

# THE UPPER IOWA RIVER

*A Wild and Scenic River Study*

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WILD AND SCENIC RIVER STUDY

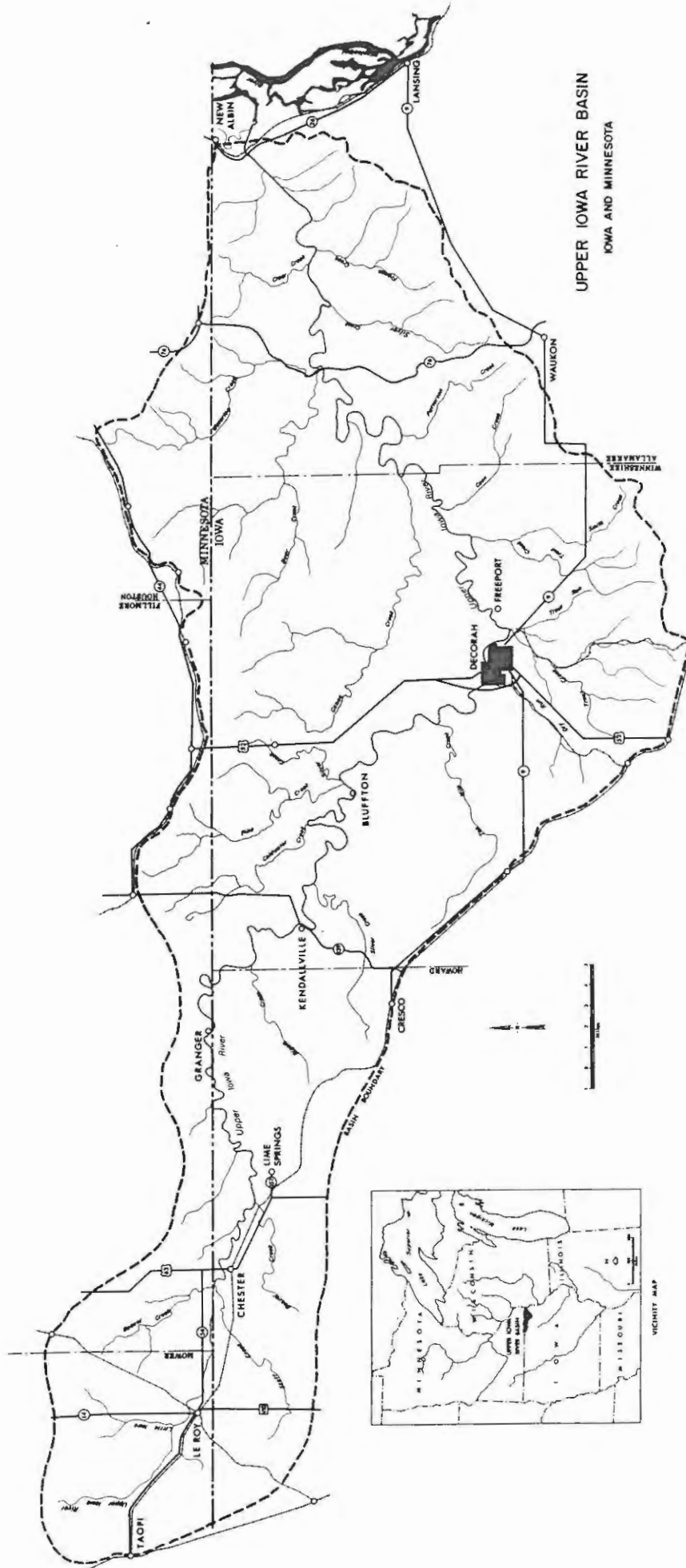
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UPPER IOWA RIVER BASIN  
IOWA AND MINNESOTA



# I

## INTRODUCTION

## I. INTRODUCTION

On October 2, 1968, the Congress of the United States enacted the Wild and Scenic Rivers Act, Public Law 90-542. In this Act the Congress declared it

. . . to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

The Upper Iowa River, Iowa, is one of 27 rivers designated by the Act for potential addition to the national wild and scenic rivers system. The Act calls for a determination of the suitability of the river for inclusion in the system and, if it is to be included, recommendations pertaining to the administration and management of the river and its environment.

### **Background**

In 1963, during the preliminary inventory and evaluation period for the proposed nationwide system of wild rivers, a brief survey and analysis was made of the

Upper Iowa. At that time the Federal study team reported favorably on the river.

