation issues.
3. Continued support for the actions of the multi-discipline REAP Alliance in their efforts to promote conservation, outdoor recreation and environmental education.
4. Continue coordination with other state agencies providing outdoor recreation in the implementation of those programs.
5. Continue coordination with federal agencies in the provision of outdoor recreation in Iowa.

PROGRAMS FOR ADDRESSING ISSUES AND ACTIONS

The following are programs that specifically address the issues and actions from the first section of this chapter. These programs are already in operation. There are some actions which will be addressed by normal operations and are not covered by the programs listed here. In addition, there will also be a need to create new programs to address some of the actions that are not covered by current programs or operations.

Programs described include:

1. Resource Enhancement and Protection (REAP)
2. Iowa Natural Areas Inventory Program.
3. Public Owned Lakes - Watershed Protection Program.
4. Clean Lakes Program.
5. Iowa Statewide Trails Plan.
6. Des Moines Recreation River and Greenbelt.
7. Council of Governments
8. Public Information and Education.
9. County Conservation Boards in Iowa
10. Snowmobile Trail Program.
11. Water Access Program.
12. Park and Institutional Road Fund Program.
13. Mississippi and Missouri River Coordination.
14. Environmental Agenda for the 1990's.
15. 504 Transition Plan.
16. Protected Water Areas (PWA).
17. Wetland Protection

1. RESOURCE ENHANCEMENT AND PROTECTION (REAP)

The REAP Act is the premier outdoor recreation legislation enacted in recent years in the State of Iowa, certainly since the time of Iowa's last SCORP. A coalition of 24 conservation organizations called the "REAP Alliance" designed REAP and worked with key legislators on its enactment. Although REAP applies to many functions of the Iowa Department of Natural Resources, there are significant parts of REAP directed to programs of the Iowa Department of Agriculture and Land Stewardship, Iowa Department of Education, Iowa Department of Cultural Affairs, each of Iowa's 99 county conservation boards, Iowa municipalities and private organizations.

The purpose of REAP is defined as: "The program shall be a long-term integrated effort to wisely use and protect Iowa's natural resources through the acquisition and management of public lands; the upgrading of public park and preserve facilities; environmental education, monitoring and research; and other environmentally sound means. The resource enhancement program shall strongly encourage Iowans to develop a conservation ethic, and to make necessary changes in our activities to develop and preserve a rich and diverse natural environment."

There has been much excitement and participation during the first year of the REAP program. The bottom line is that REAP has money, which may be responsible for prompting so much excitement and project ideas statewide. For fiscal year 1991, \$25,000,000 million dollars has been authorized for the REAP program from the Iowa Lottery and another \$450,000 from interest and other sources. Over fiscal years 1992 through 2000, \$25 million will come from the Iowa Lottery, \$5 million from the General Fund and again \$450,000 is anticipated from interest and other sources. For fiscal year 2001, \$30 million is authorized from the General Fund \$450,000 from interest and other sources. The use of lottery funds for REAP is a change in the primary benefactor of these funds. In previous years the primary use of lottery receipts was for economic development. The source of revenues and the allocation of program funds and fund amounts for the various REAP programs are depicted in Table 4-1.

RESOURCE ENHANCEMENT AND PROTECTION FUND ANALYSIS

	TOTAL FY1991	TOTAL FY1992	TOTAL FY93-2000
RECEIPTS			
General Fund Appropriation (HF 778)		\$10,900,000	\$30,000,000
CLEAN (Lottery - SF 2153)	\$20,000,000		
Interest/State Credit Card Receipts			\$450,000
TOTAL RECEIPTS	\$20,000,000	\$10,900,000	\$30,450,000
ALLOCATION			
Conservation Education Board	\$350,000	\$350,000	\$350,000
Administration Fund (1%)	\$196,500	105,500	\$304,500
Programs	\$19,453,500	\$10,444,500	\$29,795,500
Open Spaces Account (28%)	\$5,446,980	\$2,924,460	\$8,342,740
DNR Use (85%)	\$4,629,933	\$2,485,791	\$7,091,329
PWA Implementation (5%)	\$272,349	\$146,223	\$417,137
75% Match for Private Dollars (10%)	\$544,698	\$292,446	\$834,274
County Conservation Account (20%)	\$3,890,700	\$2,088,900	\$5,959,100
Per County (30%)	\$1,167,210	\$626,670	\$1,787,730
Population Based (30%)	\$1,167,210	\$626,670	\$1,787,730
Competitive Grants (40%)	\$1,556,280	\$835,560	\$2,383,640
Soil and Water Enhancement Account (20%)	\$3,890,700	\$2,088,900	\$5,959,100
Enhancement Projects (50%, \$1 million maximum)	\$1,000,000	\$1,000,000	\$1,000,000
Forestry and Native Vegetation (25%)	\$722,675	\$272,225	\$1,239,775
Traditional Enhancement Practices (75% of balance)	\$2,168,025	\$816,675	\$3,719,325
City Park and Open Space (15%)	\$2,918,025	\$1,566,675	\$4,469,325
State Land Management Trust Account (9%)	\$1,750,815	\$940,005	\$2,681,595
Historical Resource Grant and Loan Fund (5%)	\$972,675	\$522,225	\$1,489,775
Living Roadway Trust Fund (3%)	\$583,605	\$313,335	\$893,865
TOTAL ALLOCATION	\$20,000,000	\$10,900,000	\$30,450,000

Table 4-1

As part of REAP, a newly created and formal method of citizen input to the DNR, the General Assembly and the Governor on the issues of natural resource enhancement and protection policies, programs and funding has been implemented. It is organized into three tiers. First, all 99 counties are required to create a Resource Enhancement Committee. Representation on the county committees include county board of supervisors, county conservation boards, mayors of cities in the county, soil conservation districts, school district boards, farm organizations, and conservation organizations. Any organization sincerely interested in REAP and wishing to contribute

towards its success can and should be participate on their County Resource Enhancement Committee. The following is a representative list of the types of organizations that may become involved:

- Audubon Society
- Iowa Sportsmen's Federation
- Ducks Unlimited
- Sierra Club
- Pheasants Forever
- The Nature Conservancy
- Iowa Association of Naturalists
- Izaak Walton League

Each committee is charged with a one-year expenditure plan for submission to the DNR. They are also responsible for coordinating and exchanging information on REAP projects and proposals in the county.

Second, multi-county meetings called regional assemblies are held in 17 locations throughout the state. These are open public meetings where all REAP programs and associated financial reports are presented. Also, opportunities for regional REAP projects are identified and participants may recommend changes in REAP policies, programs and funding. The assemblies are well publicized through local, regional and statewide media. They are to be held every other year.

Third, five delegates are elected at each of the 17 regional assemblies to serve on the statewide REAP congress. This 85-member congress meets during the summer on even-numbered calendar years. The first one was held July 14, 1990 at the state capitol. The charge of the congress is to organize, discuss and make recommendations to the Governor, General Assembly and the Natural Resources Commission of DNR regarding issues concerning REAP.

REAP PROGRAMS

Conservation Education - The first \$350,000 of each annual appropriation goes for conservation education. Emphasis for this money is on providing assistance to teachers for continuing conservation education stipends and on grants for preparing conservation education materials. The Department of Education administers this program, with assistance from the Department of Natural Resources (DNR) and the Iowa Association of County Conservation Boards. Funds are distributed on a competitive grant basis.

Open Spaces Account (28%) - This money is allocated to DNR for state acquisition and development of lands and waters. Current project examples are Loess Hills Pioneer State Forest, Green Island Wildlife Management Area development, Brushy Creek land acquisition, and Pine Lake State Park dam and spillway repair.

Ten percent (10%) of this 28% is available to private organizations and individuals on a competitive basis for 75% REAP - 25% private cost-sharing of open

space acquisition. Such acquisitions become public property managed by DNR or arrangements for county conservation board or city management can be made. Grant applications are accepted twice a year.

Five percent (5%) of this 28% is available to the state's Protected Water Areas (PWA) program. This program is directed at acquiring land along designated rivers, natural lakes, and marshes to maintain their scenic and natural qualities. The Boone River in Hamilton County is presently the state's only designated PWA. Four other rivers are currently in the process of being designated, including portions of the Upper Iowa, Wapsipinicon, Middle Racoon, and Little Sioux Rivers.

County Conservation Account (20%) - This money is available to counties for land easements or acquisition, capital improvements, stabilization and protection of resources, repair and upgrading of facilities, environmental education, and equipment. Expenditures are not allowed for single or multi-purpose athletic fields, baseball or softball diamonds, tennis courts, golf courses, and other organized sport facilities. Swimming pools and playground equipment are also ineligible. Most trails are eligible. A notable exception is a trail with exercise stations within a sports complex.

Thirty percent (30%) of the county conservation account's 20% is allocated automatically and equally to all 99 counties. This money is provided to counties on a quarterly basis and can be used for any of the above stated county purposes.

Another 30% of the county conservation account's 20% is allocated on a per capita basis. This money is also distributed quarterly, but there is an eligibility requirement. Counties are eligible to receive these funds if they are dedicating at least 22¢ per \$1,000 of the assessed value of taxable property in the county for county conservation purposes. In other words, a county must be committing a specified tax levy amount from county tax dollars to conservation in order to receive their per capita REAP allocation. Counties that are currently not dedicating at the 22¢ level or above are given two years to do so. If they do, they will receive the per population money, including all back payments. If they do not, the money is then distributed to those counties that are dedicating the 22¢.

The remaining 40% of the county conservation account's 20% is available to counties on a statewide competitive basis. The 22¢ eligibility criteria also applies to these grants. Grants are 100%, so local match money is not required. Grant applications are received by DNR twice a year.

Soil and Water Enhancement Account (20%) - These funds are available to landowners for soil and water conservation and enhancement projects and practices. Project money is directed towards protecting the state's surface and ground water resources from point and non-point sources of contamination. Examples are terraces, ponds, and grass waterways. Conservation and enhancement practices money is directed towards reforestation, woodland protection and enhancement, wildlife habitat preservation and enhancement, protection of highly erodible soils, and water quality protection.

This portion of REAP is administered by the Division of Soil Conservation in the Department of Agriculture and Land Stewardship. Grant applications and information are available at any of Iowa's 100 Soil Conservation District offices, normally located in county seats. Each district is currently preparing a county soil and water enhancement plan which will help direct REAP funds.

City Park and Open Space Account (15%) - This money is available to cities on a competitive grant basis. Three (3) city size categories have been established to assure grants are distributed to all sizes of cities. The categories are cities with populations: less than 2,000; from 2,000 to 25,000; and greater than 25,000. Annual grant amount ceilings are also in effect based on size of cities to help assure that funds are distributed for projects located throughout the state. These grants are 100%, so local matching funds are not required. Grant applications are accepted twice a year.

State Land Management Trust Account (9%) - This money is available to DNR for development and management of state conservation lands. Project examples are trail renovation, shower and rest room replacement, repairs to lodges, shelters, and cabins, and minor repair of dams, spillways, parking lots and beaches.

Historical Resource Grant & Loan Fund (5%) - This money is available to the Historical Resource Development Program administered by the Historical Division of the Department of Cultural Affairs. Grants and loans are available to private individuals and businesses, as well as to non-profit organizations and agencies of Certified Local Governments. Certified Local Government is a designation made by the National Park Service and requires certain historical related programs and organizations.

Grants and loans in this account will support a wide variety of projects, ranging from conservation of photographs to preservation of buildings, from museum exhibits to newspaper microfilming. This program is administered by the Department of Cultural Affairs.

Living Roadway Trust Fund (3%) - This money is available for state, county, and city management of roadside vegetation. Funds will be specifically directed at integrated vegetation management with emphasis on native prairie grass plantings and maintenance with minimal chemical weed control. The ratio used to distribute road use tax dollars among levels of government will also be used for roadside vegetation management. The Iowa Department of Transportation administers this REAP program.

2. THE IOWA NATURAL AREAS INVENTORY PROGRAM

In 1981 the Iowa Conservation Commission (now the DNR), in consort with The Nature Conservancy, and utilizing a planning grant from the Land and Water Conservation Fund, initiated a two-year Iowa Natural Areas Inventory Project (INAI). That project established the data base for an on-going Natural Areas Inventory Program which was assumed by the Iowa Conservation Commission in 1983. Four full-time staff persons housed in the Lands and Waters Division

of the Commission continue to add to the natural areas data base, and, equally as important, to apply basic inventory knowledge to a variety of action programs for which the Commission is responsible.

The rationale for initiating the INAI project in the first place, and for developing an on-going INAI Program is summarized in the opening paragraphs of the "Two Year Progress Report" of the INAI Project:

"Iowa's natural landscape has been modified more extensively than that of any other state. A prairie ecosystem of nearly 39 million acres is essentially gone. Nearly all of the state's forests have been logged or grazed periodically during the past 150 years. All but a small fraction of Iowa's natural wetlands and waterways have been destroyed, modified or affected by siltation and agricultural run-off. Together with this loss of habitat has gone a significant number of plant and animal species.

Yet hidden among today's human-dominated features are precious remnants of Iowa's ecological heritage. A few natural areas in Iowa are of worldwide significance.

By preserving these treasures, we will maintain genetic reservoirs that may be drawn upon in the future as new sources of food, medicine, or other products. Natural areas also serve as psychological refuges for people, providing needed contrasts to our highly modified environment. Once destroyed, Iowa's natural features cannot be fully restored. Unless critical sites are carefully protected, their resource potential, their utility for education and research, and their recreational, aesthetic, and cultural values could be lost forever."

Existing Program - As noted above, four full-time staff positions exist within the Department of Natural Resources to carry on the INAI Program. They are a botanist, a community ecologist, a zoologist and a data manager. This staff capability has added greatly to the state's ability to develop natural area protection programs and to integrate natural area management into existing, diverse programs of land and resource management.

"Ecological Assessment Plans" are underway for numerous existing public lands, providing resource inventories and management recommendations to assure the protection and continued existence of rare plants, animals and natural communities on public recreation and resource landholdings.

Staff specialists in the INAI also participate in the review and approval procedures of a variety of construction/development projects proposed by both the public and private sectors.

Current workplans for INAI staff provide the following breakouts of time and effort to be directed toward eight tasks:

1. Data Management -- 38%
2. Environmental Review/Data Requests -- 12%
3. Scorecard (Species/community rarity/prioritization efforts) -- 6%
4. DNR Communication/Coordination -- 5%
5. Professional Meetings/Presentations -- 4%
6. Natural History Foray (county-by-county field survey) -- 5%
7. Special Projects -- 30%

The work plan for the Preserves and Ecological Services Bureau in the early 1990's includes continued surveying the state for locations of rare species and natural communities. Special emphasis will be placed on inventory of State Preserves. Management and protection of natural areas is becoming increasingly important in the face of development pressures and possible incompatible land use. The time necessary for management and protection will continue to increase in the years to come.

3. PUBLIC-OWNED LAKES, WATERSHED PROTECTION PROGRAM

Iowa's public-owned lakes represent a major investment of public funds in the state's outdoor recreation opportunities. The quality of water, and hence the quality of recreation experiences and management capabilities of the fishery resources supported, hinge directly on the condition of the watersheds of those lakes.

Each year 5% of the appropriation to the Division of Soil Conservation, Department of Agriculture and Land Stewardship, is set aside to be used in providing 75% state cost-sharing for installation of permanent soil conservation measures in watersheds of public lakes. Iowa statute allows up to 10% of the cost-share funds to be utilized for this program, with current rules providing 5% or approximately \$410,000 annually.

Soil erosion control is a mammoth undertaking in Iowa generally, and that in the watershed of publicly-owned lakes is no exception. Consequently, administrative rules have been developed by the DNR to establish a list of eligible, high priority lake watersheds in which to concentrate efforts and limited funds.

Fifteen of the 115 "significant publically-owned lakes" in Iowa are eligible to receive cost share funds for installation of soil conservation measures in state fiscal year (SFY) 1991. A review/selection committee annually reviews the list of lakes receiving funds and develops recommendations for additions or deletions. Criteria used for review and selection are:

1. Ratio of watershed area to lake surface area.
2. Nonpoint pollution, expressed as the "adjusted siltation index".
3. Length of time required to achieve recommended levels of erosion control in the watershed.
4. Mean lake depth.

During the first three months of each fiscal year, funds are allocated to each eligible lake project. Soil Conservation Service personnel contribute time and technical assistance to efforts to secure landowners' participation in installing erosion control practices. After the three month obligation period, unobligated funds may be reallocated from lakes where demand for cost-sharing is low to where demands exceed funds available.

The funding available in SFY91 has been allocated among 15 lakes - \$15,000 for Black Hawk Lake, \$50,000 for Union Grove Lake, with the remaining funds being allocated equally (\$26,606 per lake) among the other 13 lakes.

Lakes approved for SFY91 funding are:

Beaver Lake - Dallas County
 Black Hawk Lake - Carroll and Sac Counties
 Crawford Creek Lake - Ida County
 Green Castle Lake - Marshall County
 Hawthorn Lake - Mahaska County
 Lake Ahquabi - Warren County
 Lake Icaria - Adams County
 Lake of the Hills - Scott County
 Lake Pahoja - Lyon County
 Little River Lake - Decatur County

Mariposa Lake - Jasper County
 Miami Lake - Monroe County
 Moorhead Lake - Ida County
 Red Haw Lake - Lucas County
 Union Grove Lake - Marshall and Tama County

If higher levels of funding were made available, additional watersheds would be added to the eligible list, and a greater level of protection for public investments in recreational lakes would be made possible.

4. CLEAN LAKES PROGRAM

The Federal Clean Lakes Program, administered by the Environmental Protection Agency, has been the source of funds for cost-sharing to restore or improve water quality and recreational use in several Iowa lakes.

In 1979, Iowa State University completed a survey and analysis of 107 Iowa lakes. Each was assessed on several criteria including:

Size of watershed and ratio to lake surface
 Land use in the watershed
 Public ownership of lake shoreline
 Depth/volume
 Precipitation/runoff/evaporation
 Public use

Results of that study have been utilized in establishing priorities for expenditure of Clean Lakes funds to initiate corrective actions. Public hearings were also conducted on high priority lakes to determine public support and local commitment to improvement projects.

Diagnostic feasibility studies (cost-sharable with EPA on a 75:25 ratio) are a prerequisite to implementation of corrective programs (cost-sharable at a 50:50 ratio). Such studies assess the specific water quality problems and the economic and engineering feasibilities of alternative corrective measures. Lakes which have received some improvements under the program include:

Lake Manawa
 Blue Lake
 Swan Lake
 Union Grove Lake
 Green Valley Lake

The following lakes are being studied under Phase I, diagnostic feasibility projects:

Pine Lower Lake
Upper Pine Lake
Little Wall Lake
Lake Miami
Iowa Lake

Lakes funded for Phase II construction include Blackhawk Lake and Lake Ahquabi.

The problem remains a major one in the state, with corrective actions often seen as cost effective and highly desirable means of restoring or maintaining recreational values of many Iowa lakes. The statewide assessment in 1979 provided a valid and useful means of directing any available funds toward projects where public benefits would be maximized, and renewed funding would expedite progress.

5. IOWA STATEWIDE TRAILS PLAN

Trails are popular outdoor recreation facilities and demand for them is increasing among bicyclists, runners, hikers, and cross-country skiers. Long distance cross-country trails on abandoned railroad corridors connecting population centers and places of interest have been rapidly rising in popularity throughout the nation. A direct relationship seems to exist between the physical fitness and health awareness movement and the demand for these trails. Nature and interpretive trails continue to be popular among park visitors of all ages. Many rivers are "water trails" and a system of them are important components of trail programs.

Iowa is no exception to these national trends. Its relatively gentle terrain and numerous river corridors lend very well to the development of cross-country trails. Iowa's parks, forests, and recreation areas offer many existing and new opportunities to trail users. The state's extensive secondary road system provide bicyclists with many low-traffic routes.

The time has arrived in Iowa to examine existing trails and to explore opportunities for the development of new ones from a statewide perspective. The General Assembly, in 1987, directed the Iowa Department of Transportation (DOT) to prepare a comprehensive

Trails plan. The objective of the statewide trails plan is to: "provide a long-range plan for the acquisition, development, promotion, and management of recreational trails of different kinds having national, statewide and multi-county importance."

The purpose of the Iowa Statewide Recreational Trails Plan was developed in response to the recognition of increased public demand for quality outdoor recreational facilities and the numerous benefits associated with development and usage of trail systems. The plan presents a statewide trails system that will serve as a basis for trail planning efforts throughout the state. It provides a framework of existing and proposed multi-modal trails to form a unified trails system. The plan is also intended to encourage development of more recreational trails in the state and guide future expansion of the system.

The statewide trails plan will assist state agencies in evaluating future candidate recreational trails projects for funding priorities. Development of the proposed statewide system will represent an interest by the State of Iowa to protect and preserve existing and future trails and to ensure that present and future generations will have the opportunity to enjoy various types of trail experiences.

Preparation of the Statewide Trails Plan was a cooperative effort with the Department of Natural Resources (DNR), Department of Economic Development (DED) and Department of Cultural Affairs (DCA). Also involved were numerous user groups, property owners and local governments.

A Project Management Team (PMT) was formed to solicit and gain state agency input. The PMT's purpose was to serve as a core group of individuals representing the State of Iowa and provide management and technical guidance. This team served as the decision-making group during the plan's formation.

A Technical Advisory Committee (TAC) was formed to provide the process with technical support regarding trail user needs, design input and trail location input. TAC served as a forum for input from various trail user groups, land owners and local government interests. Representatives from many interest groups participated in plan formulation. Those interest groups included representatives of: conservation/preservation; agriculture; snowmobile and cross-country skiing; off-road vehicles; equestrian; canoeing; and bicycling. In addition to these interest

groups, the League of Iowa Municipalities, Iowa Parks and Recreation Association and the Iowa Association of County Conservation Boards were also represented.

Public opinions and participation were an important ingredient in the creation of the trails plan. Throughout the planning process, the public was offered numerous opportunities to learn about and contribute to the plan. A series of project newsletters informed Iowans about the plan's progress. Five public meetings were held across the state in order to present the plan as it was originally drafted and to receive input from the public for incorporation into the final plan as appropriate.

An Iowa household survey was conducted as part of this statewide recreational trails plan. Conducted in 1989, the survey results demonstrated several important conclusions.

1. Frequent trails users tend to be younger in age, married with children, have lived in the State for at least 10 years and have above average incomes.
2. The most frequently mentioned trail activities included walking or biking for recreation or exercise. Respondents were willing to drive up to one hour's distance to take advantage of trail facilities.
3. Respondents wanted additional facilities with bicycling, walking, horseback riding and canoeing mentioned most frequently.
4. Sixty-nine percent of the respondents reported that they were less than very satisfied with Iowa's trail resources.

The study made other conclusions regarding trail location, trail awareness and facility availability.

In 1988, the General Assembly reinforced their recognition and support for recreational trails in Iowa by appropriating \$1 million annually to the Department of Transportation for the purpose of acquiring, constructing and improving recreational trails within the state. Thus, the recreational Trails Program was launched.

A state or local government agency, municipal corporation, a county or a nonprofit organization is eligible to apply for and receive funds through this program. For a project to be eligible it is restricted to the acquisition, construction or improvement of recrea-

tional trails open for public use or trails which will be so dedicated upon completion. The project shall include a contribution of at least 25 percent matching funds. Matching funds shall not include other grants from state agencies or provision of in-kind services.

There has been four trail fund grant cycles since the program was initiated as applications are accepted twice each year. In the four cycles there has been a total of 87 applications received accounting for over \$13 million in trail fund requests. A few of these 87 were resubmitted due to not being funded during previous funding cycles. Nearly \$3 million has been committed in the first two years of the program for 18 separate projects. Though there is a minimum of a 25 percent match for each project, a comparison of trail funds committed to total project costs show that local match makes up an average of 32 percent of total project costs. An indication of applicant commitment in the provision of recreational trails.

This investigation and development of priorities and state policy are necessary in order to efficiently develop a quality trails system. Substantial funds and manpower will undoubtedly be required to accomplish this goal. Statewide support for such expenditures seems to exist. The preparation of a statewide trails plan is the first step in developing such a system.

Goals and Objectives to a Statewide Trails Plan

The goal of the plan is to provide organized, comprehensive guidance to future trail developments in Iowa. The following objectives serve to meet this goal:

1. Compile a statewide inventory of existing trails by type;
2. Identify the type and amount of use on existing trails from information sources currently available;
3. Analyze trail programs in other states and investigate their applicability in Iowa;
4. Address trail issues, including but not limited to legal, policy, enforcement, maintenance, resource management, public support, and adjacent landowner reactions;
5. Describe relationships between trails and tourism/economic development including an investment analysis of trail development;

6. Identify development opportunities and priorities for new trails and improvements to existing trails;
7. Review state and federal policies and laws pertaining to trails and recommend, if necessary, policy changes and/or legislation;
8. Provide guidelines for the planning, development, maintenance, and promotion roles of federal, state, county, municipal, and private entities;
9. Determine administrative (staff and funds) requirements for a statewide trails program; and
10. Establish a public participation process to receive input on the development of Iowa's trails program.

6. DES MOINES RECREATION RIVER AND GREENBELT

The Des Moines Recreation River and Greenbelt was authorized by Congress in August, 1985. The Greenbelt has three basic project purposes: (1) recreation; (2) bank stabilization; and (3) environmental enhancement. The Greenbelt study area is along 160 miles of the Des Moines River between U.S. Highways 20 and 92.

The goal of the Greenbelt is to develop and manage natural resources, cultural features, outdoor recreation facilities, and environmental education programs in a manner that makes wise use of land and water resources and that attracts outdoor recreation use and economic development to the area. This goal will be accomplished by coordinating existing and new federal, state, county, and city areas and projects and by linking them to collectively maximize their attraction.

Program Description

The Greenbelt will evolve around 81,924 acres of federally-owned and flowage easement lands associated with Saylorville and Red Rock Reservoirs. 15,841 acres of state land, 6,069 acres of county land, and 1,700 acres of city land are also currently within the study area. Greenbelt development is subject to cost-sharing provisions as outlined in Table 4-2.

Basically, local government is responsible for 50% of the costs for recreation developments and from 0% to 100% of the costs for bank stabilization and environmental enhancement, depending upon land ownership and the project's level of significance (national, multi-state, or single-state).

An advisory committee has been established for consultation with the Corps of Engineers on the Greenbelt. The committee make-up includes:

- A. Five persons appointed by the Governor of Iowa;
- B. Two persons appointed by their respective board of supervisors for each county within the project area;
- C. One person appointed by their respective mayor for each city within the project area; and
- D. Three employees or officials of the Corps of Engineers.

Des Moines Recreational River and Greenbelt
Federal Cost-Sharing Provisions

Project Category	Cost-Sharing (Percent)	
	Federal	Nonfederal
Recreational Facilities	50	50
Streambank Stabilization Structures		
Federal Lands	100	0
Project Lands (for the purpose of:)		
Recreation	50	50
Environmental Enhancement		
National Importance	100	0
Multi-State	75	25
Single-State	66-2/3	33-1/3
Private Lands	0	100
Operation and Maintenance of Existing Structures		
Federal	100	0
Nonfederal	0	100
Environmental Enhancement for Recreational Purposes		
National Importance	100	0
Multi-State	75	25
Single-State	66-2/3	33-1/3

Table 4-2

This membership totals 46 members, which is subject to change as the project area becomes more defined. The committee has elected officers and operates in accordance with established by-laws.

The Advisory Committee has the following roles:

A. Acting as primary decision-makers for recommendations to the Corps with respect to the Greenbelt's development and management. The Greenbelt is considered an Iowa project for which the Corps processes and facilitates Advisory Committee recommendations in the format required to receive Federal funding. However, the ultimate responsibility for the project is vested in the Corps.

B. Generating project ideas for the Greenbelt and establishing a priority list of their implementation.

C. Establishing and maintaining open communications with the constituents they represent while serving on the Advisory Committee.

D. Advising Iowa's congressional delegation of the Advisory Committee's position on Greenbelt issues requiring legislative resolution; provided that Corps of Engineers' members on the Advisory Committee may be excluded from this activity, depending on the particular issue being addressed.

Program Timetable

The Greenbelt project is proceeding under a five-year schedule. The first two years (October 1985 - October 1987) was committed to project planning, including preparing of a plan for Engineering and Design (completed March 1986) and a General Design Memorandum. Periodic public meetings will be held throughout the planning process. Project construction is scheduled for June 1988 to September 1991.

7. COUNCIL OF GOVERNMENTS SECTION

The role that Iowa Areawide Planning Organizations or Regional Councils fulfill, is important to bringing many opportunities to Iowa's towns, cities and counties. Particularly those towns and cities with a small economic base from which to draw public funds that are not capable of hiring full-time planning staffs. The primary goal of the Regional Councils is to serve

local governments and citizens in the region by addressing issues and needs through communications, planning, advocacy, technical assistance and grantsmanship.

Regional Councils are voluntary associations of local governments providing a forum for officials to discuss mutual problems. They help officials identify and prioritize local and regional problems and seek solutions.

All Regional Councils employ a full-time professional staff which performs the actual planning, service delivery and administration activities. Regional Council staff provide assistance to members in developing plans and programs including recreational plans. These organizations provide application and administrative assistance to members requesting federal and state grants and loans.

Of particular interest to the Iowa SCORP, is the assistance Regional Councils provide in the writing and administration of Resource Enhancement and Protection (REAP) applications, recreation plan development and Land and Water Conservation Fund applications.

8. PUBLIC INFORMATION AND EDUCATION PERSPECTIVES FOR RECREATION AND NATURAL MANAGEMENT PROGRAMS

A crucial element in the provision of outdoor recreation to the general public is communicating the availability, the characteristics, the special rules and helpful "how to's," and other pertinent information to the general public. Similarly, in the management of natural resources, a key element to success is a public which is educated in the principles of conservation so that it can support wise or oppose poor public policy. As its name implies, the responsibility of the Information and Education Bureau of the Department of Natural Resources is to fulfill these elements, according to needs identified by I and E personnel and natural resource recreation and resource managers.

To meet these responsibilities, routine activities of the I and E Bureau focus on developing the content and disseminating the products of several informational and educational tools to reach the general public. These program areas include:

INFORMATION

1. Iowa Conservationist magazine -- a monthly, 32-page color publication reaching about 65,000 households (in excess of 200,000 readers); content developed in consultation with operations sections within the department.
2. News release packets -- bi-weekly mailing of between 4 to 12 pages reaching all Iowa media, commission personnel, county recorders and legislators. An average of two individual releases per week are issued electronically to the media.
3. Brochures, posters, handouts -- about 400 are in effect at any one time with annual updates of perhaps nearly 200, covering statewide and local facilities with maps and user rules, "how to," and other information.
4. Weekly Video News Service -- a one-plus minute video story is provided every week to 6 cooperating TV news stations on all aspects of recreation and resource management; also, production of 3 to 5 public service spots annually on critically important agency programs, e.g. chickadee checkoff, park user fee, hunter safety, etc.
5. Our Living Environment -- a weekly, 1-minute radio program provided to about 40 cooperating radio stations, covering all aspects of DNR activities.
6. Newsletters -- bi-monthly, 8-page newsletters have been established on REAP, Environmental Update, energy. Total subscribers number nearly 20,000.

EDUCATION

1. Conservation Education Center -- A modern facility which can accommodate 104 overnight guests with ample indoor and outdoor classroom facilities provides nearly 20,000 visitor days annually. About 15 percent of the visitors are teachers taking in-service training on how to teach conservation in their classrooms (see numbers 2 and 3 below); about 70 percent are students with their teachers using the center's diverse supply of educational programs.
2. Weekend workshops -- Another teacher/naturalist in-service program on various environmental topics conducted at the center; goals are to reach about 200 teachers annually.

4. Aquatic education -- As funded by the expanded Dingell-Johnson program, this activity has developed teacher workshops, teacher materials and student materials covering all aspects of Iowa aquatic ecology and recreational fishing.

9. COUNTY CONSERVATION BOARDS IN IOWA

The purpose (as spelled out in Chapter 111A, Code of Iowa) and goals of Iowa's 99 county conservation boards are similar to the purpose and goals of the Iowa DNR but at a level commensurate with public needs and desires, resource capabilities, and other factors at their respective county levels. The 99 county boards in Iowa manage approximately 100,000 acres of public recreation lands, with a total annual budget of nearly \$19 million.

Iowa's County Conservation Boards provide an effective leadership role in conservation and recreation issues at the county level. Each county board provides wildlife habitat and park management, sponsors such activities as outdoor interpretive programs, canoe or cross country ski trips, wildlife habitat demonstration projects and other similar endeavors. County conservation boards are very active in securing funds through state and federal conservation and outdoor recreation grant programs. Examples of these programs include Resource Enhancement and Protection (REAP), Land and Water Conservation Fund, State Recreation Trails Program, Wildlife Habitat Stamp Fund, Snowmobile Trail Fund, etc.

Significant Trends

1. Continuing increases in outdoor interpretive programming.
2. Continuing decrease in land acquisition and major new facility development prompted by budget limitations except for, critical habitats, trails and river corridors. However, REAP has allowed CCB's to continue to pursue land acquisition and major new facility development. There is a priority for managing and maintaining existing areas and facilities and for developing new programs to maximize public benefits from those areas and facilities.
3. Review of program scopes by counties, with a likelihood of reductions as funds become limiting.

4. Growing emphasis on professionalism of staff and the development/use of outdoor resource standards.
5. Increased emphasis on a variety of public relation programs to improve communications with special interest groups, recreational users and landowners.
6. Consolidation/cooperation amongst groups of counties (and cities within those counties) in order to maximize benefits from each dollar spent and to avoid/eliminate costly duplication of efforts.
7. Continuing increases in integrated roadside vegetation management programs.

Serving as they do at the "grassroots" level, county conservation boards are in a position to assess their resource base, measure public needs within the county and ascertain where their programs and those of cities and the state can compliment each other.

The task of developing state-level programs that conveniently mesh with all 99 county programs is difficult if not impossible. However, it is essential that ongoing coordination be continued and that the public inputs at county levels be properly interpreted and applied in the design of programs to meet high priority needs.

10. SNOWMOBILE TRAIL PROGRAM

In 1970, the Iowa General Assembly passed Chapter 321G which established a state snowmobile law and registration fee. This legislation was encouraged by the snowmobilers of Iowa, as well as the State Conservation Commission (now the Iowa DNR), and provided funds to begin developing a snowmobile system for Iowa's public.

The snowmobile law establishes several responsibilities for this program to the DNR. The primary responsibility for snowmobile law enforcement and safety programs is handled by the Law Enforcement Bureau of the DNR. The recreation safety program coordinator is responsible for certifying snowmobile safety instructors and for providing printed material for training programs. The DNR is also responsible for final certification of people who pass both the instructor and the snowmobile safety training program. The License Bureau of the DNR provides registration materials to the county recorders' offices, and county recorders must submit information

to the Bureau on a monthly basis for registrations taken at the county level. The state also provides a methodology for creating and signing snowmobile trails on state-owned lands such as parks, recreation areas, forests, and wildlife areas on a limited basis.

The Parks, Recreation, and Preserves Division and the Forests and Forestry Division of the DNR currently provides snowmobiling opportunities in 55 state parks, recreation areas, and forests. Staff construct, groom, clear, and maintain trails and bridges designed to accommodate snowmobiling. They also patrol trails and enforce regulations and provide information to snowmobilers. One goal is to maintain services and facilities for snowmobilers on state lands to meet demand. This goal will be accomplished by constructing trails and allowing snowmobile use on land and waters wherever such use can be accommodated without negative impact on natural resources and other users.

Another method for achieving this goal will be to work cooperatively with governmental subdivisions and other organizations to connect public land trails by acquiring access across private land. This will include cooperative agreements in which trail grooming and maintenance is shared by division staff and other organizations. This cooperative effort is critical to the long-range success of the state's trail program.

The Parks, Recreation and Preserves Division of the DNR also administers a grant program with governmental subdivisions and private incorporated organizations which provide money for snowmobile trail acquisition, development and maintenance. Approximately \$200,000 per year is granted and used on 5400 miles of trail on public and private land.

Snowmobile funds used by the Division go for a variety of purposes. Some funds are used to acquire trail grooming equipment, needed to groom trails on state areas. In addition, snowmobiles are acquired for those park rangers in the major snow belt of Iowa (generally considered as the northern three or four tiers of counties) and in parks that have identified trails for law enforcement and safety purposes. Funds are also used to annually construct trails and bridges in parks, recreation areas, and forests. A strategy for the next five years is to coordinate off-property development, grooming, patrol, and user services to connect state land trails with trails provided by other governmental subdivisions. This approach will tie the major state parks in the snow belt of Iowa into an extensive interconnected trail system provided by local government subdivisions.

On January 1, 1990, a registration fee was instituted for the use of all-terrain vehicles on public lands. This money is placed in a dedicated account. The department's law enforcement bureau enforces ATV laws and coordinates a safety program. The Parks, Recreation and Preserves Division administers a grant program with governmental subdivisions and private incorporated organizations which provides money for ATV area land acquisition, development and maintenance. One area was funded in 1990 and two additional areas are in the planning process.

11. WATER ACCESS PROGRAM

The Water Access Program is a high priority within the DNR. The intent of this program is to improve existing access areas and acquire and develop additional public access areas on Iowa waters. Long range plans for public access to Iowa waters call for at least one public access for every five river miles, and access to public lakes as needed. A full-time position within the DNR, called the Water Access Coordinator, oversees all aspects of the water access program.

The Iowa Marine Fuel Tax Fund provides the primary funding source to carry out this program. Additional Federal funds may also be used to provide matching funds to these state monies.

The DNR also administers a cost-share program to fund water access developments jointly with political subdivisions. Iowa Marine Fuel Tax dollars are used to fund 75% to 100% of the cost of these projects. Chapter 30 of the Iowa Administrative Code provides details of this cost-share program.

The Water Access Program includes both acquisition of land and the development phases for projects. Included in water access development projects are roads, parking areas, boat ramps, rest rooms, docking, lighting, and other facilities and improvements needed to provide access to water-related recreational activities.

The Water Access Program Committee uses Fisheries Bureau's supervisors located around the state as the field liaison to help establish priorities for projects, classed either as new access areas or improvements to existing access areas. The DNR may enter into appropriate 28E or other management agreements with local sponsors, primarily county conservation boards, to operate and maintain many of the access areas to be developed.

12. PARK AND INSTITUTIONAL ROAD FUND PROGRAM

The Department of Natural Resources is one of the state agencies that qualifies for a portion of the road use tax funds that are allocated to the Park and Institutional Road Fund. Each year DNR staff members meet with Department of Transportation personnel to determine the needs for the construction, rebuilding, improvement, and maintenance of state roads located at institutions or state parks throughout the state.

The Iowa Code allows 0.65 percent of the road use taxes to be placed in the primary road fund for use in the Park and Institutional Road Fund. This monthly transfer of funds is allocated by the Department of Transportation to the various agencies who administer roads which qualify under this program. Agencies beside the DNR include the Department of Human Services, State Department of Adult Corrections, State Board of Regents, State Department of Public Instruction (merged area schools), State Fairgrounds, and Iowa National Guard (Camp Dodge).

Individual agency needs are based on the most recent quadrennial highway needs study conducted by the DOT. Allocations to agencies are guided by the ratio that the needs of each agency's road system is to the total needs of the agencies. To qualify for funding, a road or street must be wholly within the boundaries of state lands operated as parks or institutions, and be open to the public for vehicular traffic. Jurisdiction and control over the road is vested in the park and institutional agency.

The procedure is for estimates and projects to be considered based on a five-year period with one additional year added each year. In the past, the Iowa DNR has received 45 percent of the total. Based on the new quadrennial study for the next three years, the DNR will receive 50 percent of the total.

A principal emphasis is placed on ensuring that existing gravel roadways are surfaced in order to enhance visitor safety, convenience and enjoyment. This emphasis is not at the expense of other needed projects or activities. High priority areas for new road system development include, for example, the Mines of Spain, Brushy Creek, and Volga River State Recreation Area.

13. MISSISSIPPI AND MISSOURI RIVER COORDINATION

Upper Mississippi River Environmental Management Program (EMP)

The EMP was authorized in Section 1103 of the Water Resources Development Act of 1986 (PL 99-662)). Congress has authorized annual apportionments of \$20 million annually for ten years. EMP has not reached full funding since inception but Congress has appropriated more each year since 1986. Presently before Congress, is a request to extend the life of the EMP another ten years. In general, the purpose of the EMP is the maintenance of the Upper Mississippi River as a commercial navigation channel while maintaining the integrity of fish and wildlife resources, and recreation opportunities.

The EMP consists of five components as identified below and in Table 4-3:

- * Habitat Rehabilitation and Enhancement Projects
- * Long-Term resource Monitoring
- * Recreation Projects
- * Recreation Economic Studies
- * Navigation Monitoring

Almost 97 percent of the funding Congress authorized is targeted for habitat projects and resource monitoring. Funding for the navigation monitoring component was authorized to be appropriated as needed.

**Upper Mississippi River
Environmental Management Program
Cost-Sharing Ratios**

Purpose	Federal	Nonfederal
	(in percent)	
Recreation Project Development	50.0	50.0
Habitat Rehabilitation and Enhancement	50.0	50.0
- National Benefits	100.0	0
- Benefits, Multi-State	75.0	25.0
- Benefits, Single State	66.6	33.3
Long-Term Resource Monitoring	100.0	0
Recreation Economic Assessment	100.0	0
Navigation Traffic Monitoring	100.0	0

Table 4-3 Source: General Design Memorandum, 1987

Program Components:

Habitat Rehabilitation and Enhancement - Consists of fish and wildlife projects that restore and improve habitat. As sedimentation, resulting from agricultural practices, residential and commercial development, and highway construction, is the chief contributor to habitat degradation, most projects involve removal of existing silt and the prevention or slowing down the rate of future sedimentation.

Sedimentation can destroy spawning areas, decrease light penetration to aquatic plants, and fill-in shallow areas. Examples of projects that deal with the sedimentation problem include:

- * Dredging to remove sediment from selected backwaters and side channels and to restore habitat.
- * Constructing dikes and levees to keep silt-laden water out of prime habitat for aquatic plants and animals.
- * Opening or closing side channels to maintain the flow of water to these side channels and backwaters.
- * Modifying wing and closing dams to restore main channel habitat.
- * Developing aeration and water control systems to improve habitat quality.

Each project is closely monitored to refine techniques and to ensure optimal results. Analysis of projects will help in the design of similar projects in other areas of the river.

Long-Term Resource Monitoring - Addresses the problem of the need to make tough resource management decisions where base line data is incomplete or absent through data collection, analysis, and integration.

Six field stations located on the Upper Mississippi and Illinois Rivers are collecting data on water quality and sediments, fisheries, vegetation, and other river resources. Other monitoring efforts assess the effects of such local activities and events as barge fleeing, chemical spills, and clam die-offs.

The data collected and models generated will provide the kind of reliable information needed to make sound management decisions for the future of the Upper Mississippi River System.

Recreation Projects - Recreation on the Upper Mississippi River System is as varied as the river itself. Millions of people visit the river every year to participate in boating, fishing, swimming, or simply enjoying the river's beauty. The recreation projects program is intended to promote the diversity and availability of river-based recreation. Example projects may include; construction of boat accesses, bank fishing, beaches for camping, picnicking and swimming.

As of this date funds have not been authorized for recreation projects. It is hoped that funding in later years of the EMP will allow for the development of much needed projects.

Recreation Economics - It is clear that recreation is important to the economies of many communities along the river system. The magnitude and distribution of benefits of river-based recreation is not clearly understood. Congress authorized a recreation economics study as part of the EMP to provide this type of information. This study is in the early stages of development.

By surveying people who utilize the river for recreation, the study is designed to measure the amount and kinds of recreation activity connected to the river and the amount of spending associated with that activity.

Navigation Monitoring - Most of the locks and dams, built more than fifty years ago, are in need of repair, modification or replacement. At the same time the infrastructure is aging, river traffic, both commercial and recreational, is expanding.

Congress recognized that sound decisions about the future of navigation on the river system will require substantial capital and should be based on sound information. Funds authorized for traffic monitoring as part of the EMP will be used to study traffic movement, system capacity, and future growth. The navigation studies will also help provide the information that is necessary to assure balanced management between navigation needs and resource integrity on the river system.

Nowhere else in the country does a waterway serve both as a system of major national wildlife refuges and a commercial navigation system. Add to this its role as a significant recreational resource, source of public and industrial water supply, power plant cooling, and wastewater treatment facilities. In addition, five National Wildlife Refuges (the Upper Mississippi River National Wildlife and Fish Refuge, and

the Mark Twain, Trempealeau, Minnesota Valley, and Chautauqua National Wildlife Refuges) encompass more than 280,000 acres of wooded islands, water, and wetlands.

A truly unique partnership has been created among the participants in the EMP. Congress placed federal management responsibility for the program with the U.S. Army Corps of Engineers. The Corps is required to coordinate with the U.S. Department of Interior, the Upper Mississippi River Basin Association, and the five states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin.

The North Central Division of the Corps manages the program and is guided in its policies by the Office of the Chief of Engineers.

Three local Corps Districts, St. Paul, Rock Island, and St. Louis, manage the habitat projects within their boundaries and work directly with the states on individual projects.

The U.S. Fish and Wildlife Service within the Dept. of Interior administers the Long Term Resource Monitoring component of the EMP. In addition, the Service participates fully in many projects developed on National Wildlife Refuge lands.

The five states actively screen, recommend, and develop habitat projects. Many projects involve state and local cost sharing with the federal government, further emphasizing the partnership approach of the EMP. State biologists also work at the Long Term Resource Monitoring Program's six field stations.

GREAT Implementation

The Corps of Engineers, in conjunction with the U.S. Fish and Wildlife Service, the Upper Mississippi River Basin Commission, and member states completed the Great River Environmental Action Team (GREAT) studies in the early 1980's. This multi-discipline, multi-year effort investigated various areas of river management, but concentrated on how the Corps of Engineers could conduct its channel maintenance activities with minimal negative environmental impacts; and in some instances, with positive environmental impacts. Recommendations and techniques of the GREAT studies have been incorporated into the Corps' channel maintenance program on the Upper Mississippi River. The state of Iowa actively participates in GREAT implementation through membership on various interagency coordination groups. These coordination groups are:

1. **River Resources Forum (RRF)** in the St. Paul District, Corps of Engineers which is responsible for monitoring and making recommendations for GREAT implementation for the river between St. Paul, Minnesota and Guttenberg, Iowa;

2. **River Resource Coordinating Team (RRCT)** in the Rock Island District, Corps of Engineers which is responsible for monitoring and making recommendations for GREAT implementation for the river between Guttenberg, Iowa and Saverton, Missouri; and

3. **On-Site Inspection Teams (OSIT)** which make site-specific dredged material placement and associated mitigation recommendations for individual dredging occurrences.

The St. Paul District, Corps of Engineers, through the River Resource Forum and On-Site Inspection Team, prepared a Recreation Beach Development Plan (June 1985) for Pools 9 and 10 of the Mississippi River. This plan makes recommendations for enhancing and maintaining recreational beach use opportunities through the use of channel maintenance dredged material in a way that minimizes adverse environmental impacts, reflects sound engineering design, and is operationally practical and implementable. Implementation of this plan commenced where feasible during the 1986 dredging season and continues today.

There are two other organizations involved in the exchange of information and management ideas.

Upper Mississippi River Conservation Committee (UMRCC)

The UMRCC is primarily made up of fish and wildlife biologists, recreation managers and planners, and law enforcement personnel whose responsibilities and work assignments include the Mississippi River. The UMRCC is the most technical of the Mississippi River coordination groups. It has the following objectives:

1. To develop and maintain open communications on Mississippi River management among the fish, wildlife, and recreation agencies in the states of Iowa, Illinois, Minnesota, Missouri, and Wisconsin.
2. To promote the preservation, rehabilitation, and wise utilization of the natural and recreational resources of the Mississippi River between St. Paul, Minnesota and Cairo, Illinois;

3. To formulate policies, plans, and programs for carrying on cooperative surveys, studies, and resource management for the above-stated purposes; and

4. To publish and distribute reports pertaining to fish, wildlife, recreation, and law enforcement on the Upper Mississippi River.