The Iowa Conservation Commission has for many years been interested in providing for the protection of the Upper Iowa River. The State initiated studies in the early 1960's and in 1967 evaluated the river as a potential first unit in a proposed State scenic rivers system. Early that same year the State initiated a land acquisition program for the riverway. An additional step was taken in 1968 when the State outdoor plan cited the Upper Iowa as a potential wild river and proposed a program of further acquisition.

Interest in preserving the Upper Iowa has also been evident at the local level. The Winneshiek County Comprehensive Plan and the General Development Plan for Decorah, Iowa, have identified sites of recreation potential along the river bluff areas near Decorah.

Private groups have also displayed concern for the Upper Iowa. In 1964 the Northeast Iowa Council for Outdoor Resources Preservation (NEICORP) was formed. The Council is composed of approximately 200 local citizens, and has been actively promoting a program for protecting the Upper Iowa.

The outgrowth of this high degree of State and local interest was the placement of the Upper Iowa River in the Wild and Scenic Rivers Act. The following report presents the findings and recommendations of the Federal-State study called for by the Act.

### **Conduct of the Study**

The conduct of the river evaluations required by the Wild and Scenic Rivers Act is viewed as a cooperative venture of the U. S. Departments of the Interior and Agriculture and the appropriate State and local agencies. For the study of the Upper Iowa River, the Bureau of Outdoor Recreation, Lake Central Office, Ann Arbor, Michigan, was assigned the responsibility of organizing an interagency study team. In April 1969, a study team was formed composed of representatives of the Bureau of Outdoor Recreation, the National Park Service, the Bureau of Sport Fisheries and Wildlife, the U. S. Forest Service, and the Iowa State Conservation Commission.

During the conduct of the study a large number of Federal, State, and local agencies, groups, and individuals were consulted. Many of these interests also reviewed earlier drafts of this report. In addition to the study team agencies, the assistance of the following agencies and groups is acknowledged: the Environmental Protection Agency, the U. S. Geological Survey, the Soil Conservation Service, the U. S. Army Corps of Engineers, the Bureau of Public Roads, the Iowa State Preserves Advisory Board, members of the staff of Luther College, and the Northeast Iowa Council for Outdoor Resources Preservation. The State held three public meetings in the river area to explain the report findings and provide all groups and individuals with an opportunity to express their views.



## II

### SUMMARY OF FINDINGS AND RECOMMENDATIONS

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This study has revealed that the Upper Iowa River possesses the values which qualify it for inclusion in the national wild and scenic rivers system. The Upper Iowa River fulfills the requirements of the Wild and Scenic Rivers Act, and meets the supplemental criteria established jointly by the Secretary of the Interior and the Secretary of Agriculture, as published in Guidelines for Evaluating Wild, Scenic and Recreational River Areas Proposed for Inclusion in the National Wild and Scenic Rivers System Under Section 2, Public Law 90-542, February 1970.

The headwaters of the Upper Iowa in the flat prairies of southeastern Minnesota give no hint of the charm of the remainder of the river. The character of the Upper Iowa changes as it leaves the prairie country and meanders eastward through the hill lands of northeast Iowa toward the Mississippi River. The Upper Iowa has cut a beautiful valley. From Kendallville to below Bluffton it has created an array of bluffs, chimneys, palisades, and rounded limestone walls. In many places the river winds its way through crop and pasture land, the pastoral landscape providing a pleasant contrast to the more rugged portions of the river's course. The lower section of the Upper Iowa flows through a broad, deep valley flanked by steep slopes crowned with limestone outcroppings.

The fundamental assets of the Upper Iowa are its scenic course, its clean water, and its fine sport fishery. Other facets of the river environment are:

- ✓ Flora and Fauna - The river and its immediate environs support a variety of wildlife. This area is one of the best in Iowa for both fishing and hunting. The river basin is also one of the most heavily forested areas in the State with a mixture of both coniferous and deciduous trees, including the southernmost stand of native balsam fir in Iowa.
- ✓ Geology - The Upper Iowa has cut and worn its way through the rocks of northeastern Iowa during three of the stages of the glacial period. The river has carved the sedimentary rocks into impressive forms: "chimneys," "the Pulpit," "the Elephant," and many others. Because much of the basin is in the Driftless Area, an area lightly affected by continental glaciation, a geological record extending as far back as the Age of Invertebrates is exposed in the massive limestone walls. Numerous springs feed the Upper Iowa and its tributaries, and many caves have been formed in the limestone rock of this area. A large cavern has recently been discovered at Coldwater Spring, one mile from the Upper Iowa River.
- ✓ Archaeology - Abundant archaeological evidence exists which indicates the presence of successive Indian cultures on the terraces above the river. Many archaeological sites have been discovered in proximity to the river and it is probable that many more are present.