Upper Mississippi River Basin Association (UMRBA)

The Upper Mississippi River Basin Association is a nonprofit organization formed by the states to facilitate dialogue and cooperative action with regard to water and related land resource issues. More specifically, the Association strives to:

1. Provide a regional interstate forum for the discussion, study, and evaluation of water resource issues of common concern to the states of the Upper Mississippi River Basin.
2. Facilitate and foster cooperative planning and coordinated management of the region's water and related land resources.
3. Provide opportunities and means for the states and federal agencies responsible for water resources management in the Upper Mississippi River Basin to exchange information; and
4. Develop regional positions on major water resource issues and serve as advocate of the states' collective interests before Congress and the federal agencies.

The Association is neither a planning organization nor a regulatory agency. Rather, the Association provides a forum for the states to discuss technical and policy issues and provides an arena for information exchange. As a unique partnership among the states, the Association provides an effective regional influence upon policies ultimately formulated in Washington. It also provides the states with technical, policy, and legislative information to assist them in developing their own individual water resource programs and policies. The Association's decision-making process, based on consensus, ensures that its policy reflects the entire spectrum of interests represented by its membership. Thus the Association is a unique and credible voice for the states on issues of mutual concern.

Missouri River Fish and Wildlife Mitigation Plan

The Corps of Engineers' Missouri River Fish and Wildlife Mitigation Plan, May 1981, recommends the preservation or restoration of 3,200 acres of water area (3.2% of the losses) and 44,900 acres of land area (10.6% of the losses). The amount of mitigation in each individual state will likely be proportionate to the amount of losses. The state of Iowa recognizes that the recommended mitigation level is a very small percentage of the losses, but it will at least constitute a positive step toward retrieving some Missouri River fish, wildlife, and recreation resources.

The Mitigation Plan was forwarded to the Secretary of the Army's office on May 3, 1984. The secretary's office and the Congress are currently reviewing the plan. To date, \$51.9 million has been authorized by congress but none has been appropriated for construction projects. Planning funds have recently been provided and project plans are being developed. The Definite Project Report for Louisville Bend in Iowa is in the early stages of development.

14. ENVIRONMENTAL AGENDA FOR THE 1990'S

In 1989, Governor Branstad desired an intensive effort be made to acquire public input to assist in developing Iowa's Environmental Agenda for the 1990's. The Governor's office and the Iowa Department of Natural Resources (DNR) developed a process to receive public input into developing this Environmental Agenda. The process basically involved: (1) formulating a committee with comprehensive representation to identify and describe potential agenda items; and (2) conducting public meetings throughout the state to receive responses to the committee's items and to receive recommendations for additional items. DNR staff provided technical and administrative assistance to the committee and conducted the public meetings on behalf of the committee.

The overall goal of the public input process was to identify the 15 most important environmental issues in Iowa for submission to Governor Branstad to help develop his Environmental Agenda for the 1990's.

Mechanisms to accomplish the environmental agenda had not been predetermined. Legislative actions, budget and staff allocations, administrative rules and regulations and executive order are mechanisms that may be employed. Actual mechanisms employed will depend on the agenda item, needed action and desired results.

Seventy-five (75) persons were invited to voluntarily serve on the Environmental Agenda for the 1990's committee. People were sought to represent the following areas of interest:

- (1) Agriculture/Industry
- (2) Environment/Conservation and
- (3) Government

Twenty-five (25) people were invited from each of these three areas in an attempt to have at least 15 active participants. Response to the invitations was exceptional resulting in a total of 64 committee members for an average of 21 members from each area of interest. This was the first indication of the high public interest in helping establish an environmental agenda. The committee was organized into 3 subcommittees, delineated by the 3 areas of interest. Subcommittee appointments were made based on area of expertise and professional involvement.

Thirteen (13) public meetings were held statewide over a two week period. Attendance at these meetings ranged from 30 to 160 persons, totalling nearly 1,000 attendees. The purpose of the meetings, to present the committee's potential agenda items, allow public input on those items and provide the opportunity for public recommendations on other environmental issues, was successfully realized.

Of the fifteen (15) environmental issues submitted to the Governor, one is of particular importance to the 1990 Iowa SCORP, the issue of Open Space Protection Funding.

Selected comments from the public meetings include:

- Support for stable, and in some cases, increased funding for environmental protection of open spaces was indicated at most public meetings.
- Support was expressed for increased roadside management efforts other than spraying and mowing and increased roadside native vegetation planting.

- The Open Spaces Plan received support by name in the majority of public meetings.
- Expanding efforts to acquire abandoned railroad ROW was supported in many public meetings.
- Support was expressed for establishment of a national park in the Loess Hills.

The action statement submitted to the Governor for the Open Spaces Protection Funding issue is: "Provide stable long-term financing commensurate with interim goals for preservation of open spaces, REAP roadside management, trails, protected water areas, reforestation, wetland protection and restoration and native prairie vegetation planting directed at both public and private lands."

15. TRANSITION PLAN 504

Handicapped people are guaranteed specific rights in federally funded programs and activities under Section 504 of the Rehabilitation Act of 1973 (PL 93-122), as amended (PL 93-516, PL 95-602). All recipients of federal funds must review and, if necessary, modify their programs and activities so that discrimination based on disability is eliminated.

In essence, the programs and facilities of recipients of federal funds must be readily accessible to and usable by persons having a disability, including mobility, visual, hearing or mental impairments. Section 504 further defines a "handicapped person" to mean any person who has a physical or mental impairment which substantially limits one or more major life activities, has a record of such impairment, or is regarded as having such an impairment.

The Department of Natural Resources is committed to ensuring that disabled persons have the opportunity to participate in and benefit from its programs, services and activities. To reaffirm this commitment and to meet the requirements set forth by Section 504, the Department has examined its policies, programs activities and facilities to identify problems of inaccessibility and potential discrimination toward disabled or handicapped individuals. This examination was conducted as a "Self-Evaluation" of employment/administrative practices, programs and facility accessibility.

Employment and Administrative Practices

The Iowa Department of Natural Resources has instituted several actions to ensure equal and fair opportunity and treatment for individuals with handicaps. The Department is required by law to have an Affirmative Action Plan. A specific section of the plan pertains to affirmative actions for disabled individuals, including recruitment procedures, programs in state government, employment criteria, reasonable accommodations, etc. Upon assessment/determination of individual needs the Department will, within reason, remove on-the-job physical barriers which will interfere with a disabled employees' ability to perform his or her job.

As a recipient of federal funds, the Department is required to provide assurance that it will comply with Civil Rights requirements in its development and research projects. As the administrative liaison of federal funds to local governmental entities, it is the responsibility of the Department of inform each recipient of its duties and responsibilities to comply with Civil Rights requirements.

The Department is required to provide continuous notification to the public regarding its policy of non-discrimination and its procedures for filing complaints. The Department proclaims its policy and procedures through its printed publications, park brochures, program materials, posters, permit applications and registration forms.

Program Accessibility

Achieving "program accessibility" is the key to compliance with Section 504. Park and recreation agencies, like the Iowa Department of Natural Resources, are required to "operate each program or activity so that a program or activity, when viewed in its entirety, is readily accessible to and usable by handicapped persons." Furthermore, a major objective of Section 504 is that programs be accessible to disabled persons in the "most integrated setting appropriate." In most instances, with few or possibly no adjustments at all, this setting will be the same as that for the non-disabled person. The intent is to keep the segregation, separation or different treatment of disabled persons, except when necessary to ensure program participation, to a minimum.

"Facility accessibility" is one method in Achieving program accessibility. However, it is important to note that emphasis is on making programs accessible. Section 504 does not mandate the alteration of existing facilities or the construction of new facilities just to accommodate the disabled. Only where there is no other feasible means to achieve program Accessibility are structural modifications to existing facilities required. However, in instances of new construction and alterations of existing facilities for reasons other than Section 504 and achieving program accessibility, structural accessibility must be provided.

Most people view "handicapped accessibility" in terms of physical access to a site or facility, typically by a person confined to a wheelchair. True Accessibility extends beyond the important considerations of physical barriers. The disabled person must have the same opportunity as other people to enjoy what is there. Accessibility to programs includes being able to physically use a site or a facility and, to enjoy and benefit from the experience of participating in the program, service or activity.

As a means of improving program Accessibility, the Department has conducted a facility inventory and evaluation to assess the Accessibility of parks and recreational sites. This inventory compiled data on buildings and the physical support necessary to use them such as restrooms, dining halls and showers, walkways gradients and it assessed various recreational areas such as shoreline fishing access. At the time of the survey, the facilities were placed in one of four categories, A through D. Category A facilities were accessible to handicapped individuals; category B facilities would be accessible with minor modifications; category C facilities could be accessible but only with major modifications; and category D facilities represented those facilities where modification is not practical.

The Department of Natural Resources recognizes that existing accessibility does not completely accommodate the needs of the handicapped. Recognizing these deficiencies, the Department can ensure that every program and activity is sensitive to the needs of the handicapped and that these program deficiencies are being and will continue to be corrected in a timely manner.

16. PROTECTED WATER AREAS PROGRAM

The Protected Water Area (PWA) program was initiated in 1978 with preparation of the statewide Iowa Protected Water Areas General Plan to guide the programs' development and implementation. This plan was completed in 1981, approved by the Department of Natural Resources and submitted to the state legislature. The legislature enacted the PWA law in 1984.

The basic purpose of the PWA program is to establish a system for designating portions of selected lakes, rivers, streams and marshes for the purpose of preserving, protecting and enhancing outstanding natural and cultural resources of water and associated land areas. Associated land areas are defined as:

1. A minimum of fifty foot buffer strip on each side of the river.
2. Adjacent natural areas such as woodlands, wetlands, prairie and scenic geologic features.
3. Areas of historical and archaeological significance.
4. Other areas whose visual degradation would adversely impact the scenic qualities of the river corridor.

Areas designated PWA's will be cooperatively managed by the people and agencies owning land along the selected lakes, rivers and/or marshes. The Department of Natural Resources provides leadership and coordination for those property owners who are interested in assuring that their land next to the water resource will look much the same in the future as it does today. This coordinated management will be accomplished through agreements between the landowners and the DNR. Agreements can be in the form of easements, leases, property tax breaks or state preserve dedications. Land may also be acquired by the DNR from willing sellers. The actual method(s) used will depend upon the landowners' individual interests and preferences and upon the specific resources identified for protection. The primary goal of PWA designation is to maintain and enhance the river valley, lake or marsh basin's natural and cultural resources for future generations. Resources of primary interest include water, soil, vegetation, fish, wildlife, geological features, historical elements and archaeological sites.

The long-range goal of the PWA program is to designate and protect at least one example of a natural water area in each of Iowa's seven landform regions. This accomplishment will assure that natural water areas throughout the state are represented in the program. Initial investigations of potential water areas for inclusion into the program identified that the Loess Hills landform region in extreme western Iowa lacked water resources the program is designed to protect.

Specific objectives of PWA designations are to:

- * Protect and perpetuate the existing natural and pastoral character of the area's landscape.
- * Promote public health, safety and general welfare by preventing scenic and environmental damage to the area's outstanding water and associated land resources that might otherwise result from undesirable development patterns.
- * Protect and enhance specific water and riparian environments in a manner which ensures continued fish and wildlife propagation.
- * Maintain and improve water quality.
- * Preserve natural, cultural and scenic features which enhance recreational and educational experiences within the area.
- * Maintain the natural, free-flowing character of the river.
- * Develop and implement recreational use guidelines aimed at directing human use of the area in a manner to ensure: resource protection, observance of landowners' rights and enhancement of quality recreational experiences.
- * Coordinate management with associated programs of other local, state and federal agencies and private organizations in a manner that will provide comprehensive, complimentary protection of the area.

The intent of the Protected Water Areas Program and its implementation overlaps with a renewed emphasis and directives for open space protection from the Iowa Legislature. Most notably, the Iowa Open Spaces Plan which has been submitted as a supplement to the SCORP and the Resource Enhance-

ment and Protection (REAP) program. REAP is described earlier in this chapter of the 1990 SCORP. REAP is the source that, for the first time, provides significant funding for implementing the Protected Water Areas Program.

Figure 4-1 identifies those rivers, lakes and marshes that were identified as possessing the resources and characteristics for inclusion in the Protected Water Areas Program. Master Plans must be prepared on any water area prior to its inclusion in the PWA system. These plans will document the resources to be protected, identify the methods for protecting those resources and outline the staffing and funding required to implement the plan.

The public's response is always important to consider when developing any new government program. More specifically, the cooperation and support from the local public and potentially-affected landowners are particularly important for a land-use project such as the PWA program. At a minimum, there will be a public hearing held at the time of prospective PWA designation in the vicinity of the water area and another public hearing held on the completed management plan also in the vicinity of the water area at least thirty days prior to permanent designation.

As of this date, five PWA's have been designated.

Boone River - The Department of Natural Resources recognized the Boone River, in Hamilton County, from Webster City to the Des Moines River as one of Iowa's most scenic free-flowing rivers (see Figure 4-2). As such, this segment of the Boone River was the first to be designated as a PWA in 1985. The designated area includes 25 miles of river and 6,338 acres of land, of which 5,180 acres are publicly owned. Since designation, but prior to enactment of REAP, there had been three permanent conservation easements negotiated along the Boone River PWA. These easements total 25 acres and are valid in perpetuity. Since significant funding has become available through REAP for the PWA program, two separate acquisitions totaling 590 acres have been completed using REAP funds.

IDENTIFIED POTENTIAL PROTECTED WATER AREAS

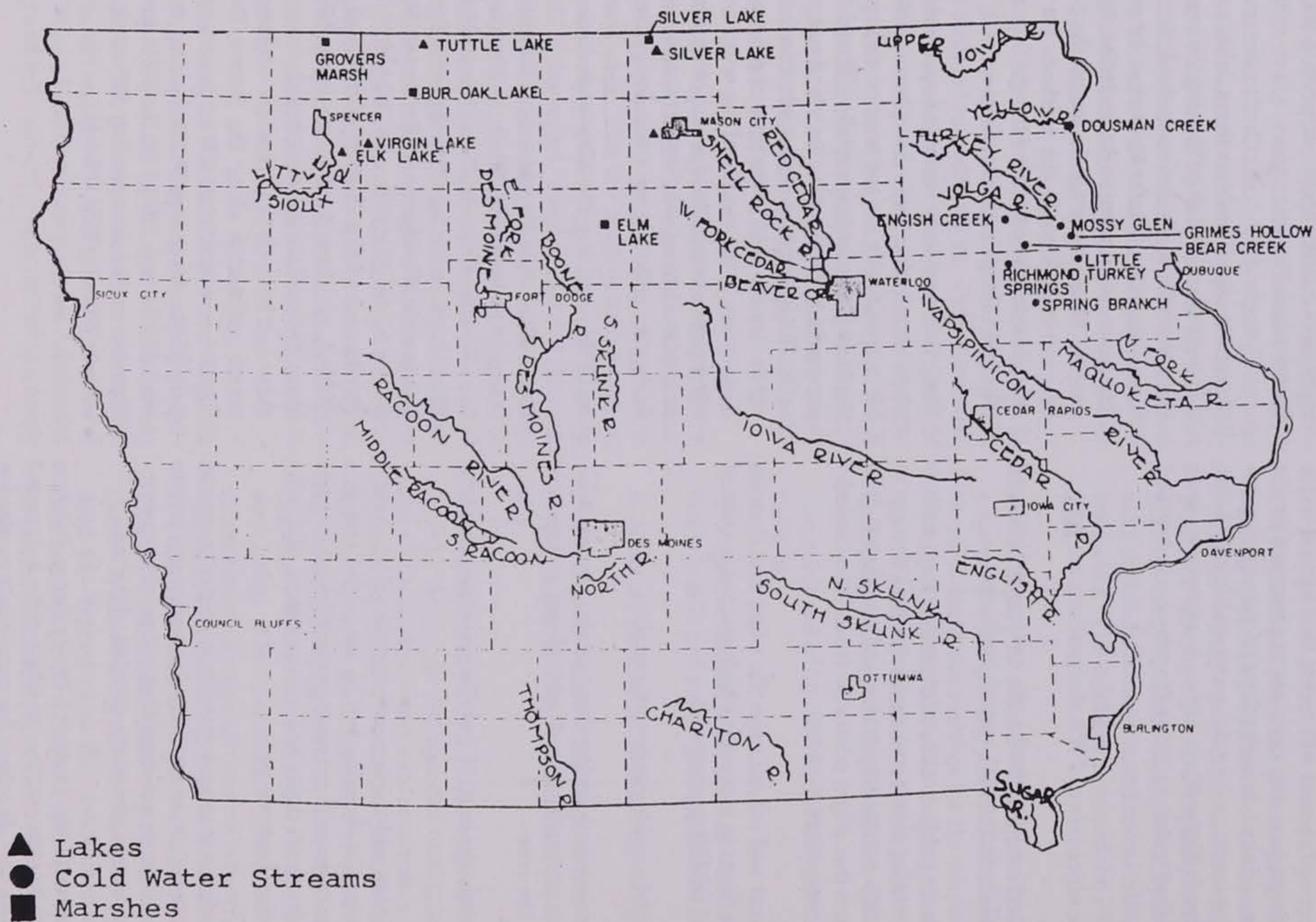


Figure 4-1

BOONE RIVER PROTECTED WATER AREA

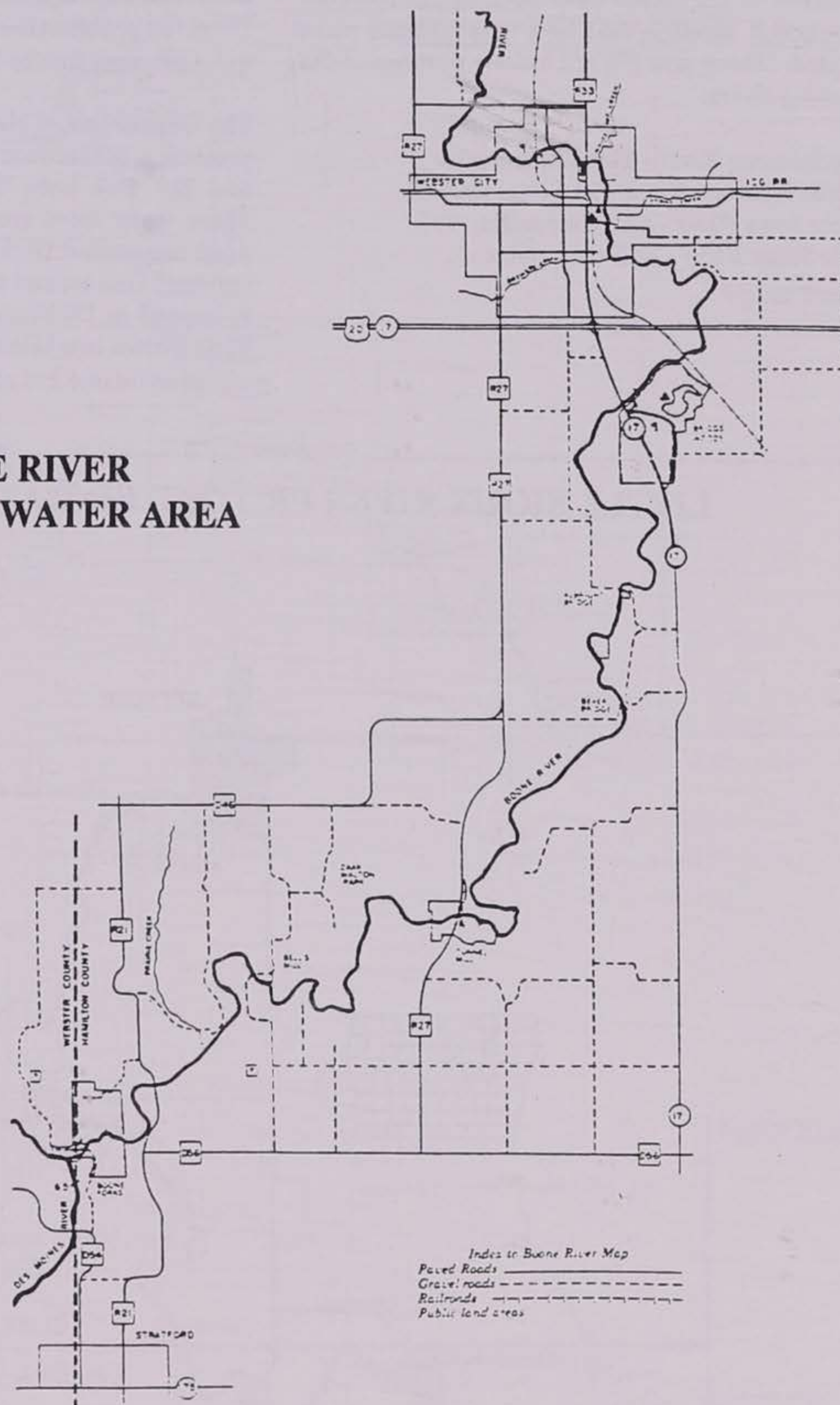


Figure 4-2

Since significant funding for the PWA program has become available through REAP, four additional Protected Water Areas have been designated (see Figures 4-3 through 4-6) and management plans adopted. These new PWA's include portions of the following rivers:

Wapsipinicon River - 177 river miles
 Middle Raccoon River - 14.6 river miles
 Upper Iowa River - 64.2 river miles
 Little Sioux River - 34.5 river miles

Using REAP funds, 98 acres have been acquired in Buchanan County and 68 acres in Guthrie County. Both land acquisitions involved willing sellers as the PWA Act prohibits the use of eminent domain to acquire property for the PWA program.

The Department of Natural Resources has afforded protection similar to that of a PWA to Grovers Lake and Bur Oak Lake through fee title acquisition. These water areas are identified on Map 4-1. 502 acres acquired at Grovers Lake includes both water and land area around the lake. The acquisition area is located in Dickinson County however, the lake itself crosses into Minnesota. The Bur Oak Lake acquisition totaled 216 acres in Emmet County.

LITTLE SIOUX RIVER PROTECTED WATER AREA

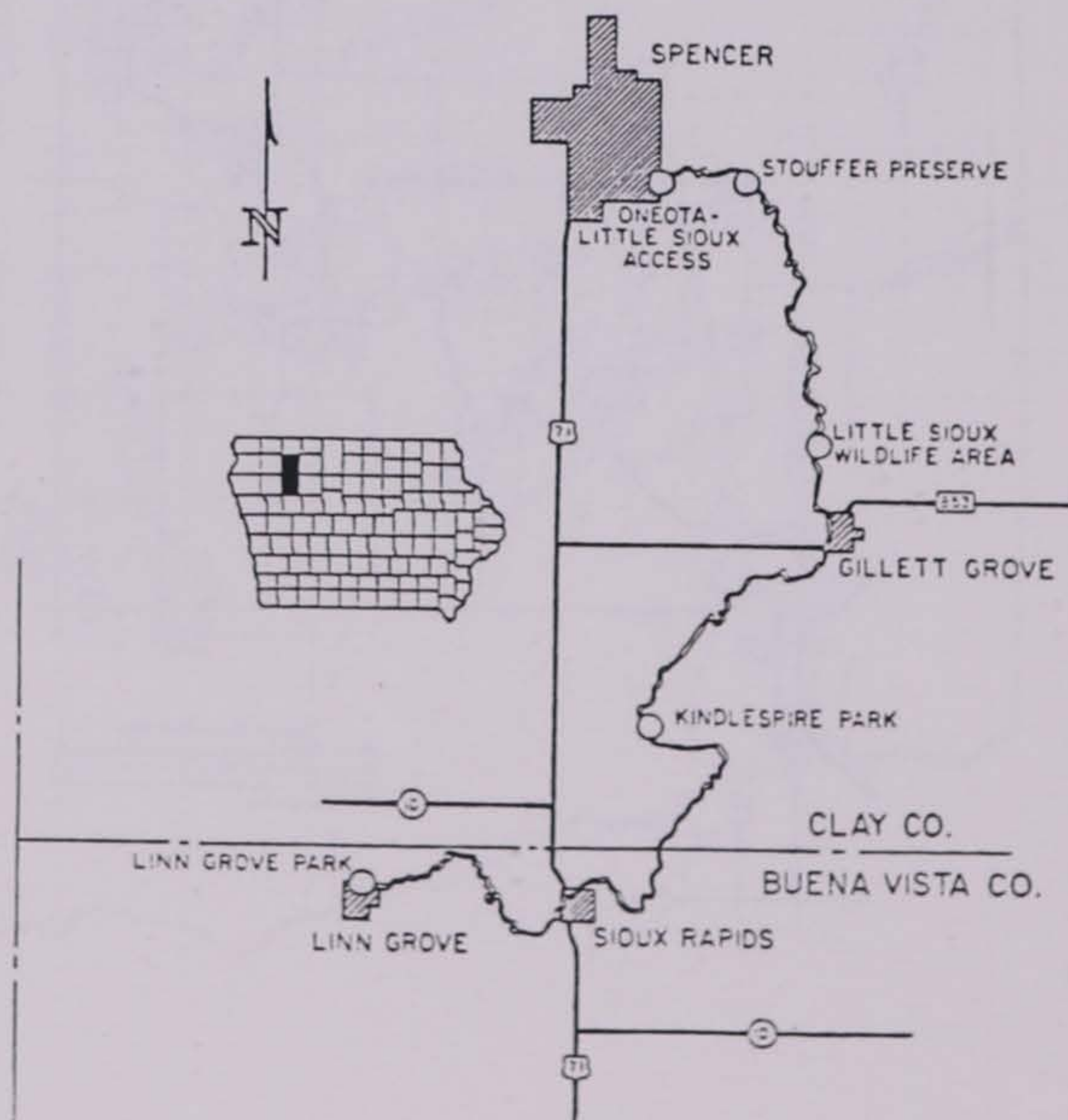


Figure 4-3

WAPSIPINICON RIVER PROTECTED WATER AREA

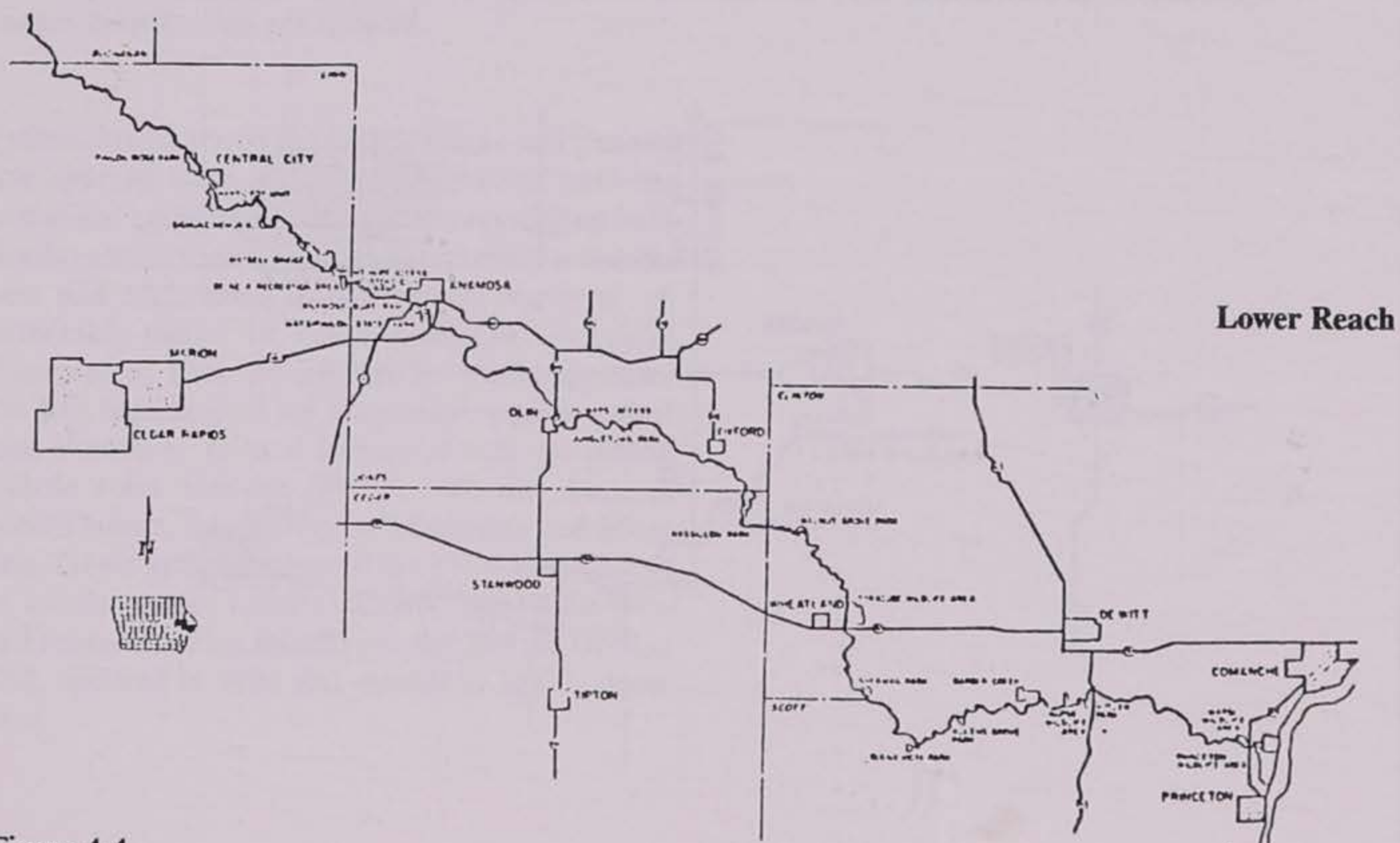
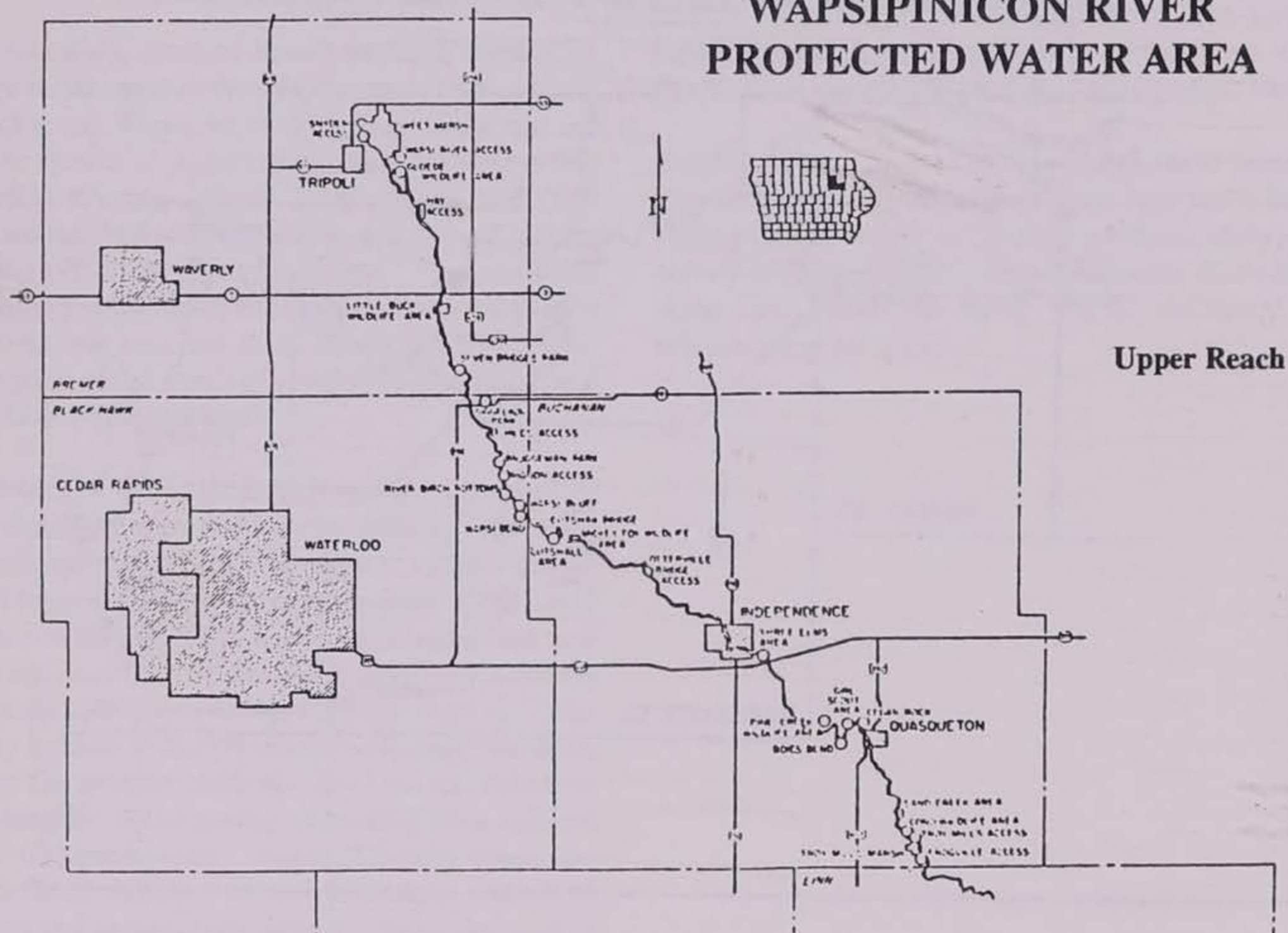


Figure 4-4

UPPER IOWA RIVER PROTECTED WATER AREA

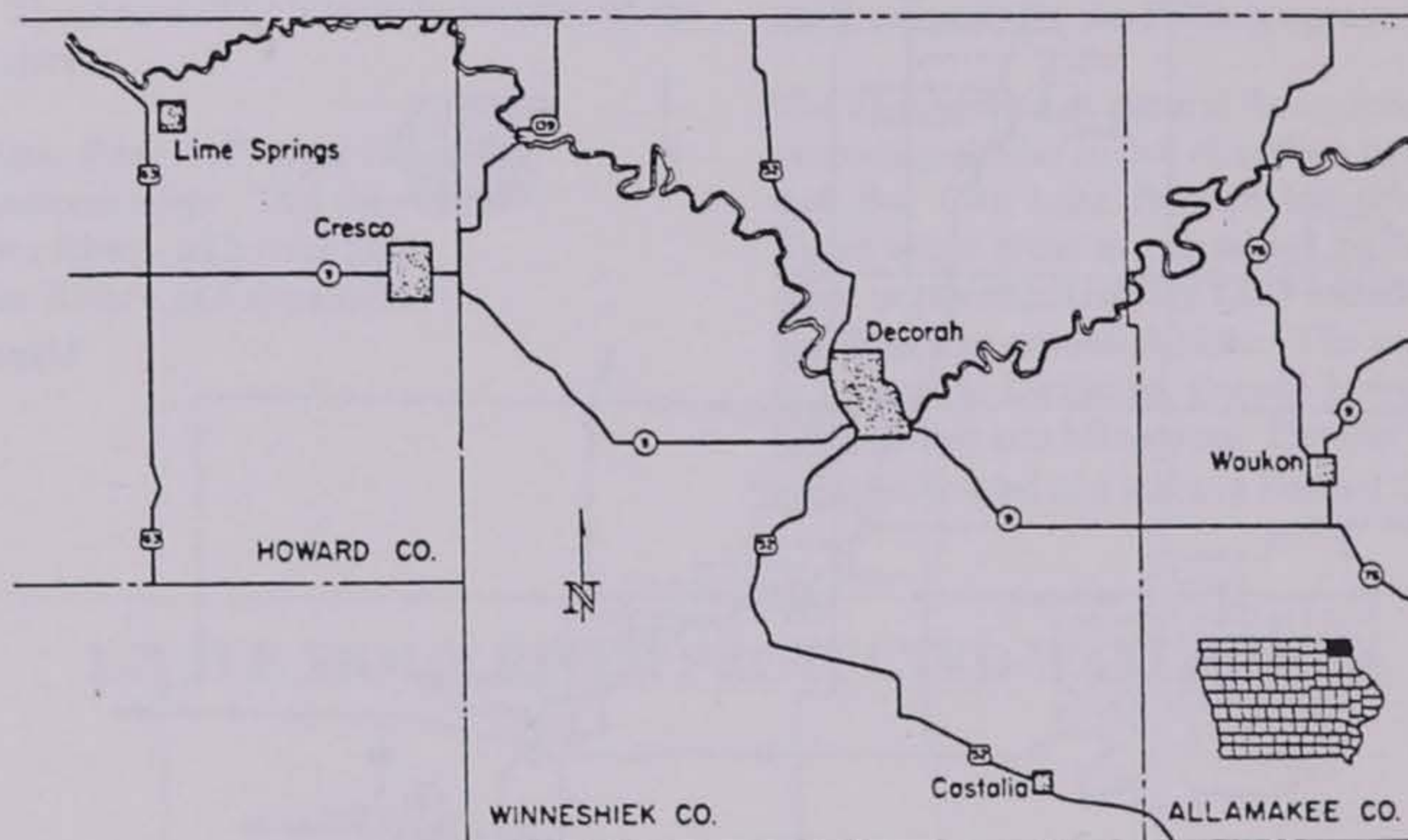


Figure 4-5

MIDDLE RACCOON RIVER PROTECTED WATER AREA

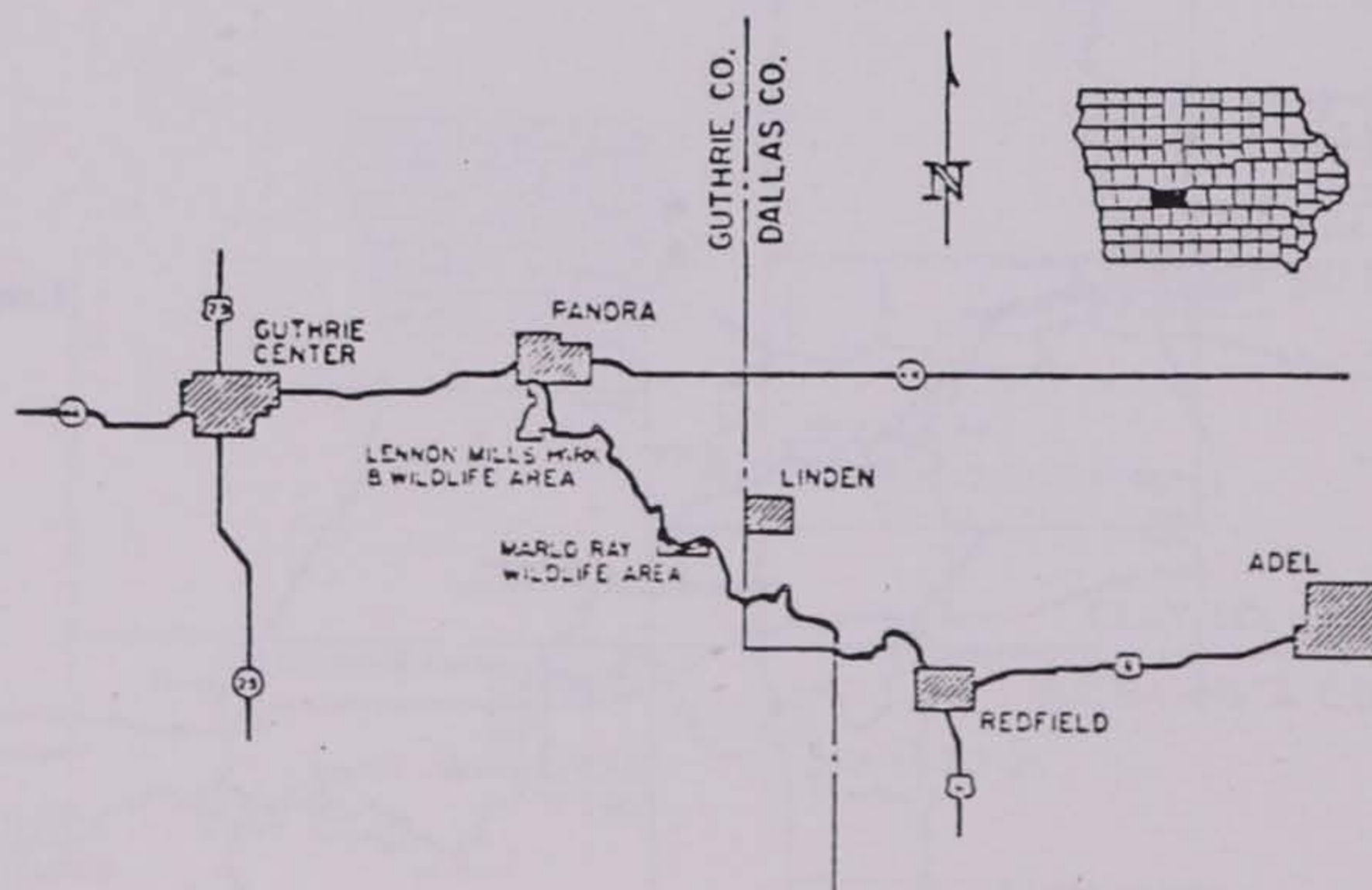


Figure 4-6

17. WETLANDS PROTECTION

Unfortunately, most of Iowa's wetlands were gone before much serious thought was given to the values of such areas. Today we can only imagine the vast and diverse system of prairie marshlands totaling nearly 1.5 million acres. Early Iowa settlers and their descendents had to deal with the necessity of making a living off of the Iowa landscape. Consequently, productive marshlands were converted to productive cropland. It was not until the 1930's that public perception of the worth of a wetland left in its natural condition evidenced itself.

The worth of wetlands as high quality natural areas with abundant opportunities for wildlife, recreation and education uses has been slow to receive broad-based support. Fortunately, recognition of this worth has increased. There is also an awakening that wetlands are important in the maintenance of the quality and quantity of groundwater supplies, serve as a temporary holders of floodwaters and in some instances, reduce the severity of floods. Such values ultimately translate into dollar savings stemming from reduced water treatment costs, improved health status, reduced flood damage, etc. Additionally, waterfowl hunters and nature study enthusiasts find wetlands as attractive and essential resources to support their pastimes. Also important is the direct economic and tourism benefits that are derived.

Wetland losses across the United States and Canada have spurred many government agencies, environmental and conservation groups and concerned individuals to work together toward protection, enhancement and restoration of this natural resource. A partnership called the North American Waterfowl Management Plan creates specific wildlife production and habitat goal for geographic regions called Joint Ventures. Iowa is associated with the Prairie Pothole Joint Venture (PPJV) with the states of North Dakota, South Dakota, Minnesota and Montana. Goals and objectives of the PPJV compliment the recommended actions and priorities of the Wetland Protection Plan initially prepared by the DNR in 1988, updated in 1990 and contained in this document.

A similar joint venture is being established in which Iowa will have thirteen eastern Iowa counties involved. The Upper Mississippi River and Great Lakes Region Joint Venture is in cooperation with the North American Waterfowl Management Plan.

Funding levels required to accomplish these protection initiatives are quite high. Private and public fund raising efforts, increases to existing federal, state and county budgets and the use of Resource Enhancement And Protection funds will be necessary to achieve program goals.

ARTICLE

The purpose of this article is to discuss the importance of the medical profession in the development of the nation. It is a well-known fact that the medical profession has played a vital role in the history of the United States. From the early days of the settlement of the West to the present time, the medical profession has been a constant presence in the life of the nation. It has been the medical profession that has saved countless lives and has brought about the progress that we see today. The medical profession has been the backbone of the nation's health and has been the source of many of the great achievements of the past.

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CONCLUSION

The medical profession has been the backbone of the nation's health and has been the source of many of the great achievements of the past. It has been the medical profession that has saved countless lives and has brought about the progress that we see today. The medical profession has been the backbone of the nation's health and has been the source of many of the great achievements of the past. It has been the medical profession that has saved countless lives and has brought about the progress that we see today. The medical profession has been the backbone of the nation's health and has been the source of many of the great achievements of the past. It has been the medical profession that has saved countless lives and has brought about the progress that we see today. The medical profession has been the backbone of the nation's health and has been the source of many of the great achievements of the past.

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LAWCON IN IOWA

IOWA POLICIES - LAND AND WATER CONSERVATION FUND

The Land and Water Conservation Fund (LWCF) program has provided very diverse benefits in its 25-year history in Iowa. Policies, some written and some not, are often difficult to express for such a diverse program. However the results of LWCF policies are readily analyzed with a quick review of the program accomplishments in Iowa.

Table 5-1 identifies the types of projects for which LAWCON monies have been utilized over the life of the program. Figure 5-1 displays the geographic distribution of funded state, county and city grants by recreation planning region. Figure 5-2 identifies how LAWCON funds were distributed on a per capita basis. Recreation Planning Regions with the greatest population are located in the central and east-central part of the state.

LAWCON PROJECT SUMMARY, 1965-1989

I. Acquisition Projects		
A. State Projects	62	\$9,411,565.86
B. County Projects	153	\$3,023,913.38
C. City Projects	51	\$1,189,620.95
II. Development Projects		
A. State Projects	77	\$9,209,260.89
B. County Projects	207	\$3,878,381.74
C. City Projects	392	\$8,882,602.84
III. Renovation Projects		
A. State Projects	3	\$345,297.19
B. County Projects	2	\$142,000.00
C. City Projects	16	\$584,433.27
IV. Acquisition and Development Projects		
A. State Projects	2	\$1,639,055.24
B. County Projects	22	\$617,146.75
C. City Projects	50	\$2,465,111.29
V. Development and Renovation Projects		
A. State Projects	1	\$772,541.01
B. County Projects	4	\$142,416.93
C. City Projects	4	\$288,378.71
VI. Planning Grants		
A. State Projects	7	\$311,952.32