History - Although never the scene of any great historic event, this area has an interesting story of Indian conflict and of settlement and use of the river valley during the westward migration in this country. The social character of the area is strongly influenced by the persistence of a Norwegian culture derived from the early settlers.

The rough Driftless Area landscape is particularly appealing to the people of the populous areas on the prairies of Iowa and northern Illinois. Although the Upper Iowa is lightly used at present, it draws recreators from urban concentrations as distant as Chicago. With the present trends toward more leisure time and increased mobility, the river will undoubtedly experience heavier use in the years to come. Its environment of farm and forest provides a retreat from the pressures associated with our urban society.

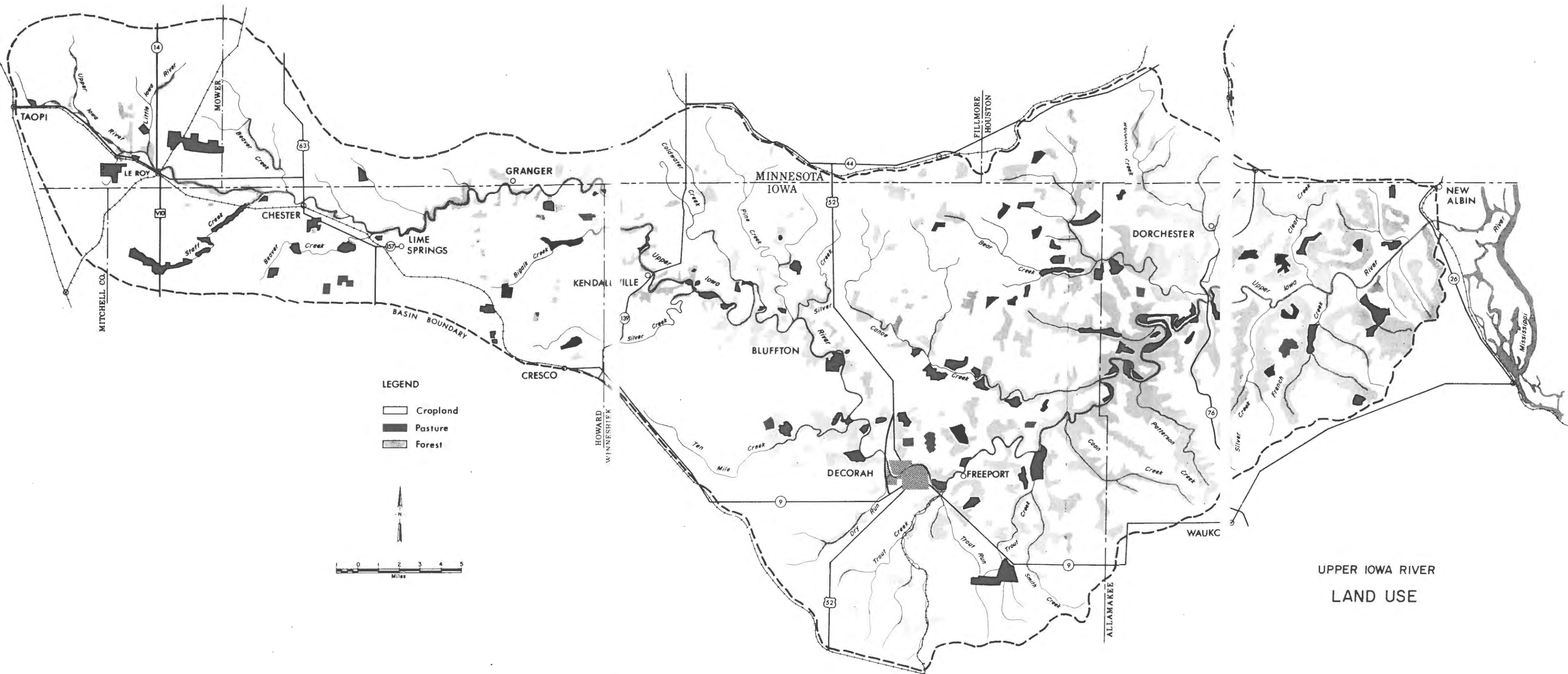
The watershed of the Upper Iowa contains no major urban centers, little industry, and no superhighways. Agriculture is the principal land use and the mainstay of the economy. Population pressure is low; Allamakee, Winneshiek, and Howard Counties contained an estimated total of 47,000 people in 1966. Riverside commercial, industrial, and residential development is very limited.