Table 5-1

NUMBER OF FUNDED GRANTS 1965 - 1990 By Recreation Planning Region

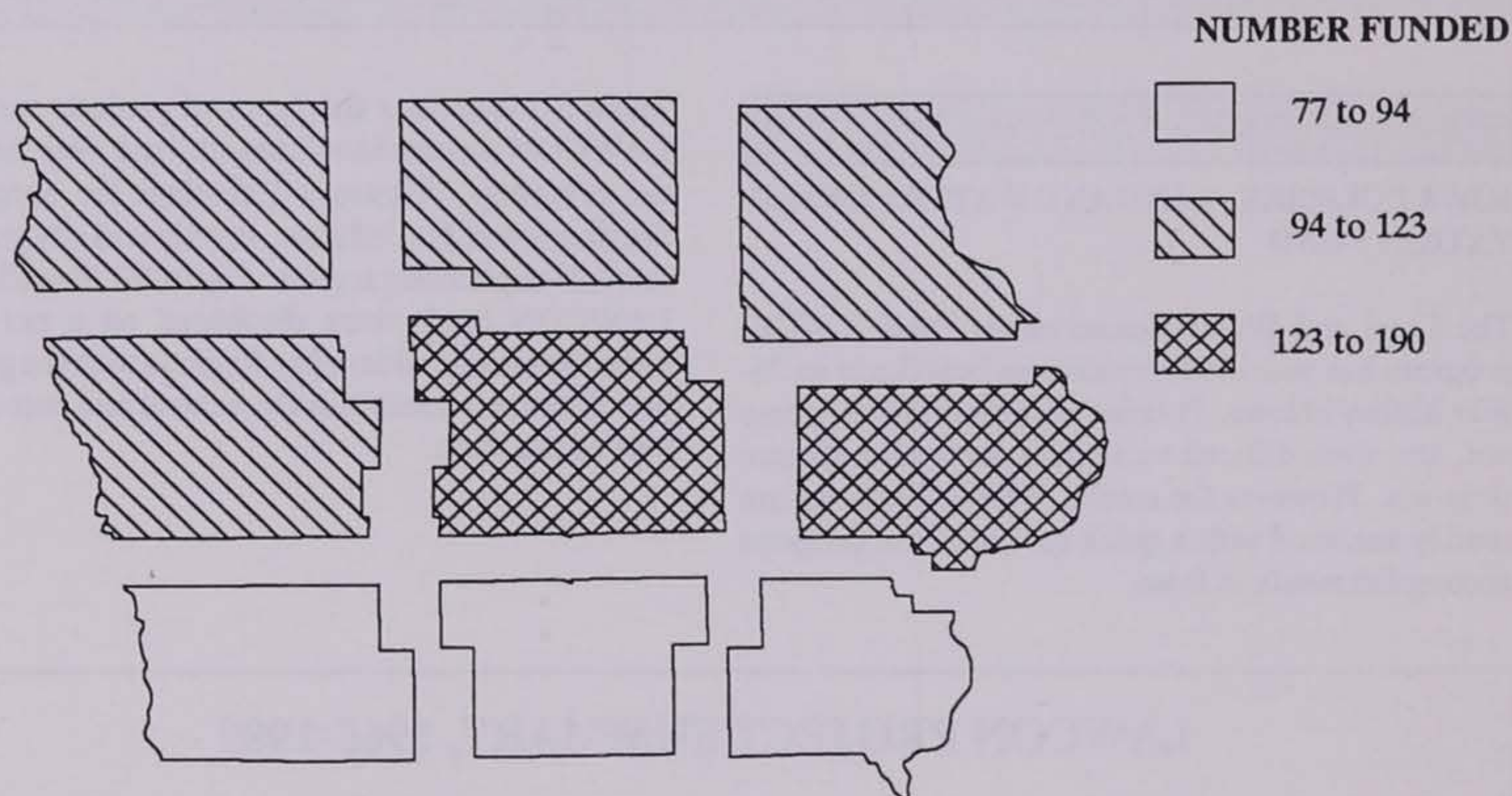


Figure 5-1

LAWCON FUNDS PER CAPITA 1965 - 1990 By Recreation Planning Region

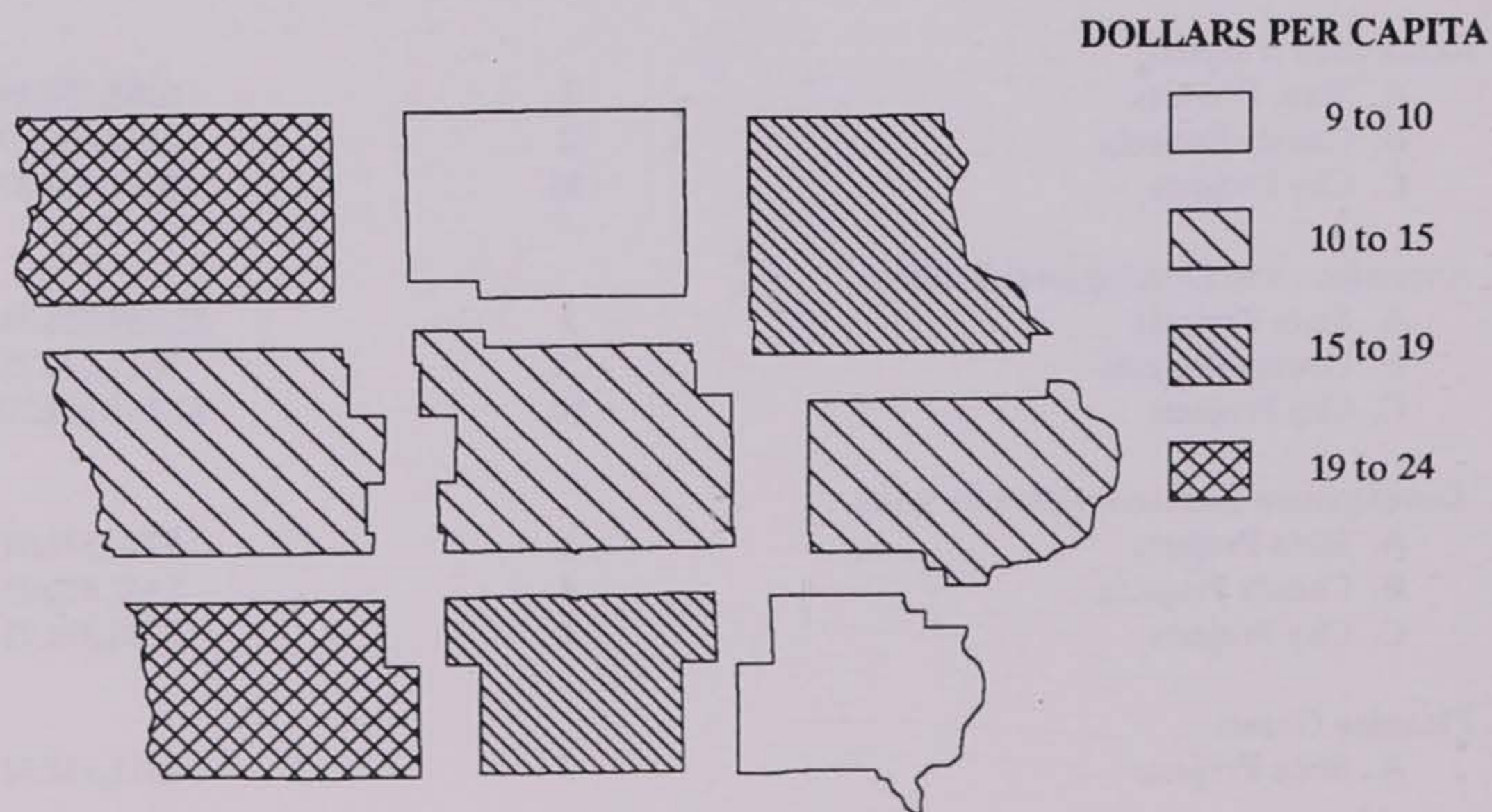


Figure 5-2

The Iowa Department of Natural Resources, as the administrative state agency for the LWCF, has from the outset, had a policy endorsing the use of LWCF monies for a wide variety of outdoor recreation facilities. One of the clearest reflections of this policy is the long-standing practice of dividing Iowa's annual apportionment in half, with 50% going to city and county projects and 50% utilized for state-sponsored projects. This has been and continues to be an important basic policy of LWCF in Iowa. Amendments to the Administrative Rule (Chapter 571-27, IAC) state that the local entity share shall be not less than 50% of the annual apportionment.

Figure 5-3 shows annual appropriations Iowa has received since the beginning of the Land and Water Conservation Fund program. The L&WCF program is responsible for many outdoor recreation opportu-

nities and experiences Iowans now enjoy and the need to continue providing such opportunities remains. However, there is reason for some concern. This program has, for the most part, not offered a stable level of funding. This may make it difficult, primarily for the state, to plan activities for the upcoming year as the state receives one-half of the yearly appropriation and Iowa's counties and cities vie for the remaining funds through a competitive grant program. Another cause of concern Figure 5-3 indicates, is the sharp decline in funding levels in recent years. Despite the findings and recommendations of the President's Commission on American Outdoors presented to the President in 1987, Iowa's annual apportionment continues to decline as does the funding level for the entire program. There is a need for funding levels to return to significant amounts for L&WCF or its successor.

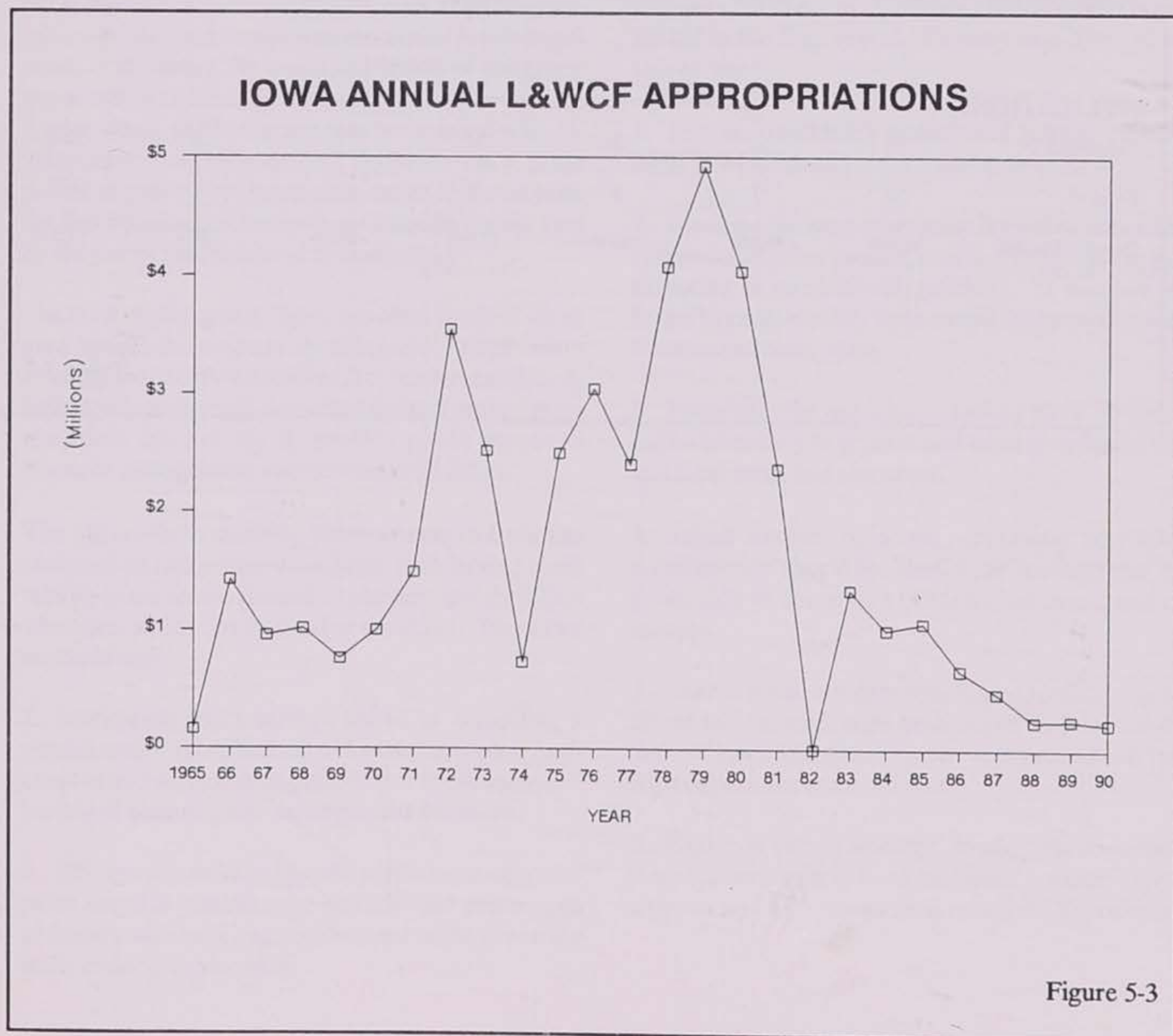


Table 5-2 provides a quick summary of how the funding ratio of LAWCON grant applications to those requested. The amount of cost-share funds requested has remained fairly constant over the last six years. Available federal funds to cost-share have fallen far short of the amount requested by Iowa's counties and municipalities.

The amount of funds requested is another indicator that the need for outdoor recreation opportunities remains quite high. Without significant additions to the funding level for LAWCON or its successor, few projects will be funded and the need in Iowa will remain high.

FUNDING SUMMARY - 1985 to 1990

	1985	1986	1987	1988	1989	1990	TOTAL
DOLLARS							
Requested	\$1,498,702	\$590,119	\$1,718,999	\$789,574	\$1,157,677	\$889,763	\$6,644,834
Provided	\$590,155	\$247,694	\$202,877	\$225,753	\$144,553	\$129,635	\$1,500,667
Percent Provided	36.7%	42.0%	11.8%	28.6%	12.6%	14.6%	22.6%
APPLICATIONS							
Submitted	57	21	76	32	25	34	245
Funded	14	7	8	4	2	3	38
Percent Funded	24.6%	33.3%	10.5%	12.5%	8.0%	8.8%	15.5%

Table 5-2

PUBLIC PARTICIPATION

Introduction

The planning, development and management of Iowa's resource/recreation base serve two primary purposes:

1. The protection of natural resources
2. The provision of public accessibility to and enjoyment of those resources.

Obviously, Iowa's nearly three million residents include numerous special interests, each requiring certain resources and facilities to meet their recreational needs. Oftentimes, the needs and desires of one group are at odds with the needs and desires of another group. And at times, neither group may be satisfied with development and management decisions on a given parcel of public land because in order to accomplish the first purpose (i.e. resource protection), certain uses by the public are restricted or controlled.

The most explicit public inputs are often received on an area-specific or program-specific issue. People relate strongly to their own resource/recreation needs and, individually or through organized interest group representation, are not shy to provide public inputs to resource management and development issues.

The approach to securing public inputs in Iowa has centered on two primary methods, each having merit relative to the results desired by planners and managers when they select one method or the other. Those two methods are:

1. Statistically valid surveys aimed at compiling a representative cross-section of Iowans' attitudes, preferences and recreational patterns for application to a variety of planning and management decisions.
2. Site-specific or issue specific public input opportunities aimed at gathering the attitudes and preferences of Iowans who have a special interest in the site or the issue under consideration.

Statistical Surveys

A. 1985 Recreation/Tourism Survey

Recreation participation data have been collected periodically in Iowa. In 1985, the firm of Grapentine Company, Inc. was hired to survey Iowans on a broad range of recreation/tourism topics. Results have been utilized by the DNR in the course of preparing the 1990 Iowa SCORP. Results have also been utilized to assist in making various outdoor recreation decisions. This survey can, in some cases, be compared to subsequent related surveys to identify changes in participation and attitudes. A total of 507 Iowa families were represented in the final report. Primary objectives of the survey were:

1. Provide benchmark statistics of Iowans' involvement in 24 selected recreational activities.
2. Examine the issue of whether limited or unsuitable recreational areas present barriers to Iowans in participating in recreational activities. If barriers are found to exist, identify their nature and propose solutions to overcome them.
3. Investigate the importance Iowans place on spending more money to protect and manage selected recreational areas and resources.
4. Solicit Iowans' opinions concerning how additional revenue should be raised in the management and protection of the state's recreational areas and resources.
5. Gather statistical data concerning Iowans' recreational and vacation trips both inside and outside the State of Iowa. Examine reasons why respondents take trips outside the state of Iowa.
6. Based on survey findings, develop recommendations concerning how Iowa can better position itself as a tourist and vacation attraction to Iowa's residents.

Results of the 1985 household survey are summarized elsewhere in this plan. The entire results constitute a very useful supplement to the 1990 SCORP, and are utilized frequently on a wide variety of planning and issue assessment endeavors.

B. 1990 State Park Visitor Survey

A visitors survey was conducted during the summer of 1990 by DNR staff at 52 of Iowa's state parks and recreation areas to evaluate the strengths and weaknesses of Iowa's state recreation system. A cross-section of visitors to state park facilities was surveyed to determine their frequency of use, motivation to use park areas, levels of satisfaction, expenditure patterns, etc.

The surveys were distributed in a predetermined random order based on time of day and day of week as the park visitors left the park. First, a short on site interview was conducted. The park visitor was then asked if he or she would be willing to take a longer survey home. On site interviews were conducted until the longer survey was accepted. 2,000 take home surveys were distributed with 1,076 returned for a return rate of nearly 55%. As with most of DNR's recreation studies, this survey effort provides a statistically valid summary of Iowans' attitudes, needs and desires. By so doing, the data generated are of greater applicability in the design of state programs.

A detailed discussion of the park visitor survey results can be found in Chapter 3 of the 1990 SCORP.

C. 1990 Municipal Recreation Survey

The Department of Natural Resources mailed to all 950+ municipalities an outdoor recreation survey to identify local priorities for outdoor recreation development and identify past and future trends in the use of local recreation facilities. As part of this survey, questions were asked dealing with issues important to municipal recreation programs. The surveys were completed by city officials. The large response indicates the level of importance for outdoor recreation opportunities is quite high. The municipal recreation survey is discussed in more detail in Chapter 3 of the 1990 Iowa SCORP.

D. 1987 Public Attitudinal Survey on Open Spaces

A statewide telephone survey was conducted for the Department of Natural Resources on attitudes regarding open spaces. The survey consisted of 400 telephone interviews randomly chosen to represent Iowa's general population. This sample size is considered adequate to measure attitudes within four percent margin of error. The survey was conducted in conjunction with preparation of the 1988 Iowa Open Spaces Plan.

Following are specific informational objectives of the Open Spaces Survey:

- * To measure Iowan's attitudes about current and future open spaces in the state.
- * To examine Iowan's opinions on possible actions the state could take regarding open spaces.
- * To test the reaction of Iowans to methods of protection other than acquisition of open spaces.
- * To measure Iowans' perceptions of the importance of protecting various types of open spaces.
- * To test the reactions of Iowans to proposed sources for funding the protection of open spaces.

In summary, Iowans:

- * Showed very strong support for open space protection efforts and this support is spread evenly throughout the state, with no statistical differences between rural and urban areas;
- * Are aware of natural open spaces;
- * Visit open spaces and feel very strongly that such areas are important to the quality of life; and
- * Feel more money should be directed at expanded protection efforts.

Copies of the Open Spaces Plan and additional information pertaining to the survey are available from the DNR, Planning Bureau.

Site or Issue Specific Public Inputs

Substantial amounts of time, effort and expenditures go toward assuring the public of Iowa ample opportunity for inputs to recreation/resource planning and decision-making. The approach and the level of formality vary somewhat, depending on the issue at hand, but the task is taken seriously. The following provide examples of statutory and procedural requirements that not only allow, but encourage Iowans to participate in the planning processes in Iowa.

A. Chapter 17A, Code of Iowa, Administrative Procedure Act

This act provides a minimum procedural code for the operation of all state agencies when they take action affecting the rights and duties of the public. Specifically, purposes of the act include:

1. To provide legislative oversight of powers and duties delegated to administrative agencies.
2. To increase public accountability of administrative agencies.
3. To simplify government by assuring a uniform minimum procedure to which all agencies will be held in the conduct of their most important functions.
4. To increase public access to governmental information.
5. To increase public participation in the formulation of administrative rules.

Chapter 17A is a long and detailed act aimed at accomplishing the above objectives. A brief examination of the administrative rules adopted by the DNR is all that is needed to understand the significance of 17A procedures to recreation/resource decision-making in Iowa. That list includes rules pertaining to the following:

1. Land and Water Conservation Fund Grants-In-Aid Program for Local Entities (Chapter 571-27, IAC).
2. Recreation/Tourism Grants to County Conservation Boards (Chapter 571-24, IAC).
3. Snowmobile Registration Revenue Cost-Sharing With Public Agencies (Chapter 571-28, IAC).

4. Public/Private Cost-Sharing to Acquire Natural Areas with unique or Unusual Features (Chapter 571-29, IAC).

5. Conservation and Outdoor Recreation Employment For Senior Citizens, Green Thumb Program (Chapter 70, IAC).

6. Numerous other chapters dealing with park, recreation area, state forest and wildlife area management and use; hunting and fishing regulations and seasons; contracting procedures; and one rule (Chapter 571-1, IAC) which spells out the "Organization, Method of Operation and Public Participation" for the DNR.

7. Resource Enhancement and Protection (Chapter 455A.1, Code of Iowa). Public participation requirements of the REAP program are not a part of DNR's administrative rules but are explicitly stated in the law.

Some years ago, the provision of Chapter 17A might have been viewed by many as a means of dodging "real" public inputs, on the grounds that they were a bureaucratic shuffle that gave only the illusion of public comment opportunity. That is no longer the case. Special interest groups are well aware of the Administrative Procedures Act and their opportunities to influence decisions, and 17A provides a meaningful opportunity.

The Department of Natural Resources has taken the opportunity for special interest groups and the public in general, to be a part of the program decision-making process (i.e. REAP).

B. Commission Form Of Government

The seven members of the Natural Resources Commission, appointed by the Governor under Chapter 107, Iowa Code, are to have an interest in and substantial knowledge of the subjects of outdoor recreation and resource management. Each member has a variety of constituencies, some geographic in nature, others revolving around special interests. The public has ready access to these seven policy-making commissioners on both formal and informal bases, thereby providing substantial opportunity to influence recreation/resource planning and management.

Special Studies/Planning Efforts

A. Statewide Protected Water Areas Plan, 1978-81

Two years were spent in compiling this statewide assessment of interior rivers and streams, natural lake shorelines, and marshes. Details of public involvement are spelled out in the PWA Plan. Briefly, they included the following:

1. Statewide attitude survey of state and local government agencies, private interest groups, and selected state legislators.
2. Statewide survey of Iowa farmers, conducted as part of Wallace's Farmer survey.
3. Statewide meetings held in Des Moines.
4. Regional public meetings held in seven Iowa communities.
5. Meetings with key individuals (elected officials, community leaders, etc.) in local areas.
6. Landowner meetings.
7. Local office hours.
8. Newsletters and brochures.
9. Slide/tape program.

The statewide PWA Plan was completed and approved, and one of its major recommendations, a rewrite of Iowa's scenic river legislation, was passed in 1983 (Chapter 108A). That rewrite spells out the process for study and designation of additions to Iowa's PWA system, including extensive public involvement.

The PWA program is a long-term effort to provide protection primarily to Iowa's remaining scenic river valleys. At this writing, there remains much to be done. However, a solid base of support has been established through an intensive, tailored effort to involve landowners, local officials, state legislators and a variety of state agency administrators.

Details of the Protected Water Areas Program are found in Chapter 3 of the 1990 Iowa SCORP.

B. Protected Water Area Management Plans

Chapter 108A, Code of Iowa requires that public meetings be held at least twice during the process of designating a protected water area. The Natural Resource Commission upon nominating a water area as a prospective protected water area and prior to the designation as a protected water area, a public hearing shall be conducted in the vicinity of the water area to inform the public and receive input. Prospective designation will cause a management plan be prepared for the protection and enhancement of those values required of a protected water area.

The second public meeting takes place, again in the vicinity of the water area under consideration, once the management plan has been completed. the second public meeting as in the case of the first is to inform the public and to receive input.

Boone River Protected Water Area Management Plan

Subsequent to passage of the 1983 PWA act, a two-year planning project on the Boone River (one of the high-ranking river segments) was initiated. Again, considerable time and effort was spent on a variety of public input programs. Included were:

1. Newsletters to landowners along the Boone River and to local legislators, boards of supervisors, soil conservation commissioners, county conservation boards, and other interested parties.
2. Meetings with key individuals.
3. Small group sessions with landowners.
4. Public meetings.
5. Individual landowner contacts.

Protected Water Area Management Plans, 1990:
Wapsipinicon River, Upper Iowa River, Little Sioux
River, Middle Raccoon River

For each of the proposed protected water areas two meetings were held. The first public meeting was held to inform local landowners and governmental agencies about the program and solicit their comments. The meeting was advertised in the local newspaper and individual letters of invitation were sent out. Participants were asked to discuss the program with their neighbors and staff and written comments were requested.

Following preparation of the preliminary management plan, another public meeting was held to review the plan with landowners and governmental agencies. Office hours were held the next morning at the county conservation board office to meet with interested individuals and/or with those unable to attend the evening meeting.

Iowa Forest Resources Plan, 1990

Iowa's Forest Resources Plan included a major effort through establishment of an advisory group to assist in the development of goals and recommended actions. This advisory group consisted of 32 federal, state and county governmental agencies, private industry representatives, environmental and conservationist groups, educational institutions and the general public. In addition to this advisory group, 400 questionnaires were distributed statewide, seeking public comment.

As a result of the planning meetings and the survey, five high-priority and five lower-priority goals were developed. These ten goals are to serve as a guide for the policies, procedures and practices of individuals and organizations dealing with Iowa woodland resources.

Resource Enhancement and Protection (REAP)

REAP creates an entirely new and formal method of citizen input to the DNR, the General Assembly and the Governor on the issues of natural resource enhancement and protection policies, programs and funding. There are two sets of committees composed of local citizens, one at the local level and one at a multi-county, regional level. From these committees, a statewide REAP congress is also formed as well.

The County Resource Enhancement Committee (REC) is made up of the chairpersons of the board of supervisors, county conservation board, commissioners of the soil and water district and the school board of each district in the county. Also on the committee are each mayor, the chairperson from specified farm organizations in the county and from each of the following conservation groups if they have an organization:

- Audubon Society
- Iowa Sportsmen's Federation
- Ducks Unlimited
- Sierra Club
- Pheasants Forever
- The Nature Conservancy
- Iowa Association of Naturalists
- Izaak Walton League

Other similar groups may be represented on REC's if approved as determined by the vote of those members who are on the committee by virtue of their elected office. REC meetings are open to the public.

County committees are required to make five-year plans, propose resource enhancement projects and coordinate the implementation of those projects. Additionally, 17 "assemblies" are held every other year on a larger multi-county basis, following the boundaries of the "council of governments" areas. All interested citizens are invited to attend and learn more about REAP and to present ideas and opinions on program policies and administration. The meetings cover all aspects of the REAP.

The Director of the Department of Natural Resources calls each assembly to order and serves as temporary chair. A permanent chairperson from the region is elected early during the assembly and is responsible for moderating the rest of the meeting. Also during the meeting five delegates are elected to serve on the 85 member REAP congress, the next level of public participation.

The REAP congress meets every other year during even-numbered years at the state capitol. Duties of the REAP congress are to organize, discuss and make recommendations to the Governor, the general assembly and the Natural Resources Commission of the DNR.

During 1990, the above outlined REAP public participation process has been experienced with much success. Nearly 3,000 people from a variety of interests attended the assemblies for an average of just under 200 per assembly. There appeared to be no hesitation by those in attendance from expressing their opinions, either positive to the program or negative. The first REAP congress had a 98 percent attendance rate.

Statewide Recreational Trails Plan

Preparation of the Statewide Trails Plan by the Iowa Department of Transportation was a cooperative effort with the Department of Natural Resources (DNR), Department of Economic Development (DED) and Department of Cultural Affairs (DCA). Also involved were numerous user groups, property owners and local governments.

A Project Management Team (PMT) was formed to solicit and gain state agency input. The PMT's purpose was to serve as a core group of individuals representing the State of Iowa and provide management and technical guidance to the consultants hired to complete the statewide plan. This team served as the decision-making group during the plan's formation.

A Technical Advisory Committee (TAC) was formed to provide the process with technical support regarding trail user needs, design input and trail location input. TAC served as a forum for input from various trail user groups, land owners and local government interests. Representatives from many interest groups participated in plan formulation. Those interest groups included representatives of: conservation/preservation; agriculture; snowmobile and cross-country skiing; off-road vehicles; equestrian; canoeing; and bicycling. In addition to these interest groups, the League of Iowa Municipalities, Iowa Parks and Recreation Association and the Iowa Association of County Conservation Boards were also represented.

Public opinion and participation were an important ingredient in the creation of the trails plan. Throughout the planning process, the public was offered numerous opportunities to learn about and contribute to the plan. A series of project newsletters informed Iowans about the plan's progress. Five public meetings were held across the state in order to present the

plan as it was originally drafted and to receive input from the public for incorporation into the final plan as appropriate.

A telephone survey of 500 Iowa households was conducted as part of this statewide recreational trails plan. Conducted in 1989, the survey results demonstrated several important conclusions.

1. Frequent trails users tend to be younger in age, married with children, have lived in the State for at least 10 years and have above average incomes.
2. The most frequently mentioned trail activities included walking or biking for recreation or exercise. Respondents were willing to drive up to one hour's distance to take advantage of trail facilities.
3. Respondents wanted additional facilities with bicycling, walking, horseback riding and canoeing mentioned most frequently.
4. Sixty-nine percent of the respondents reported that they were less than very satisfied with Iowa's trail resources.

The study made other conclusions regarding trail location, trail awareness and facility availability. More information regarding the Statewide Recreational Trails program is available from the Iowa DNR and the Iowa Department of Transportation.

Environmental Agenda for the 1990's

In 1989, Governor Branstad desired an intensive effort be made to acquire public input to assist in developing Iowa's Environmental Agenda for the 1990's. The Governor's office and the Iowa Department of Natural Resources (DNR) developed a process to receive public input into developing this Environmental Agenda. The process basically involved: (1) formulating a committee with comprehensive representation to identify and describe potential agenda items; and (2) conducting public meetings throughout the state to receive responses to the committee's items and to receive recommendations for additional items. DNR staff provided technical and administrative assistance to the committee and conducted the public meetings on behalf of the committee.

The overall goal of the public input process was to identify the 15 most important environmental issues in Iowa for submission to Governor Branstad to help develop his Environmental Agenda for the 1990's.

Mechanisms to accomplish the environmental agenda had not been predetermined. Legislative actions, budget and staff allocations, administrative rules and regulations and executive order are mechanisms that may be employed. Actual mechanisms employed will depend on the agenda item, needed action and desired results.

Seventy-five (75) persons were invited to voluntarily serve on the Environmental Agenda for the 1990's committee. People were sought to represent the following areas of interest:

- (1) Agriculture/Industry
- (2) Environment/Conservation and
- (3) Government

Twenty-five (25) people were invited from each of these three areas in an attempt to have at least 15 active participants. Response to the invitations was exceptional resulting in a total of 64 committee members for an average of 21 members from each area of interest. This was the first indication of the high public interest in helping establish an environmental agenda. The committee was organized into 3 subcommittees, delineated by the 3 areas of interest. Subcommittee appointments were made based on area of expertise and professional involvement.

Thirteen (13) public meetings were held statewide over a two week period. Attendance at these meetings ranged from 30 to 160 persons, totalling nearly 1,000 attendees. The purpose of the meetings, to present the committee's potential agenda items, allow public input on those items and provide the opportunity for public recommendations on other environmental issues, was successfully realized.

Of the fifteen (15) environmental issues submitted to the Governor, one is of particular importance to the 1990 Iowa SCORP, the issue of Open Space Protection Funding.

Selected comments from the public meetings relating to open space protection funding include:

- Support for stable, and in some cases, increased funding for environmental protection of open spaces was indicated at most of the public meetings.

- Support was expressed for increased roadside management efforts other than spraying and mowing and increased roadside native vegetation planting.

- The Open Spaces Plan received support by name in the majority of public meetings.

- Expanding efforts to acquire abandoned railroad ROW was supported in many of the public meetings.

- Support was expressed for establishment of a national park in the Loess Hills.

Iowa Wetlands Protection Plan

Direct and indirect involvement in wetlands protection often involves a diverse group of players and special interests. Some reviews and approvals may be required by law. In other instances, a review may not be required, but only makes good sense if a variety of players are involved or affected. Several public and private entities contributed to the preparation of the Iowa Wetlands Plan and some may be consulted as implementation efforts proceed over time. Those contributors included 5 federal agencies, 2 state agencies, the Iowa Association of County Conservation Boards and 8 environmental, conservation and outdoor recreation groups.

REAP Alliance

The REAP Alliance is an organization comprised of various outdoor recreation/conservation groups that played a special role in bringing about the realization of the Resource Enhancement and Protection act. Through frequent meetings, representatives of these organizations kept their members aware of legislative developments and obtained the necessary public and legislative support. Under the public input part of the REAP act, these groups and many more play a continuing role in recommending and reviewing conservation projects. The REAP Alliance includes representatives of the following agencies, industries and organizations:

- Iowa Natural Heritage Foundation
- Iowa Association of County Conservation Boards
- American Fisheries Federation
- American Forestry Society

- Iowa Audubon Council
- Iowa Bowhunters Association
- Department of Natural Resources
- Iowa House of Representatives
- Iowa Conservation Education Center
- Ducks Unlimited Inc.
- Iowa Coop Fish and Wildlife Unit
- Iowa Ducks Unlimited
- Hawkeye Fly Fishing Association
- Iowa Chapter ASLA
- Office of the Governor
- Izaak Walton League - National Board
- Izaak Walton League - Iowa Board
- Izaak Walton League - Iowa Division
- League of Women Voters
- Iowa Land Improvement Contractors Association
- The Nature Conservancy
- Iowa Association of Naturalists
- Ornithologists Union
- Iowa Parks and Recreation Association
- Pheasants Forever
- Iowa Pheasants Forever Council
- Sierra Club
- Iowa Soil Conservation District Commissioners
- Iowa Division of Soil Conservation
- Iowa Association of Soil and Water Conservation District Commissioners
- Soil and Water Conservation Student Chapter
- Iowa Sportsmen's Federation
- Iowa Trails Council
- Iowa Trappers Association
- Iowa Wildlife Federation
- The Wildlife Federation
- Wildlife Society
- The Wild Turkey Federation
- Wetlands for Iowa
- State Historical Society of Iowa
- American Society of Landscape Architects, Iowa Chapter
- Iowa Bowhunters Association

Other Special Studies/Planning Efforts

Parks/Recreation Area Site Planning Procedure

Site-specific master planning projects nearly always generate high levels of local interest and concern. The DNR's adopted site-planning procedure utilizes a task force comprised of resource specialists, local advisory committees as necessary to provide local perspective and inputs, and the Natural Resource Commissioners as an official policy review/approval level.

Des Moines River Greenbelt Advisory Committee

Federal legislation in 1985 established the Des Moines Recreational River and Greenbelt Project, administered by the U. S. Army Corps of Engineers. Federal cost-sharing is available to acquire and develop recreation projects along the Des Moines River from Fort Dodge to Oskaloosa.

Included in the legislation was an extensive public input mechanism in the form of a Greenbelt Advisory Committee. Membership on the committee includes city, county and state representatives working together under chairmanship by the Iowa DNR's Director. The committee is charged with developing project and policy recommendations to guide the expenditure of millions of federal dollars along with millions of state, county and local cost-sharing dollars.

Fish and Wildlife Division Surveys

The Fisheries and Wildlife Division of the DNR regularly performs surveys of anglers and hunters and uses the survey results as a tool for better resource management. Changes in management based on survey results may take the form of size limits, possession limits, hunting and/or fishing season length, etc. Surveys of landowners' opinions of crop damage, for example, also are utilized for better resource management.

Periodically surveys are performed that provide demand and expenditure information from hunters, anglers and a cross section of Iowans that do not hunt or fish but use these resources for nonconsumptive outdoor recreation pursuits.

IOWA TOURISM

TOURISM

The Iowa Department of Economic Development (DED) has had numerous surveys and reports completed detailing tourism and its effects on the Iowa economy. Travel and tourism in Iowa equates to a substantial economic boon through dollars spent, jobs created and tax revenues collected. These effects are felt throughout the state. Much of this visitation to and within the state relates directly to the outdoor recreation opportunities Iowa provides.

DED has prepared or has contracted to have prepared the following reports/surveys dealing with Iowa tourism: 1990 Iowa Interstate and Pilot Project Welcome Center Survey, The Economic Impact of Travel on Iowa Counties and Iowa's Position in the U.S. Tourism Vacation Market. Each of these reports document the purpose, destination and the benefit to Iowa's economy that results from those traveling within, to and through the State of Iowa.

Economic Impact of Travel on Iowa Counties

Based on the 1989 study prepared for the Iowa Bureau of Tourism and Visitors by the U.S. Travel Data Center, \$2.1 billion was spent in Iowa for transportation, lodging, food, entertainment, recreation and incidentals by U.S. resident travelers. This figure may be somewhat conservative for the following reasons. Due to the restrictions of the definition of "traveler", many dollars spent were excluded from the study. Expenditures in anticipation of a trip on goods and services cannot be accurately quantified, thus are not included. Examples may include, tennis lessons, tennis racquets, travel books, language lessons, etc. Also excluded, is the purchase of some major consumer durable goods such as boats, boating supplies, off-road vehicles, etc. Recreational vehicles such as campers, motor homes, trailers and mobile homes however, are included in the figures presented in the report.

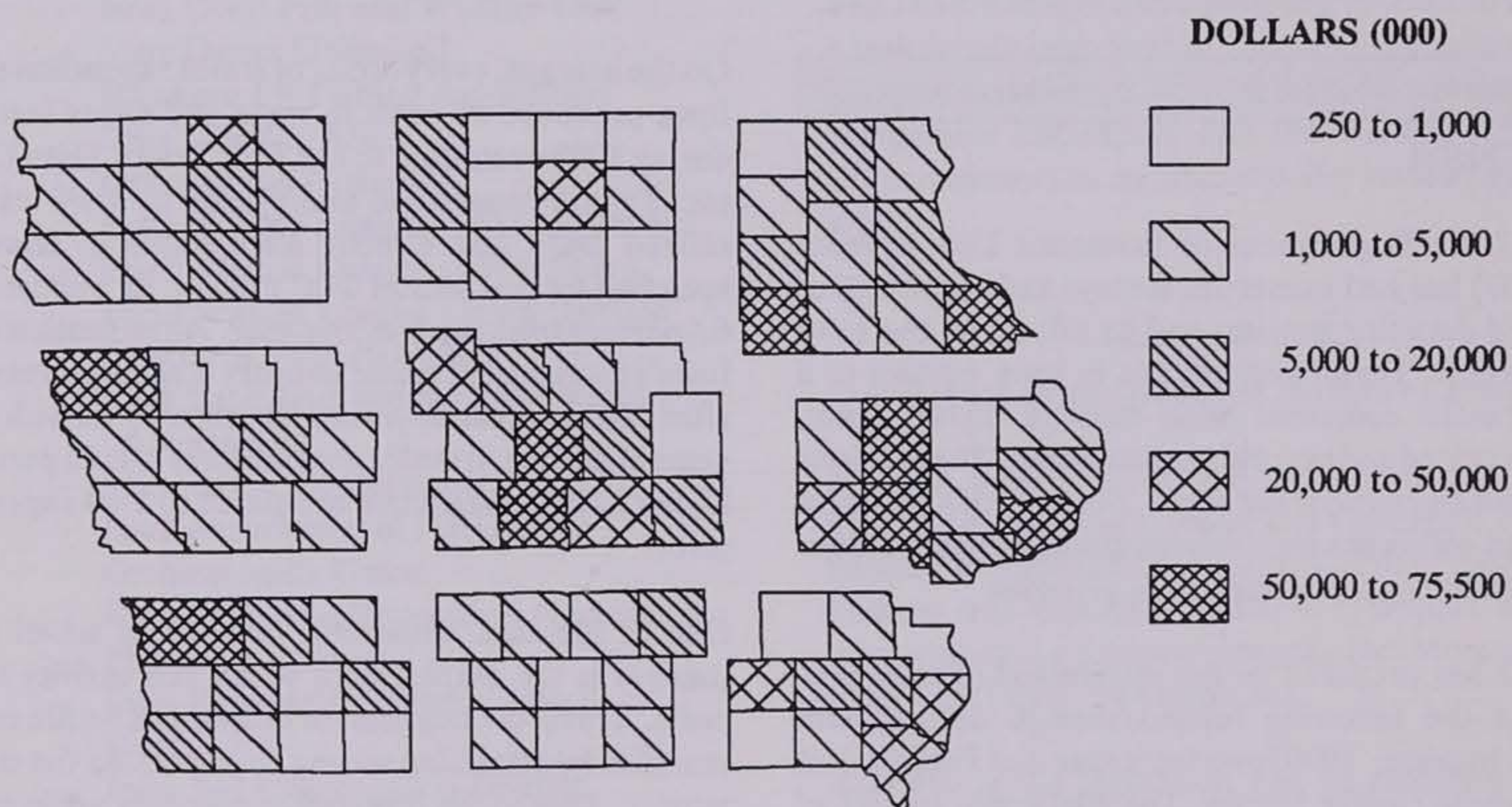
On the average, every dollar of travel expenditures in Iowa produced 20 cents in wage and salary income during 1988 according to the U.S. Travel Data Center. Payroll (wages and salary) paid by Iowa travel-related firms and directly attributable to traveler spending totaled almost \$432 million, an increase of 6.6 percent from the previous year. An indication that Iowa's tourism and visitor industry is again increasing after two consecutive years of decline. Even with two years of decline, traveler expenditures was 21 percent higher in 1988 than when compared to 1984 expenditures.

One of the most important benefits of travel and tourism is the employment which this activity supports. Travel creates jobs for individuals within communities by attracting money from outside the community. Due to the diversity of spending while traveling, a wide variety of jobs at every skill level is created. On the average, every \$40,900 spent by travelers in Iowa directly supported one job during 1988. Travel-generated employment in Iowa was highest in the foodservice and lodging industries.

Another benefit of travel and tourism is the tax revenues generated. Travel-generated tax revenues at the state and local levels raised nearly \$270 million in 1988.

Figure 7-1 illustrates total travel expenditures by county as reported by the U.S. Travel Data Center for 1988. It is not surprising that the counties with large metropolitan areas experienced the greatest travel expenditures. Considering the activities travelers participate in while in the state, a significant amount of these expenditures involve outdoor recreation. For example: food, camping fees, greens fees at golf courses, fuel for boating, hunting and fishing licenses, various equipment items, etc.

TOTAL TRAVEL EXPENDITURES BY COUNTY, 1988



Source: U.S. Travel Data Center

Figure 7-1

INTERSTATE WELCOME CENTER SURVEY (May - September)

	1977	1980	1985	1988	1989	1990
Percent of Visitors with Destination in Iowa	13%	22%	31%	32%	32%	36%
Average Days Spent on Trip	20.9	16.5	13.0	19.4	18.6	16.1
Average Days Spent in Iowa	2.5	2.9	2.7	3.3	3.1	3.1
Average Travel Party Size	3.2	3.0	2.6	2.9	2.7	2.7
Average Spending Per Day	\$40.42	\$57.12	\$76.20	\$92.03	\$91.87	\$96.17
Estimated Spending of Center Visitors	\$5,029,460	\$8,297,970	\$17,346,968	\$31,878,068	\$28,957,590	\$31,371,607
Est. Economic Impact of Center Visitors	\$13,176,078	\$21,219,719	\$46,054,970	\$85,980,030	\$77,527,414	\$84,451,114

Source: Iowa Department of Economic Development

Table 7-1

1990 Interstate and Pilot Project Welcome Center Survey

To provide tourism information and assist travelers with their questions on Iowa, the Tourism Division of the Iowa Department of Economic Development staffed seven interstate welcome centers from May through September of 1990. The welcome centers were open from 8:00 a.m. to 7:00 p.m. Guest books were placed in all centers and every 46th travel party registering was personally interviewed by the staff. 2,400 travel parties were interviewed.

Table 7-1 compares specific findings of the 1990 Interstate Welcome Center Survey to those of previous years. From Table 7-1, the average number of days spent on trips has been decreasing the last three years yet the number of days spent in Iowa has increased over the last thirteen years. The percent of visitors to interstate welcome centers that indicated Iowa as their trip destination has almost tripled over the last thirteen years.

Of the travel parties interviewed, Illinois, Minnesota, California, Texas and Michigan were the states with the highest number of responses to being asked their point of origin. When asked their final destination, over 35% of the respondents identified Iowa. This is over four and one-half times greater than the next state identified.

Of total trip time, respondents were planning to spend 3.1 days in Iowa or 19.2 percent of their total trip. Motels were the most frequently used overnight accommodation with state and county campgrounds the second most common.

Average daily expenditures increased from 1989 to \$96.17. Lodging, food and transportation were the three greatest reason for daily expenditures. From simple multiplication of average trip length in Iowa and average daily expenditures, it can be determined that the average travel party spent nearly \$300 daily in Iowa. When taking into account the money multiplier effect for travel-related expenditures, over \$84 million impacted the Iowa economy from those persons interviewed at the seven Iowa's interstate welcome centers.

Each welcome center is supplied with a number of informative pamphlets on places to see, facilities, events taking place, etc. Over 90 percent of those interviewed, plan to use the information gathered on their current trip and another 7 percent planned to use the information on a future trip.

When asked if their length of stay would increase because of the information received, over 50 percent indicated their stay in Iowa would be extended by one day. Those planning to stay an extra one-half day and those planning to stay an extra 2 to 3 days as a result of this information was about the same, 21.9 to 19.1 percent respectively.

Probably the most interesting information coming from the welcome center survey from an outdoor recreation perspective, is the interest areas for traveling. Respondents were asked to give their first, second and third area of interest for traveling the State of Iowa. Table 7-2 shows the importance outdoor recreation plays in attracting people to the state.

Of the interest areas identified by survey respondents, 18 of the 31 are definitely outdoor recreation related areas. Others probably include outdoor recreation activities but can not be identified from this list. Nearly 45 percent of survey respondents listed outdoor recreation areas as their first, second or third area of interest.

1990 IOWA WELCOME CENTER SURVEY
INTEREST AREAS FOR TRAVELING

INTEREST AREAS	1st INTEREST	2nd INTEREST	3rd INTEREST
Historical	415	327	296
Museums	58	164	173
Scenic Area	317	280	342
Camping	107	107	94
Hiking	11	22	21
Shopping	41	90	111
Fishing	33	64	44
Swimming	14	32	35
Golfing	40	39	36
Biking	9	12	12
Hunting	6	6	3
Fairs	16	34	30
Theme Parks	22	38	36
Festivals	30	75	81
Rural Area	10	39	63
Urban Areas	3	14	9
Power Boating	3	2	6
Sail Boating	1	3	1
Lakes/Rivers	10	62	71
Nature Study	8	28	28
Water Skiing	3	2	2
Snowmobiling	0	1	0
Antiques	28	88	113
Horseback Riding	0	6	8
Downhill Skiing	3	1	3
Cross-Country Skiing	0	2	6
Sporting Event	16	20	14
Manufacturing Plant Tours	10	11	18
Visit Friends/Family	400	145	130
Horse/Dog Racing	27	24	17
General Sightseeing	318	294	239

Source: Iowa Economic Development Dept. Table 7-2

Iowa's Position in the U.S. Touring Vacation Market

This report was prepared for the Economic Development Department by Longwoods Travel USA and aimed at showing ways to increase Iowa's share of the market. A touring vacation, for the purposes of this report, is defined as a vacation that has no single product focus. It is essentially a sightseeing trip through the state that can take in any number of attractions and destinations.

Many factors contribute to a vacationer's choice of a touring destination. The five criteria that are perceived as most important in bringing touring vacationers to Iowa are:

1. The destination's image as an exciting place that offers a real adventure.
2. An atmosphere that is enjoyable for family members.
3. Beautiful and unique scenery.
4. A variety of sightseeing opportunities, including well-known landmarks, interesting architecture, historical sites, and interesting cities and towns.
5. The popularity of the destination, influenced in part by awareness of advertising.

Other important criteria include:

6. The uniqueness of the destination.
7. A hospitable place that is safe, relaxing, and warm and friendly.

From these seven criteria, it becomes fairly evident that Iowa's natural and cultural resources plays a significant role in bringing tourism to the state.

The states that make up Iowa's biggest touring vacationers include Iowa itself, Illinois, Minnesota, Texas and California. The report indicates touring vacationers are much more likely to come from small communities and much less likely to come from urban areas of over one million persons. Overall, Iowa's major image strength in the eyes of American touring vacationers in general is that Iowa is seen as more hospitable than the average American touring destination.

In terms of outdoor sports and recreation activities, visitors rate Iowa higher for: climate, golf, fishing and hunting and camping than the average destination. When comparing U.S. and Iowa activities while on touring vacations, the participation percentages of vacationers in Iowa were higher in such outdoor recreation activities as golfing, camping, freshwater fishing, hunting, sightseeing in state parks and bicycling in Iowa than the participation percentages nationally. Participation was slightly lower in Iowa for such activities as tennis, swimming, power boating, hiking and downhill skiing.

As the Longwoods Travel USA report indicates, Iowa has many outdoor recreation opportunities that are utilized by Iowans and by touring vacationers. Three out of four Iowa touring visitors in 1989 were "completely" or "very" satisfied with their visit to the state.

IOWA WETLANDS PROTECTION PLAN

SUMMARY OF RECOMMENDED ACTIONS

1. Acquire designated high-priority wetland complexes in Northwest and North Central Iowa.
2. Acquire other high-priority wetland areas as they become available in other areas of the state.
3. Establish an active restoration program aimed at the 15% of wetsoil areas in Northwest and North Central Iowa which appear to offer the highest potential.
4. Maintain communications with drainage district interests to capitalize on opportunities of mutual benefits to all parties.
5. Inventory resources and prioritize actions to protect unique plant and animal species and communities in Iowa wetland areas.
6. Explore and pursue options for alleviating agricultural drainage well threats to groundwater quality while restoring high quality wetland areas.
7. Incorporate a water/wetlands element in statewide trail planning and development efforts.
8. Expand the Protected Water Areas Program.
9. Pursue fish and wildlife mitigation plan implementation on the Missouri River.
10. Continue to support wetland protection and restoration efforts in dealings with U.S. Army Corps of Engineers and others relative to channel maintenance dredging program on the Mississippi River.
11. Measure and document the full range of wetland values and economic impacts.
12. Continue coordination with Federal, State, County, and private agencies and interest groups who share a concern with wetland protection in Iowa.
13. Continue to cooperate with the North American Waterfowl Management Plan and the Prairie Pothole and Upper Mississippi River Joint Ventures.