Because of the generally light development of the region, the demands on the water resource of the Upper Iowa River are minimal. Only four communities, with populations totaling 12,484, use the river for sewage disposal, and no communities draw their water supply from the river. At one time electric power was generated at two dams on the river, but these sites have been abandoned and their associated lands transferred to the State Conservation Commission.

There have been no major competitive water resource developments recommended for the Upper Iowa. The present light development of the river and the lack of conflicting water resource proposals present a rare opportunity for protecting a river of fine qualities before those qualities are diminished by adverse uses.

The Iowa Conservation Commission is the most appropriate management agency for an Upper Iowa Scenic River. The major need for Federal assistance is in the area of land acquisition. The State has designated the Upper Iowa as a potential scenic river and has had a modest acquisition program underway since 1967; however, a shortage of funds has hampered the program. In May 1970, the Iowa General Assembly passed legislation establishing an Iowa Scenic Rivers System. The Upper Iowa River would become the first unit of that system.

Through its present trout stream program on Upper Iowa River tributaries, the conservation programs being carried out by the State conservation officers, and the



State Conservation Commission's cooperative program with the County Conservation Boards, the State has established excellent working relationships with local government officials, groups, and landowners. These relationships and the high degree of local interest in the project should be invaluable in establishing a riverway project, in encouraging local participation in the program, and in negotiating and enforcing scenic easements and other land controls along the river.

As a guide for the development of legislation and a plan of action by the State, a recommended scenic river plan is presented herein. The proposed plan calls for protection of 14,300 acres of adjoining lands along an 80-mile river corridor. Estimated acquisition costs for fee and less-than-fee rights for these lands would total \$1,269,000. The initial development of recreation facilities would cost an estimated \$700,000.

At present, Federal financial assistance is available through the Land and Water Conservation Fund and the Pittman-Robertson and Dingell-Johnson fish and wildlife programs. Heavy demands are being placed on the available State funds for outdoor recreation programs.

### Recommendations

*PURPOSE*  
To preserve the Upper Iowa River in its free-flowing state and to protect and enhance its natural values, it is recommended:

1. That the Upper Iowa River be included in the national wild and scenic rivers system as a State designated and administered scenic river as defined under Section 2(a)(ii) of Public Law 90-542, the Wild and Scenic Rivers Act.
2. That the State of Iowa, using the concepts presented in this report, designate an 80-mile segment of the Upper Iowa River and adjacent lands as a State scenic river, and, as prescribed by Section 2(a)(ii) of the Act, make application to the Secretary of the Interior for its inclusion in the national wild and scenic rivers system.
3. That the river segment designated be from a point near river mile 86, in Howard County at the Iowa-Minnesota line, to "Lane's Bridge" in Allamakee County, six miles from the river's confluence with the Mississippi River. The recommended Upper Iowa Scenic River contains two of the three classes defined in the Wild and Scenic Rivers Act as "scenic" and "recreational." The recommended divisions are: Twenty-one miles of scenic river from river mile 86 to mile 65 as the town of Bluffton;

29 miles of recreational river from Bluffton to the "lower" dam at river mile 36; and 30 miles of scenic river from the "lower" dam to Lane's Bridge at mile 6.

4. That the Upper Iowa Scenic River boundary contain approximately 14,300 acres of adjacent land for the protection of the river environment and the provision of recreation-use areas.
5. That county and other local governments be encouraged to participate in the planning and management of the Upper Iowa Scenic River.
6. That the development and management of the Upper Iowa Scenic River give primary emphasis to maintaining and enhancing its esthetic, scenic, historic, archaeological, and scientific features. All recreation facility development should be consistent with protection of the river environment.
7. That the States of Iowa and Minnesota and appropriate Federal agencies take steps to insure high water quality in the Upper Iowa Scenic River through enforcement of water quality standards and the encouragement of soil and water conservation practices in the watershed.

### III

## ENVIRONMENTAL STATEMENT

### III. ENVIRONMENTAL STATEMENT

The following statement, regarding the environmental impact of recommendations contained in this report, The Upper Iowa River, a Wild and Scenic River Study, is presented in accordance with Section 102(2)(C) of the National Environmental Policy Act of 1969, Public Law 91-190.

The basic purpose of the proposed project is to protect and enhance the environmental quality of the Upper Iowa River area pursuant to the provisions of the Wild and Scenic Rivers Act, Public Law 90-542. The report recommends the placement of environmental protection controls over 14,300 acres of adjoining lands along an 80-mile section of the Upper Iowa River. Limited recreation facility development is proposed for the project, and a program for protecting and enhancing the river area's natural and scenic features is recommended. The program would result in curtailment of intensive agricultural uses in a narrow zone of land immediately adjacent to the river. This would benefit the natural values of the area and would not be a serious loss to the regional economy.

~~The only potential adverse environmental effect of the project would result from increased human recreation use of the river and its immediate environment. However, it is proposed that all facilities be designed to prevent degradation of water quality and the destruction of natural cover and scenic values. As necessary, the environmental impact of recreation use of the river can be further lessened by limiting access developments and facilities and by careful spacing of development areas. A program of public education and information regarding the proper use of natural areas would also be beneficial.~~

The principal alternatives to the proposed action are continued private control and development of the river shoreline, or expanded development of the water resources of the Upper Iowa River. At present, there are no conflicting water resource development projects proposed or under study. A potential flood control reservoir site has been identified by the U. S. Army Corps of Engineers approximately five miles above the mouth of the Upper Iowa, but no construction has been recommended through the year 2020.

In the absence of the proposed program, continued private development of the river area would occur. It is likely that increasing demands for recreation space will result in private cottage and resort developments along the river shoreline. Uncontrolled adverse uses would likely result. Pressures for more intensive agricultural practices may give rise to additional clearing of river valley lands, heavier use of fertilizers and pesticides, and the neglect of soil and water conservation practices, resulting in long-term ecological damage and destruction of natural and scenic values.



There would be no irretrievable commitment of resources involved in the recommended program. The emphasis of the program is on protection of the existing values of the environment with very little alteration of the present landscape.

#### IV

#### REGIONAL SETTING

#### IV. REGIONAL SETTING

##### Landscape

The Upper Iowa River rises in the glacial drift plains of Mower County in extreme southeastern Minnesota, quickly crosses over into Howard County, Iowa, and then flows in a generally easterly direction through Winneshiek and Allamakee Counties to the Mississippi.

About two-thirds of the river's 125-mile course lies in the rough hill lands characteristic of northeastern Iowa. The topography is that of the "Driftless Area," a region largely bypassed by the continental glaciation which covered northern United States. The largest part of the Driftless Area is in adjacent southwestern Wisconsin. In contrast to the flat to rolling land of the glacial drift plains on the west, south, and east, and the Superior Upland to the north, the Driftless Area and most of northeast Iowa display a roughly eroded landscape little affected by glacial deposition. Streams have cut narrow valleys in the native bedrock, frequently exposing high bluffs of limestone rock. The surrounding hilltops range to 500 feet above the water courses. Because glaciation did not interrupt the drainage patterns, natural lakes are rare.

This is rural, farm and forest country. The watershed of the Upper Iowa contains no major urban centers, little industry, and no superhighways. The northern Europeans who first settled here selected the area because it contained the wood, water, and rock they considered vital to their livelihood. Well-kept farmsteads dot the landscape and dairy herds graze the green hills. A square pattern of gravel "section line" roads is interrupted and distorted by the rolling hills and narrow stream courses.

Originally, much of the area was covered by hardwood forests, and the rough terrain has dictated that a good portion of it remain forested. Gentle slopes, ridgetops, and bottomlands are farmed while the steeper land is left in trees. The amount of forest cover decreases markedly as one travels west from the Mississippi River. The topography becomes gentler, the soils more fertile, and the landscape shifts to that of the productive agricultural lands of "corn belt" Iowa.

##### Economy and Population

Most people in northeast Iowa earn their living on farms. Over half of all employed persons in Allamakee, Winneshiek, and Howard Counties work in agriculture. Dairy-ing, livestock raising, and feed grain production are the major types of farming practiced. Industry in the area is also tied to agriculture with food and kindred products heading the list of manufactures.