INTRODUCTION--THE WORTH OF A WETLAND

Unfortunately, most of Iowa's wetlands were gone before anyone gave much serious thought to the values of such areas. Today we can only imagine the vast and diverse system of prairie marshlands totaling almost 2 million acres (Bishop and Van Der Valk, 1982). Early Iowa settlers and their descendents have had to deal with the harsh realities associated with making a living from the Iowa landscape. Consequently, productive marshes were converted into productive croplands.

The "Swamp Land Act of 1850" granted some 1.2 million acres of wetlands to the State of Iowa for swamp reclamation. Counties bartered and sold these lands for as little as 25 cents an acre, often to immigration companies with the condition that they put settlers on the land.

To those early Iowa settlers, the worth of a marsh lay only in their ability to easily drain it and convert it to productive farmland. That pattern, begun in the late 1800's persisted and grew. By 1938, only 50,000 acres of prime marshland remained in Iowa (Bennett, 1938). Today there are about 27,000 acres of natural marsh (Bishop and Van Der Valk, 1982). The early challenge, that of eliminating the State's marshlands and replacing them with croplands, now stands at 96.5 percent completed; and a more recent challenge, that of protecting and restoring wetlands for their other values, has only just begun.

It was not until the late 1930's that a public perception of the worth of a wetland left in its natural condition evidenced itself. In 1937 the Pittman-Robertson Act was passed, creating a federal excise tax on sporting arms and ammunition. The Iowa Conservation Commission, utilizing state funds and federal cost-sharing funds, began to purchase remaining wetlands because of their high value as wildlife production and ecological areas.

Today, publicly-owned natural marshes total nearly 22,000 acres in Iowa (excluding the Mississippi River). An additional 12,000 acres of artificially-

created marshes have been established (Bishop and Van Der Valk, 1982). Relatively few acres (3,000 to 5,000) of natural prairie marshlands remain in private ownership, and there is a priority by natural resource agencies and private interests to secure permanent protection for the remaining fragments. Additionally there are opportunities to restore at least some of the wetlands that have been lost.

As is too often the case, the worth of wetlands as high quality natural areas with abundant opportunities for wildlife, recreation and education uses, has been slow to receive broad-based public support. Only when the last fraction of a percent of these wetlands remained was there sufficient interest generated to protect them. Fortunately, recognition of this worth has increased, with the requirement of this planning document as just one more indication of a growing concern with the protection and restoration of wetland resources in Iowa and in the rest of the United States.

There is also evidence that the other values of wetlands are being recognized and appreciated. Wetlands are important in the maintenance of the quality and quantity of groundwater supplies. Wetlands also have the capacity to store floodwaters tempo-

rarily, and, in some instances, to reduce the volume and severity of floods. Such values ultimately translate into economic savings stemming from reduced water treatment costs, improved health status, reduced flood damages, etc.

Additionally, waterfowl hunters and nature study enthusiasts find wetlands as attractive and essential resources to support their pastimes, and direct economic/tourism benefits are derived.

IOWA'S REMAINING WETLANDS

As illustrated in Figures 1 and 2, Iowa's remaining high-priority wetlands are not evenly distributed across the State. Glaciers, particularly the Wisconsin Glacier, played major roles in making Iowa what it is today, including the State's wetland resources.

The topography, soil types and resultant land use patterns in Iowa oftentimes provide dramatic evidence of the periodic advance and retreat of glaciers. The natural lakes and prairie potholes of north central and northwest Iowa are clearly associated with the Wisconsin Glaciation (See Figure 2).

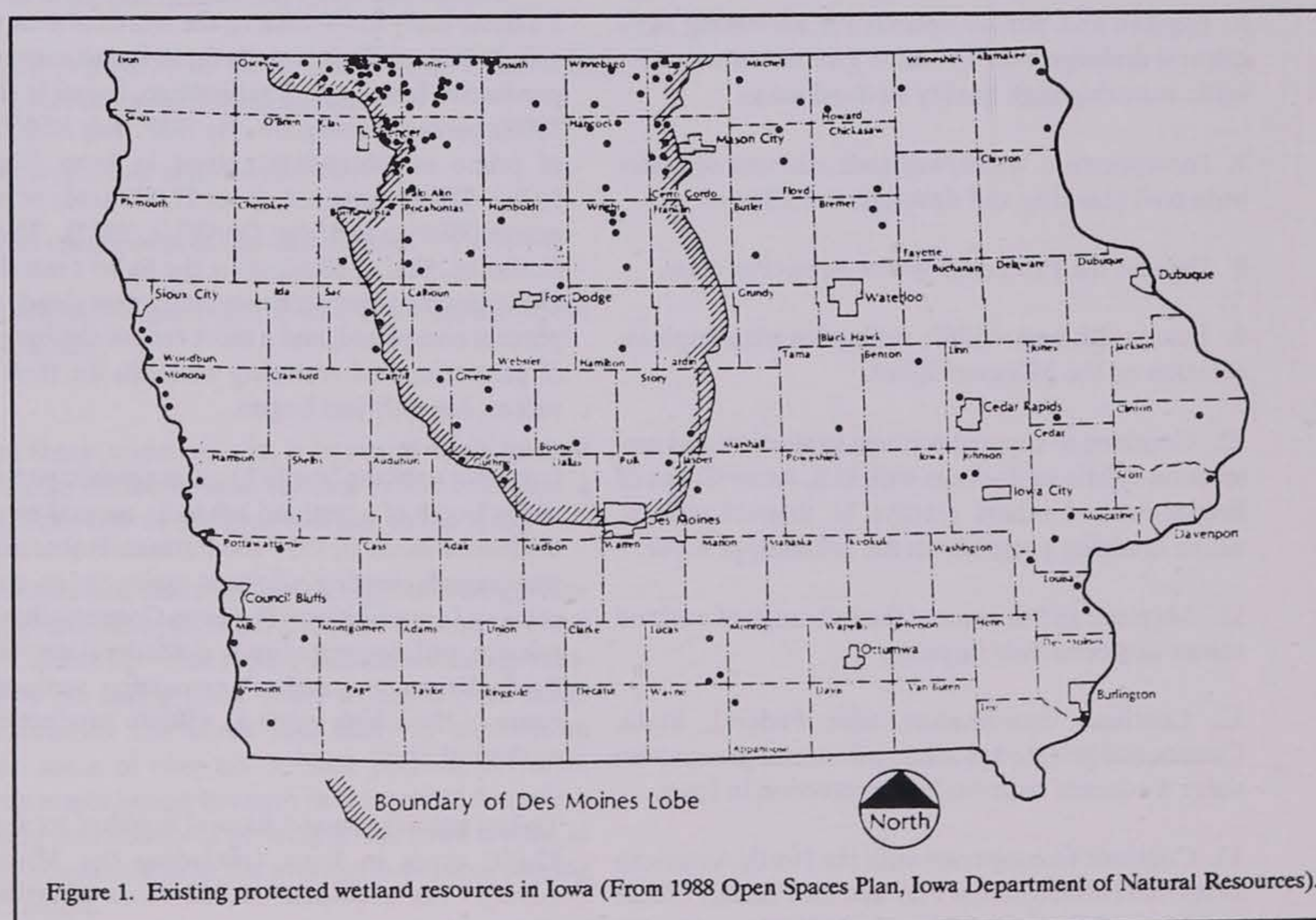


Figure 1. Existing protected wetland resources in Iowa (From 1988 Open Spaces Plan, Iowa Department of Natural Resources).

These prairie pothole marshes are not the only significant wetlands in Iowa. The many interior rivers and streams traversing the State (Figure 3) provide additional wetland resources. All of these rivers, but most notably the Cedar and Wapsipinicon, provide high-quality wetlands associated with side channels, overflow areas, old oxbows, etc.

Iowa's border rivers, the Mississippi and Missouri, provide a startling contrast in wetland resources, with the Mississippi having been altered by a series of navigational locks and dams which actually expanded surface water resources. The Missouri River on the other hand has been dramatically impacted by channelization projects, resulting in losses of over 500,000 acres of wildlife habitat (much of it of a wetland nature). Though these major border rivers are very different from each other, both possess substantial wetland values or potentials which warrant high-priority attention in any plan to improve wetland resources in Iowa.

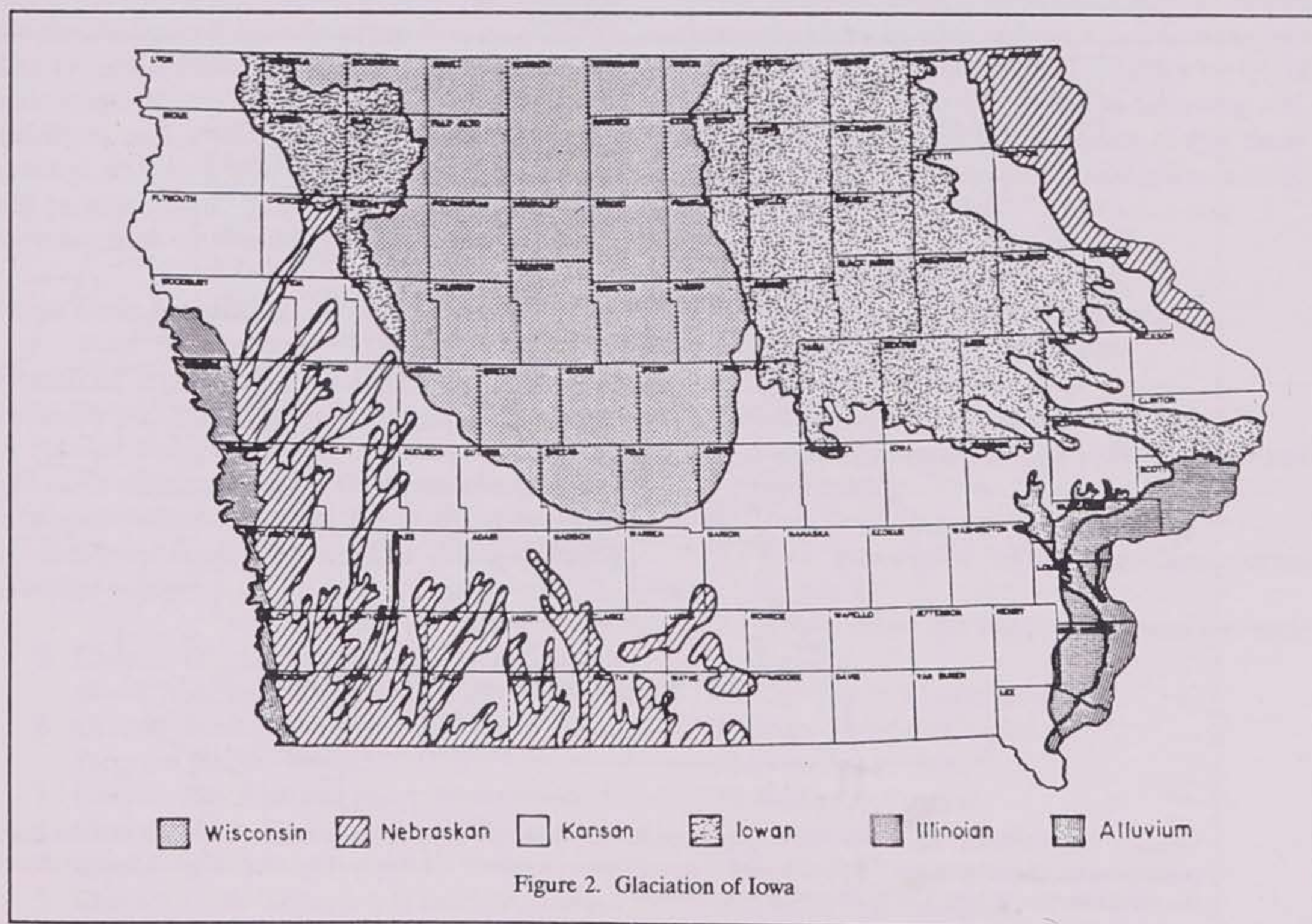
PURPOSE AND SCOPE

Why have a Wetlands Plan?

The massive conversions of natural wetland areas in Iowa and the ongoing threats to the few that remain create a growing sense of urgency. Coalitions of interested groups, the utilization of creative or imaginative partnerships, funding packages and other protection and restoration efforts are all best served if there is a reasonably clear delineation of the goals for wetland protection.

This plan is therefore needed for several reasons:

1. To document wetland losses.
2. To inform and educate decision-makers on the value of wetlands.
3. To delineate priorities for protection, restoration and management of wetlands in Iowa.
4. To provide a vehicle for improved communications between entities involved or concerned with wetland protection.
5. To identify protective mechanisms available, and develop funding sources to protect and restore wetlands.



Goals for Wetland Protection in Iowa

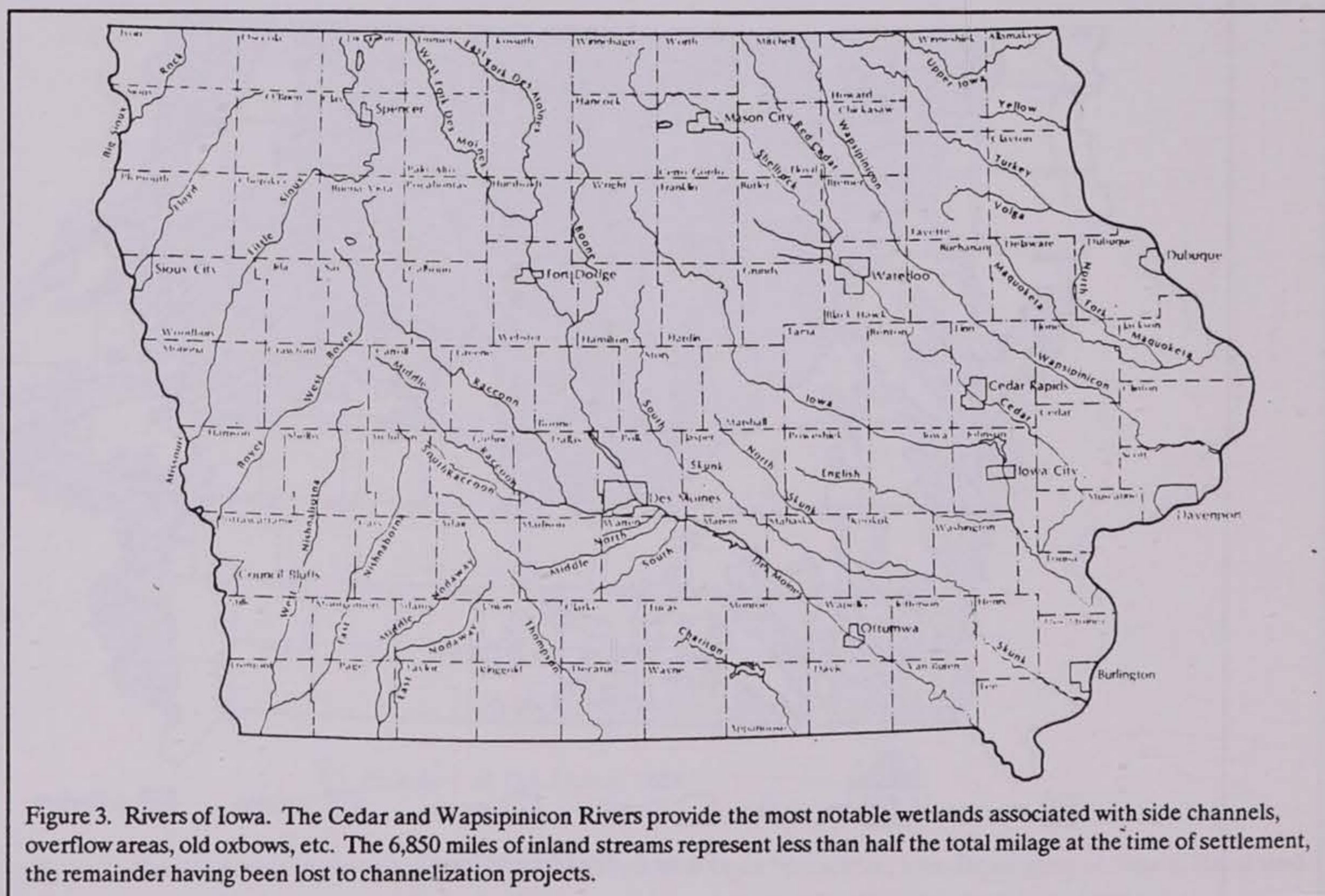
The basic goal for wetland protection in Iowa is to assure that all remaining high-quality wetlands are protected in perpetuity. The words "high-quality" are obviously subjective in nature, but include considerations such as:

- Size
- Degree of Permanence
- Representativeness
- Public Accessibility
- Fishery and Wildlife Benefits
- Recreational/Educational Benefits
- Threatened/Endangered Species of Plants and Animals
- Adjoining Upland Wildlife Production Capabilities
- Special Plant Communities

A companion goal which appears to offer significant potential in Iowa is the restoration of areas formerly in wetlands, but currently being cropped. Given the right set of natural and economic conditions, it may be just as feasible to re-create a former wetland as to purchase and enhance an existing one.

RELATIONSHIP TO SCORP (STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN)

This Iowa Wetlands Protection Plan is an official supplement to the Iowa SCORP. Wetlands and their associated values as natural resource/outdoor recreation areas are broadly addressed in the SCORP itself. However, it is a purpose of this supplement to provide a more in depth assessment of wetlands issues and opportunities. This is in accord with the 1986 Emergency Wetlands Resources Act passed by Congress. More importantly, this assessment is in accord with past SCORP planning practices to pursue specialized study areas. These issue and action-oriented special studies allow for more detailed and more useful planning products since they, unlike the SCORP, treat narrower topics and tend to focus on more specific recommendations for actions.



AUTHORITY

Emergency Wetlands Resources Act of 1986
(P.L. 99-645)

Section 303 of P.L. 99-645 calls for each state to prepare an addendum to its SCORP plan. State plans are to be consistent with the "National Wetlands Priority Conservation Plan" prepared by the U.S. Fish and Wildlife Service. The National Plan acknowledges that individual state plans need not be identical to the federal model; but state proposals for Land and Water Conservation Fund grants "must be consistent with the Plan regarding wetland loss, threat, and functions and value criteria."

Land and Water Conservation Fund (LWCF)

The LWCF provides federal cost-sharing to states and their political subdivisions for the acquisition and development of public outdoor recreation facilities. Since its passage in 1964, the LWCF has provided over \$43 million to Iowa projects (each dollar from Federal sources has been matched by at least one state or local dollar).

Projects submitted for consideration for cost-sharing under the LWCF are evaluated under the criteria in the State's Open Project Selection Process (OPSP). This process is aimed at giving fair consideration to a wide range of project types (including wetlands acquisition) and awarding grants where needs are greatest and/or where benefits from expenditures will be maximized. Traditionally wetland projects have not been emphasized in this program.

Other Code Authorities

Numerous sections of Iowa Code deal directly or indirectly with the authority of the Iowa Department of Natural Resources, county conservation boards and other entities to pursue the acquisition and protection of wetland resources. Many will be discussed in subsequent sections of this plan. A brief listing is provided below:

1. Chapter 107--General powers and authorities of the Natural Resource Commission
2. Chapter 108A--Iowa Protected Water Areas Program (Scenic Rivers)
3. Chapter 109--Fish and game conservation
4. Chapter 109A--Threatened and Endangered Species
5. Chapter 110B--Migratory Waterfowl Stamp

6. Chapter 111--Conservation-Public Lands and Water
7. Chapter 111A--County Conservation Boards
8. Chapter 111B--State Preserves System
9. Chapter 111C--Public use of private lands and water
10. Chapter 111D--Conservation Easements
11. Chapter 427.1(36)--Property tax exemptions for natural or wildlife areas.
12. H.F. 620, Acts of the Iowa Legislature--Open Spaces Planning
13. H.F. 631, Acts of the 1987 Iowa Legislature--Groundwater Protection Act.
14. H.F. 575, Acts of the 1987 Iowa General Assembly--State Trails Plan, including water trails, some of which will occur on wetland areas.
15. H.F. 2407, Acts of the 1990 Iowa Legislature--Iowa Wetlands Protection Act

CONSULTATION

Wetlands Protection Advisory Committee

Direct and indirect involvement in wetlands protection often involves a diverse group of players and special interests. Some reviews and approvals may be required by law. In other instances, a review may not be required, but only makes good sense if a variety of players are involved or affected. The following entities have been involved in the review of this document, and some may be consulted as implementation efforts proceed over time:

1. U.S. Fish and Wildlife Service
2. Environmental Protection Agency
3. U.S. Army Corps of Engineers
4. National Park Service
5. Soil Conservation Service
6. Iowa Department of Agriculture and Land Stewardship
7. Iowa Department of Transportation
8. Iowa Association of County Conservation Boards
9. Iowa Natural Heritage Foundation-Wetlands for Iowa
10. The Nature Conservancy
11. Iowa Audubon Council
12. Iowa Sierra Club
13. Pheasants Forever
14. Iowa Wildlife Federation
15. Iowa Trappers Association
16. Ducks Unlimited, Inc.

17. Farmers Home Administration
18. Iowa Wildlife Society
19. Iowa Farm Bureau
20. Izaak Walton League
21. Iowa Fur Takers

WETLAND ASSESSMENT CRITERIA

Federal Criteria Section 301 of the EWRA specifies three broad factors to be used in evaluating wetlands for protection:

1. Historic wetland losses
2. Threat of future wetland losses
3. Wetland functions and values

The wetland classification system developed by Cowardin, et al. (1979) is utilized in the National Plan. "Palustrine Emergent Wetlands" typified by prairie pothole wetlands formerly abundant in Iowa (and also including the now rare fens) showed the greatest losses during the 1954-74 study utilized by the U.S. Fish and Wildlife Service. During that 20-year period, such wetlands declined nationally by 14.1 percent.

Additionally the National Plan identifies Palustrine Emergent Wetlands located in the ecoregions of Iowa (from Bailey, 1976) as having experienced a moderate level of loss from 1954-74. This conclusion must be carefully examined however. As noted in the introduction of this plan, Iowa's wetlands had diminished from approximately 1,500,000 acres in the 1800's to only 50,000 acres by 1938. In contrast, of the 215 million acres of wetlands originally present in the United States, some 95 million acres (about 44 percent) still remain. Obviously those wetlands which were drainable in Iowa were, for the most part, drained long before the 1954-74 base period utilized by the USFWS in the National Plan. And even though the rate of loss from 1954-74 in Iowa is classified as "moderate", it is apparent that historically such losses have been extreme in Iowa.

Iowa Criteria

Given the fact that Iowa lost over 95 percent of the natural wetlands formerly found in the State, it stands to reason that all those which remain are important from the aspect of preserving remnants of Iowa's natural heritage. Those of adequate size are very important for the outdoor recreation opportunities

and wildlife support values they possess. Virtually all wetlands, regardless of size, have existing or potential value as outdoor classrooms for research and a variety of conservation education programs.

Thus, the criteria for establishing priorities for wetland protection in Iowa relate both to public benefits/manageability and to rarity/uniqueness of particular types of wetlands. The Iowa Natural Areas Inventory Program places very high priority on identification and protection of fens, even though public use potential on the site may be low or nonexistent. Other natural wetlands, while they may not contain any identified rare or unique features, may possess significant potential for hunting, trapping, photography, viewing and outdoor education. Both benefit types are important in Iowa.

Criteria for Natural Area Protection/Preservation

The Resource Enhancement and Protection (REAP) Act was initiated in 1989 and includes numerous natural resource protection initiatives. The resource enhancement policy states that the various elements of REAP "shall constitute a long-term integrated effort to wisely use and protect Iowa's natural resources through acquisition and management of public lands..." The County, City and Private Open Spaces Grant Programs utilize three separate accounts established through REAP that encourages Iowans to develop a conservation ethic and make necessary changes in our activities to develop and preserve a rich and diverse natural environment.