*The west end of the Driftless Area.*

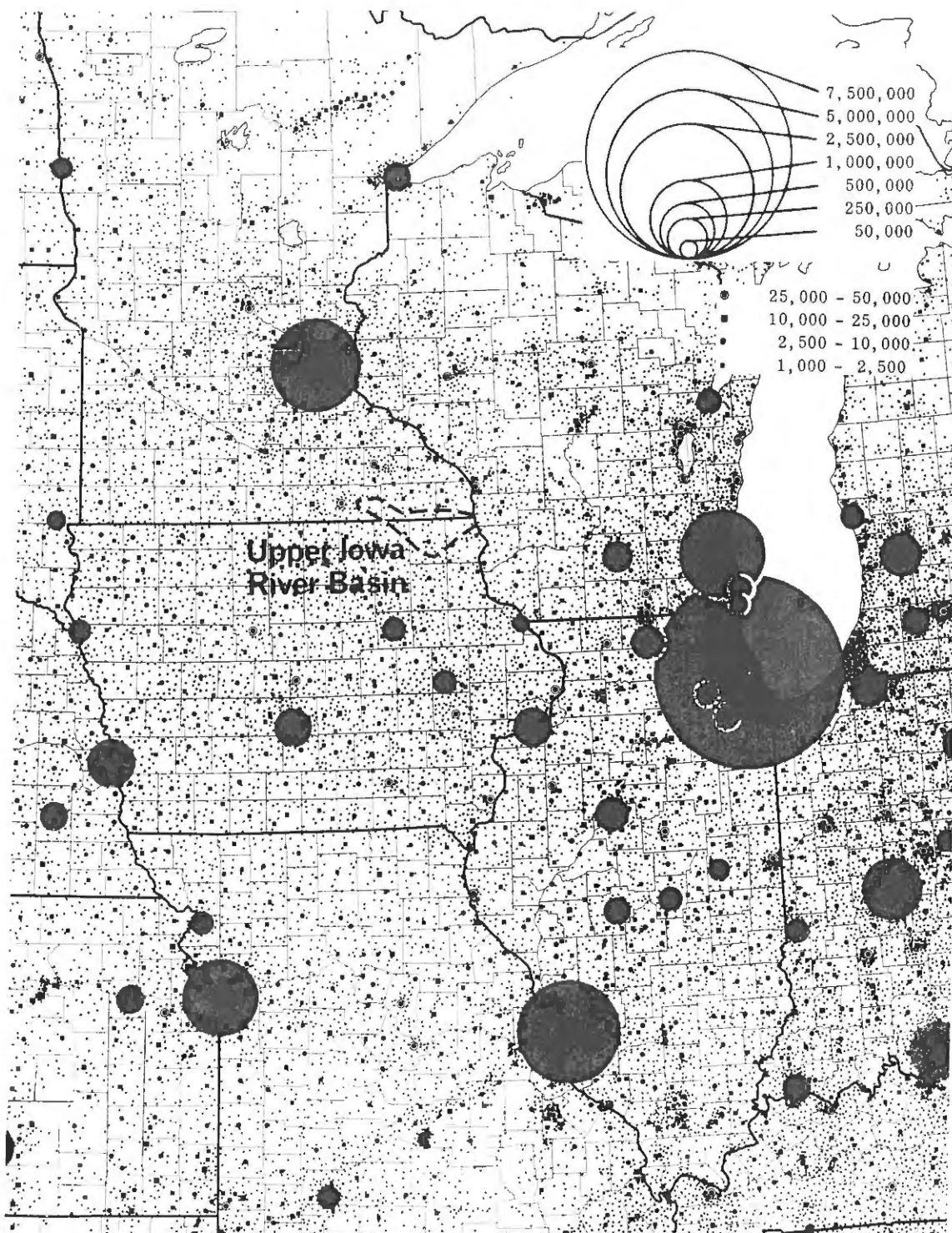
The economic picture is slowly changing. In conformance with national trends, farm units are consolidating and mechanizing and fewer people can work on the farms. However, decreases in farm jobs have largely been offset by increases in other types of employment, mainly the service industries, resulting in a total economy which is progressing slowly.

This part of Iowa is lightly populated. Allamakee, Winneshiek, and Howard Counties contained an estimated total of 47,000 people in 1966. These counties have been slowly losing population over the past decade. Decorah, with 7,054 people in 1966, is the largest town in the three-county area and the only urban center on the river. Cresco, in Howard County, is the only other town of over 2,500 people. The gradual movement of people from rural to urban areas is likely to continue and the larger towns will grow slowly.

As shown in the following table, several medium size urban areas lie within weekend driving distance of the Upper Iowa. Several larger cities are within long-weekend and vacation driving distances.

TABLE I  
Distance and Driving Time from Major Urban Centers  
To Decorah, Iowa

Urbanized Area Population (1966 estimated)		Distance in Road Miles	Approximate Driving Time
30,700	Mason City	48 Miles	1 Hour
50,400	La Crosse	57 Miles	1 1/2 Hours
47,800	Rochester	66 Miles	1 1/2 Hours
126,800	Waterloo	76 Miles	1 3/4 Hours
87,500	Dubuque	104 Miles	2 1/2 Hours
152,000	Cedar Rapids	114 Miles	2 3/4 Hours
264,000	Madison	146 Miles	3 3/4 Hours
1,615,500	Minneapolis-St. Paul	148 Miles	3 3/4 Hours
352,100	Davenport-Rock Island-Moline	174 Miles	4 Hours
273,600	Des Moines	180 Miles	4 1/2 Hours
1,330,600	Milwaukee	221 Miles	4 1/2 Hours
328,800	Peoria	272 Miles	7 Hours
6,711,400	Chicago	283 Miles	6 1/2 Hours
509,800	Omaha	319 Miles	7 Hours
1,200,200	Kansas City	380 Miles	8 1/4 Hours
2,267,800	St. Louis	411 Miles	10 1/4 Hours



Source data:

U.S. Bureau of the Census

1960 REGIONAL POPULATION DISTRIBUTION

In 1966 over 6,500,000 people lived within 150 miles of the Upper Iowa River and over 18,700,000 were within 250 miles. By the year 2000 these figures are projected to be over 9,600,000 and 28,600,000, respectively.\*

## **Transportation**

Automobile travel to the general area of northeast Iowa and the Upper Iowa River is by two-lane U.S., State, and local highways.

The closest unit of the interstate highway system is I-90 which crosses southern Minnesota about one and one-half driving hours above Decorah. Interstate 90 is a coast-to-coast route which in this region passes through Chicago, Madison, La Crosse, and Rochester. To the south I-380 will connect Waterloo, Iowa, which is 76 miles from Decorah, to the Cedar Rapids and Iowa City area. Interstate 380 will connect with I-80 and will facilitate travel to the area from central Iowa. The proposed Great River Road will cross the Upper Iowa near its confluence with the Mississippi.

Bus service is available to Decorah and railroad lines pass through the town, but no railroad passenger service is presently offered. Regular airline service is available to cities on the periphery of the area--Dubuque, Waterloo, and Mason City, Iowa; Rochester, Minnesota; and La Crosse, Wisconsin. Small plane access to the immediate vicinity of the Upper Iowa is provided by the municipal airport at Decorah.