Each of these grant programs have established criteria identifying priorities for project selection. Protection and restoration of wetlands projects, though not the sole natural resource eligible for funding, are significantly important projects submitted and in some cases, selected for funding. Briefly, the criteria for each grant program are as follows:

County Conservation Grants Program

- * Public demand or need
- * Project uniqueness
- * Quality of site and/or project
- * Urgency of proposed action
- * Multiple benefits to be provided (including recreational benefits, environmental benefits and other similar benefits)

City Parks and Open Spaces Grants Program

- * Quality of site or project or both
- * Direct recreational benefits
- * Local need
- * Number of people served
- * Relationship to state and local plans
- * Relationship to Iowa Open Space Protection

Private/Public Grants Program

- * Level of significance
- * Resource Representation
- * Level of threat
- * Relationship to existing public land
- * Rare or unique species or communities
- * Public benefits
- * Tourism and economic development potential
- * Geographic distribution
- * Multiple use potential
- * Available funds relative to project costs

Natural wetland areas, because they are rare in Iowa, and because they once were fairly common features on the landscape, tend to score very high in any objective scoring system based on rarity. Of the 180 plant species currently on Iowa's list of endangered and threatened plants, 46 are associated with wetland ecosystems, especially fens. Many other species classed as "species of special concern" by the INAI are also found in Iowa's remaining wetlands.

Criteria for Waterfowl and other Wildlife Management

While rarity or uniqueness of wetlands is an important criterion for establishing priorities, it is not the only one. The wildlife biologist/manager, while cognizant of the rare and unique aspects of plant and animal life often associated with a wetland, will consider a different set of criteria. Those criteria may include:

- * Size
- * Diversity
- * Public accessibility
- * Wildlife production and harvest capabilities
- * Management opportunities and constraints
 - Proximity of management staff
 - Ability to secure water and to manipulate the level of that water
 - Availability and quality of uplands associated with wetland areas
 - Relative abundance or shortage of public hunting and nonconsumptive recreational uses in the area

These are all important criteria from the perspective of wildlife management and public opportunities to utilize and enjoy Iowa's wildlife resources. There will obviously be situations where a given wetland or complex of wetlands possesses values from the recreation perspective and from the rarity of species and communities found there. Management toward one goal may at times differ significantly from the management toward another goal. These differences only serve to heighten the need for planning, coordination and communication.

Where multiple goals are served, so much the better, and where management to meet one goal is counter-productive toward another goal, it is important to plan, acquire, develop and manage to meet the agreed-upon highest and best use of these limited resources. That highest and best use may support and encourage public access and recreational/educational use on one site while discouraging it on another. Artificial manipulation of water levels may be highly desirable on some areas, but contrary to goals of protecting rare plant and animal species on another.

IOWA'S EXISTING WETLAND PROTECTION

Public ownership by a fish and wildlife or other recreation/resource management entity provides the highest assurance of protection for wetland resources. Such wetlands, often purchased with funds derived from special interest groups (hunters, trappers, or preservation interests) guarantee that those wetland values for which the area was purchased in the first place will be protected and enhanced, and that public use, education, and enjoyment will be assured. As noted in the introduction to this document, there are only 3,000 to 5,000 acres of natural prairie marshlands remaining in private ownership in Iowa. Acquisition priorities as spelled out in this plan are aimed at putting the bulk of these acres into public ownership.

Several existing state and federal permit requirements also impact remaining wetland resources and the ability to protect them.

Federal Authorities

From a regulatory standpoint, the Federal Clean Water Act, Section 404, and its amendments in recent years, have established clear and expanded authority for the federal government to control actions that

would adversely impact on the nation's wetlands. Since passage of the Rivers and Harbors Act in 1899, a federal statute that dealt with the Corps of Engineers' authorities and responsibilities on "navigable waters", there have been noteworthy, if belated, statutory acknowledgements of the diverse public values of the nation's wetlands. In 1968, it was noted in Corps policy documents that "...the decision as to whether a permit (to drain or fill a wetland) will be issued must rest on an evaluation of all relevant factors, including the effect of the proposed work on navigation, fish and wildlife, conservation, pollution, aesthetics, ecology and the general public interest." Significant amendments to the Federal Water Pollution Control Act (FWPCA) in 1972 expanded the Corps' authority from "navigable waters" to "...all waters of the U.S.--including wetlands." Conscientious and consistent monitoring and enforcement of Section 404 requires on-going coordination between federal, state, and local resource managers. This coordination normally exists, and Section 404 has been effective in protecting remaining wetlands.

The Swampbuster Provisions of the 1985 Food Security Act included cross compliance provisions stating that a landowner who converts wetland area to cropland may lose eligibility to participate in other USDA programs--not only on the converted area, but on the entire farm unit. These provisions provide a direct, immediate and significant incentive for leaving wetlands in place. By so doing, crop surpluses are reduced while other broad benefits of wetlands (control of flood waters, aquifer recharge, recreation, etc.) are all enhanced.

Swampbuster provisions have not been without controversy, often revolving around technical definitions of wetlands which may differ from the common perception of wetlands held by farmers and ranchers. However this program is a vital, on-going part of the 1985 Food Security Act that has the potential for significant wetland protection, at least during the 10-year life of the Act. Multi-agency involvement in the program has been very good, with state biologists assisting SCS and ASCS officials in the identification of hydric soil areas and wetland-associated plant species.

The North American Wetlands Conservation Act was signed into law December, 1989 and is designed to conserve wetland ecosystems as habitat for North American fish and wildlife. Iowa has submitted three separate projects for funding from this Act in 1990

which have been approved by the Wetlands Conservation Council. This Act provides 50% federal funding of approved projects with the remaining matching money being provided by the state and various conservation organizations. Iowa's three approved projects will cost about \$530,000 and involve acquisition and wetland development/restoration of 500 to 600 acres of habitat.

The Upper Mississippi River and Great Lakes region Joint Venture is similar to the Prairie Pothole Joint Venture. Iowa will have 13 eastern Iowa counties involved and is in cooperation with the North American Waterfowl Management Plan. Iowa's habitat goal as part of this joint venture is to acquire or protect with easements an additional 12,000 acres of upland/wetland habitat during the 15 year project. In addition, about 9,000 acres of wetlands will be restored on public and private land. The cost of project objectives will run about \$1 million per year with funding being obtained from U.S. Fish and Wildlife Service, Iowa DNR, County Conservation Boards, conservation organizations, private business and concerned citizens.

State Authority

The Iowa Wetlands Protection Act passed during the 1990 legislative session is designed to protect this state's shrinking number of wetlands. A wetland is defined by the law as an area of two or more acres in a natural condition that is mostly under water or waterlogged during the spring growing season and is characterized by vegetation of hydric soils. To receive the designation of a protected wetland, the area must be a type 3-5 wetland as described in Circular 39, Wetlands of the United States, 1971 Edition, published by the U.S. Department of the Interior. Wetlands created by plugging an agricultural drainage well or those located within a drainage or levee district cannot be considered for a protected designation.

The Iowa DNR will be responsible for an inventory of eligible wetlands and then designating those that met criteria for protection after consulting with local county conservation boards. Landowners will be notified of wetlands receiving the protected designation, and those that wish to contest this designation will have an opportunity to do so through a mediation board.

Protected wetlands cannot be drained without first obtaining a permit from the DNR. A permit to drain a protected wetland can only be issued if a wetland of equal or greater value can be found by the landowner to replace the one to be drained. Protected wetlands can be used for pasture or cropland during the period of drought if that use does not result in any future impact on the wetland. A tax exemption for the landowner is allowed for wetlands that are placed in the protected status.

Iowa's Code (Chapter 111.4) provides authority to the State for the issuance of construction permits for any construction activities on or over sovereign lands. Many of the State's natural marshlands and riverine wetlands are sovereign (state-owned), and the Iowa Department of Natural Resources coordinates state permit authority with two primary goals in mind:

1. To review permit applications promptly and to issue permits where deemed appropriate in an expeditious manner.
2. To protect the State's remaining wetlands through judicious application of state and federal permit authorities. Oftentimes projects have been modified to accomplish intended purposes without adversely affecting wetland resources. In other instances the application represents an action that is clearly contrary to state and federal law and policies, and the permit is denied.

The existence of a wetland within a proposed construction site is a clear signal that critical wildlife habitat will probably be adversely affected, and Section 111.4 has served to avoid or cause mitigation of such impacts.

Iowa Code Chapter 455B, Sections 262, 264, 275, and 277 pertain to the permit authority of the Iowa DNR in regulating construction and alterations within floodplains. The Iowa Administrative Code, Chapter 72, contains specific criteria utilized by the DNR to determine if/when permits are required and under what conditions they may be issued or denied. With reference to the wildlife, recreation, and wetland values associated with Iowa's rivers and streams, the following is especially noteworthy:

"72.2(7) Fish and wildlife habitat and public rights. The channel change shall not have a significant adverse effect on fish and wildlife habitat or public rights to use of the stream. Conservation easements and other conditions may be required to mitigate potential damages to the quality of water, fish and wildlife habitat, recreational facilities, and other public rights."

As with Section 111.4 permit requirements, wetlands routinely affect the issuance of a permit and conditions attached to it.

Another legal mechanism available for wetland protection is that of tax incentives available to landowners whose holdings include wetland areas. Chapter 427.1(37), Code of Iowa, provides for property tax exemptions for "wetlands...rivers and streams, river and stream banks..." In 1986, a total of 32,282 acres were signed up for the wildlife habitat exemption, of which 7,340 acres (about 23%) were designated as wetland areas. In 1987, enrollment had increased to 39,573 acres in total and in 1990 the total was 44,903 acres. Participation is variable and is at the discretion of county boards of supervisors. The tax exemption does provide a means for recognizing the public values associated with wetlands, and also for recognizing the lack of income producing capability for the landowner.

The Iowa Protected Water Areas Program is based on a statewide assessment of Iowa's best scenic rivers, natural lake shorelines and marshes. Included in the Iowa Protected Water Areas General Plan (1981) were several high-quality natural wetlands listed as high-priority sites for protection. Most have been acquired or are within the boundaries of on-going acquisition projects.

PWA designation of high quality segments of the state's rivers also provides an avenue for riverine wetland protection. To date, five rivers or segments of rivers, have been identified as a Protected Water Area totaling 315.3 river miles through fifteen counties. Those rivers include: the Boone River in Hamilton County; the Little Sioux River in Clay and Buena Vista Counties; the Middle Raccoon River in Guthrie and Dallas Counties; the Wapsipinicon River in Bremer, Buchanan, Linn, Jones, Cedar, Clinton and Scott Counties and finally the Upper Iowa River in Winneshiek and Allamakee Counties.

The Resource Enhancement and Protection (REAP) program annually provides approximately \$417,000 for the purpose of PWA implementation. Since REAP funds have become available, two acquisitions totaling 590 acres have been completed along the Boone River. In addition to the Boone River acquisitions, 98 acres in Buchanan County and 68 acres in Guthrie County have been acquired using REAP funds. All acquisitions must involve willing sellers as the PWA Act prohibits the use of eminent domain.

Drainage Laws--Chapter 455, Code of Iowa, includes over 200 subsections governing the establishment and operation of levee and drainage districts in Iowa. The Iowa Department of Natural Resources owns land in over 30 counties which is subject to these laws and is "...financially responsible for drainage and special assessments against land which (it) owns...within those districts."

Obviously the very nature of a drainage district and its water management goals require that all landowners participate. A recent amendment to the drainage law shifted the responsibility for payment of drainage assessments on state-owned wetlands to the State's General Fund. Prior to 1985, such payments to facilitate wetland drainage were made directly from the State Fish and Game Trust Fund. This resulted in the paradox of licensed hunters and trappers' fees being used on the one hand to purchase and restore wetlands, and on the other hand to drain and destroy wetlands.

While the primary purpose of drainage district laws is to facilitate the thorough and efficient drainage of wetlands, recent years have seen increased application of one small subsection of Chapter 455 dealing with the requirement of a drainage district to gain permission from the IDNR for drainage district improvements on state-owned lands. Within Section 455, Chapter 218 it is stated: "Such permission shall not be unreasonably withheld...". This is further interpreted to mean that permission may at times be "reasonably" withheld until assurances of minimized or mitigated adverse impacts to wildlife and/or fishery resources associated with wetlands have been made.

Drainage district projects have obviously been very successful in Iowa, and have resulted in thousands of acres of choice agricultural land. Current crop surpluses, current costs for creating or modifying drainage districts, a growing recognition of the other diverse values which wetlands possess, and passage of laws such as the Swampbuster Provisions of the 1985 Farm Bill all indicate a modest reduction in drainage threats.

However, while acknowledging the agricultural benefits they have provided, the drainage districts' activities have been the chief cause of wetland losses in Iowa; and continued monitoring of legal and procedural activities of the districts is essential.

Recent allowance of federal setaside payments on restored wetland areas created by interrupting a tile or other drainage feature within CRP areas is further evidence that many landowners appreciate the value and beauty of a marsh, and that government programs can be tailored to meet a variety of goals when all interests work together to do so.

Iowa has, as discussed above, legal tools to provide both "carrot" and "stick" approaches to the protection of the State's wetlands, and the general public values these areas provide. All methods for wetland protection evolved too late to protect the vast majority of Iowa wetlands; but the fact that they exist as legal remedies today is a signal that wetland values in terms of wildlife, recreation opportunities, water quality, flood control, etc., now enjoy a far higher stature than previously held.

IOWA'S PRIORITIES FOR WETLAND PROTECTION/RESTORATION

As noted earlier, nearly any natural wetland remaining in Iowa warrants protective or restorative efforts if, in fact, a serious concern exists for maintaining remnants of the State's natural heritage. Agencies or groups may function at various governmental levels, and may stress various methods to accomplish wetland protection; however Iowa's priorities as to which types of wetlands most warrant protective programs should be shared by all those in a position to initiate actions to accomplish that protection. Current estimates place the rate of loss of existing privately-owned wetlands at about 2 percent per year. In very brief form, the following summarize Iowa's priorities for wetland protection:

Iowa DNR Priorities

1. Palustrine Emergent Wetlands (potholes)
 - A. In the 4-county project area of the Prairie Pothole Joint Venture
 - B. In the 31-county project area of the Prairie Pothole Joint Venture
 - C. In other parts of Iowa

The DNR has identified some 4000 acres of existing private wetlands in the pothole region of the State which should ultimately be in public ownership, Figure 4. Long range plans include the acquisition of an additional 30,000 acres of wetland/upland complexes from willing sellers. Primary sources of funds to date have included U.S. Fish and Wildlife Service, State Duck Stamp receipts, Wildlife Habitat Stamp receipts, Ducks Unlimited (MARSH funds) and donations from many conservation organizations and private citizens.

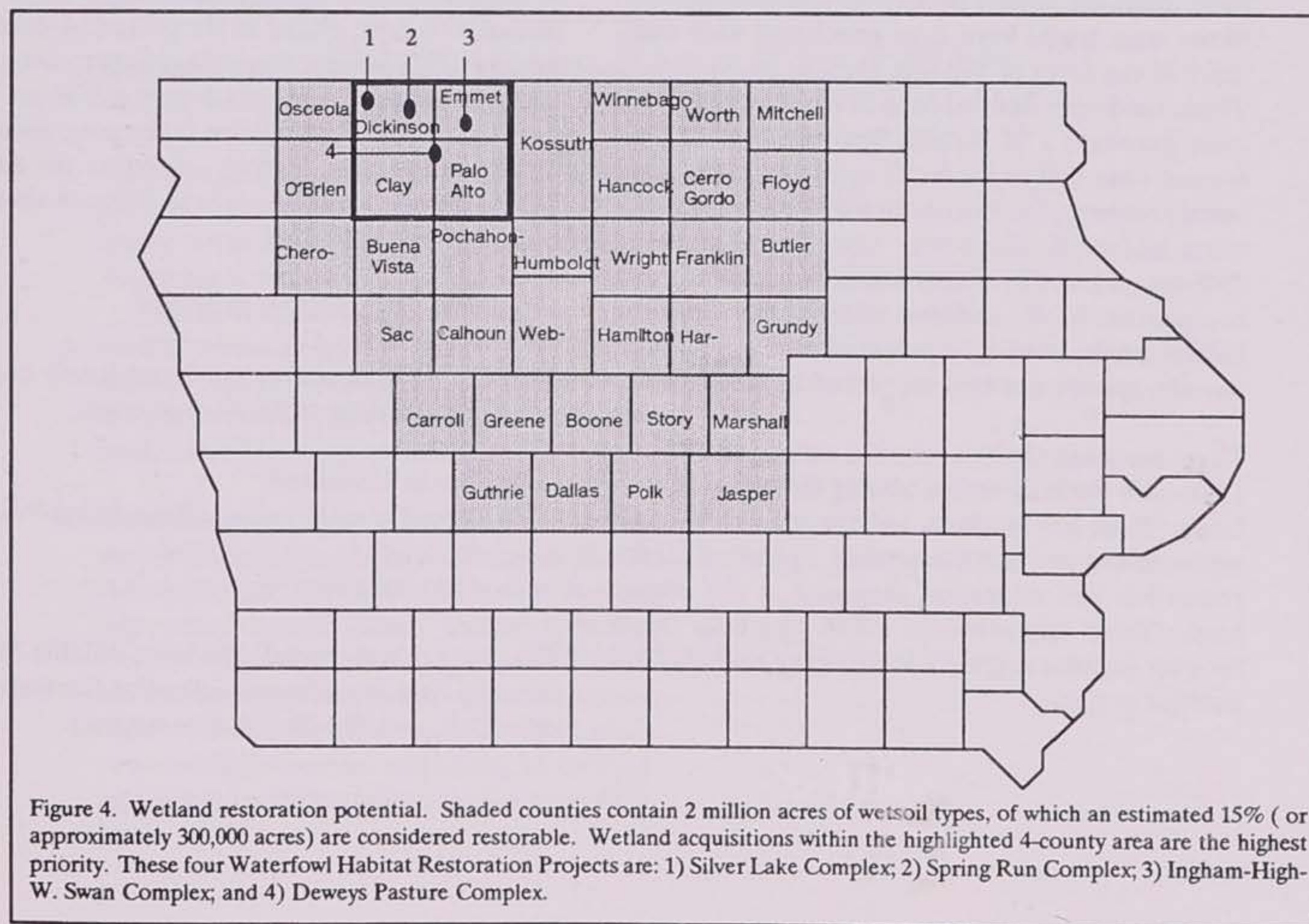
2. Wetland Restoration--Iowa possesses many opportunities for restoring drained wetlands to their former productivity. Thousands of basin areas remain, and could quickly and easily be restored by breaking or intercepting tile lines. Most of these areas will remain in rowcrop agricultural production but some offer a cost-effective alternative for creating (restoring) wetland areas. DNR biologists estimate that 15% (about 300,000 acres) of the 2 million acres of wet soil types are restorable (Figure 4).

3. Riverine Wetlands--All rivers in Iowa possess wetland values. The two interior rivers having the greatest amounts of existing or potential wetland resources are the Cedar and the Wapsipinicon shown in Figure 3.

4. Border Rivers

Mississippi River--Efforts to coordinate the interests of various groups along the Mississippi River are on-going. Through efforts such as the GREAT studies, the Upper Mississippi River Environmental Management Plan, and others, more is known each year about the values of wetlands associated with the Mississippi River. The problems are often large when dealing with a resource that is of diverse interest to such a wide range of river users. Wetlands are no exception; but certainly their size, quality, and distribution warrant high priority consideration.

Missouri River--Implementation of the U.S. Army Corps of Engineers Fish and Wildlife Mitigation Plan will provide a good first step toward restoration of the wetland resources formerly located along the Missouri River Valley. In addi-



tion, more studies and more implementation funding will be required if a serious attempt to mitigate the massive fish and wildlife losses is seriously pursued.

5. Fens--Unique natural wetland areas typically possessing a relative concentration of threatened, endangered and unusual plant and animal species and communities.

County Conservation Board Priorities

The counties vary greatly in terms of the resources available to them and the programs which each deems to be of highest priority. However, in general, their goals are very similar to those of the DNR. As noted previously, a wetland does not have to be large to be of value for education, recreation, wildlife production or protection of unique natural features. The State, to realize the efficiencies of funds and management staff, must place clear priority on a relatively few large wetland complexes which are truly of statewide significance.

Within the boundaries of each county, a different set of priorities will emerge; and many wetlands too small to warrant direct state involvement will make ideal areas for county ownership and management. Many such tracts have been purchased with assistance in the form of Wildlife Habitat Stamp Funds. These funds are derived from licensed hunters who must purchase a \$5 Habitat Stamp as part of their license. One-half of the funds are made available to county conservation boards for wildlife habitat acquisition and/or development. Cost-shared grants of 75% are awarded to county conservation boards on a competitive basis, utilizing criteria that consider habitat needs, existing or potential habitat quality on the site, species diversity supported by the area, etc.

There are some obvious pros and cons to owning one 1,000-acre wetland versus owning ten 100-acre wetlands. Each has its place, and the smaller, isolated wetlands can provide outstanding opportunities for recreation and education programs at the county level. These opportunities will in turn help create broader popular support for the larger state/federal wetland projects.

Federal Priorities

Federal priorities for wetland protection in Iowa are largely the same as State priorities, with prairie pot-hole wetlands generally acknowledged as important remnants of a formerly abundant ecosystem. In addition, the U.S. Fish and Wildlife Service is extensively involved in the planning and management of wetland resources along the Upper Mississippi and Missouri Rivers. On these as well as on other existing wetland areas across the State, the Federal priority for wetland protection is often expressed in relation to the consultation, review and approval of construction permits, and through participation in the planning stages of construction projects in order to reduce or eliminate adverse impacts on wetland resources.

The Private Sector Priorities

Most of Iowa is privately owned and probably always will be. The private landowner often holds the reins on directing the future of a wetland resource on his property. At the same time, these landowners must operate in a very real world of profit and loss, and should not be expected to bear the cost on their own of a program having broad public benefits.

A tax exemption for the landowner is allowed for wetlands that are placed in the protected status and other wildlife habitat where landowners are paying taxes on property from which they realize no direct financial return. Participation in the program is variable from county to county. However the concept behind the law was solid; and the program should be continued and expanded.

Non-Profit Organization Priorities

Three organizations in Iowa immediately come to mind in relation to wetlands protection:

1. Ducks Unlimited
2. Iowa Natural Heritage Foundation-Wetlands for Iowa
3. Pheasants Forever

There are others, namely the Iowa Wildlife Federation, the Audubon Council, Iowa Fur Harvesters, Sierra Club, and The Nature Conservancy.

As within the various divisions of state and federal government, the specific goals of these groups vary, but all support the increased protection of Iowa's remaining wetlands.

The private foundations provide mechanisms and funding to act quickly to protect a threatened or available resource which a government entity cannot. Oftentimes this protection is an interim measure until government units at the Federal, State and/or local levels can assume public ownership and management. In this and other instances, private non-profit corporations can serve as strong allies for a variety of wetland protection programs.

ALTERNATIVES TO FEE TITLE OWNERSHIP

With reference to the protection of wetlands, it should be noted that protection is not always synonymous with public ownership. While owning a wetland in fee title provides the maximum in terms of authority to manage and to make decisions about wetlands, such ownership may not always be necessary. Particularly when a wetland resource is too small or too distant from management personnel, or is disjunct from the main region of wetlands, some alternatives may exist. They include:

1. Dedication as a state preserve under Chapter 111B, Iowa Code
2. Purchase of a conservation easement that will preclude the current owner or any future owner from draining or otherwise adversely impacting a wetland.
3. Continued or expanded incentive programs aimed at reimbursing a private wetland owner for the public benefits derived from the wetland under his or her ownership.
4. Conservation easements granted the U.S. Fish and Wildlife Service from the Farmers Home Administration through a Memorandum of Agreement between these federal agencies. On lands reverting back to FmHA, the F&WS has the first opportunity to be granted an easement on lands identified as naturally or environmentally important and having no existing agricultural qualities before FmHA resells the land.

To date, the F&WS has been granted 51 easements totaling 2,135 acres through this memorandum of agreement. Approximately 200 acres (10%) of these conservation easements are wetlands. The State of Iowa has purchased one easement of 63 acres for the purpose of restoring a wetland in Wright County. This area is adjacent to the state-owned Morse Lake Wildlife Area.

FUTURE OF WETLANDS IN IOWA

Remaining natural wetlands in Iowa are no longer universally viewed as a frontier to conquer. Most of the easily and economically drainable wetlands were drained long ago, and there is growing public support to protect the ones which remain.

The National Wetlands Priority Conservation Plan is underway; this supplement to the 1990 SCORP is intended to comply with Sec. 303 of the Emergency Wetlands Resources Act of 1986. These planning efforts are indicative of the growing importance being placed on wetland resources in Iowa and in the U.S.

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