## **Recreation Resources**

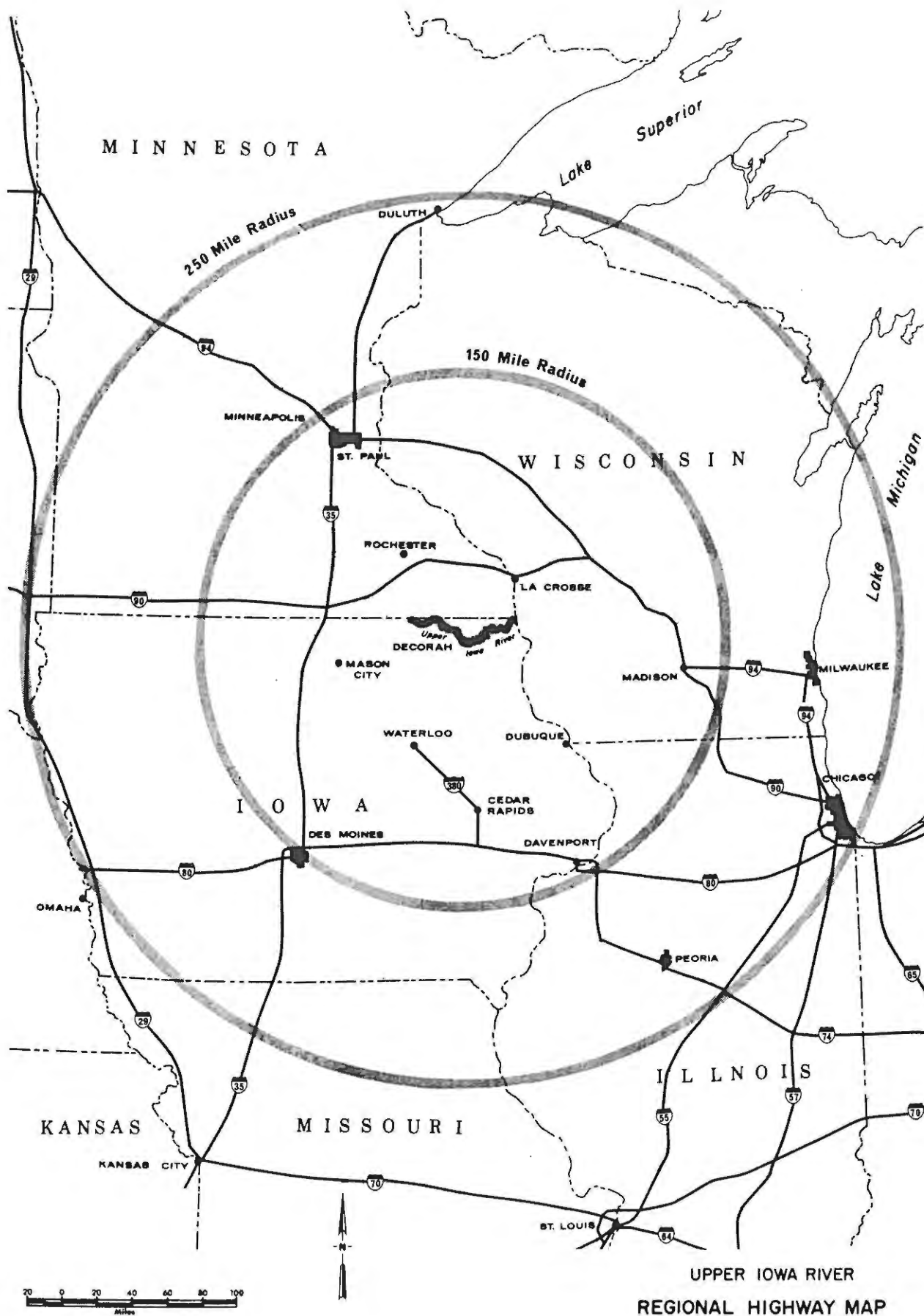
Rivers. The rivers of the Driftless Area present a unique kind of recreation environment for the central Midwest. The deeply entrenched streams meander past limestone

bluffs, forested slopes, and riverside farmland, through a landscape of rolling green hills. The beauty of the region is particularly appealing to those people living on the flat prairies of the rest of Iowa and of northern Illinois. These populous areas are deficient in general recreation resources and are particularly lacking in free-flowing streams of high scenic and natural character. For these people the rivers of the Missouri Ozarks and of the north woods country of Wisconsin, Minnesota, and Michigan offer the other major alternatives for river recreation on undeveloped streams.

The Driftless Area and the associated hill lands on its periphery contain a number of attractive, relatively undeveloped streams, somewhat comparable to the Upper Iowa. The Turkey, the Yellow, the Maquoketa, and the Wapsipinicon are four fine streams in northeastern Iowa, as is the Root in southeastern Minnesota. Across the Mississippi River in Wisconsin the Black and the lower Wisconsin are rivers with recreation potential.

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\* Based on "Preliminary Report on Economic Projections, Selected Geographic Areas," 1929-2020, Vol. I, U.S. Water Resources Council, March 1968.





At present, these rivers are neither protected nor extensively developed for recreation use. However, their potential is beginning to be recognized and recreation studies and plans are scheduled for several of them by the states.

The Iowa Conservation Commission has recreation studies planned for the four streams mentioned in northeast Iowa. These studies are scheduled as a part of an overall program for studying several rivers throughout the State. The Upper Iowa was the first river evaluated under the program. It was given first priority because of its superior qualities and light development. At present there are three State parks located on these rivers: Wapsipinicon State Park on the Wapsipinicon, and Maquoketa Caves State Park and Backbone State Park on the Maquoketa. River-oriented facilities in these parks are minimal.

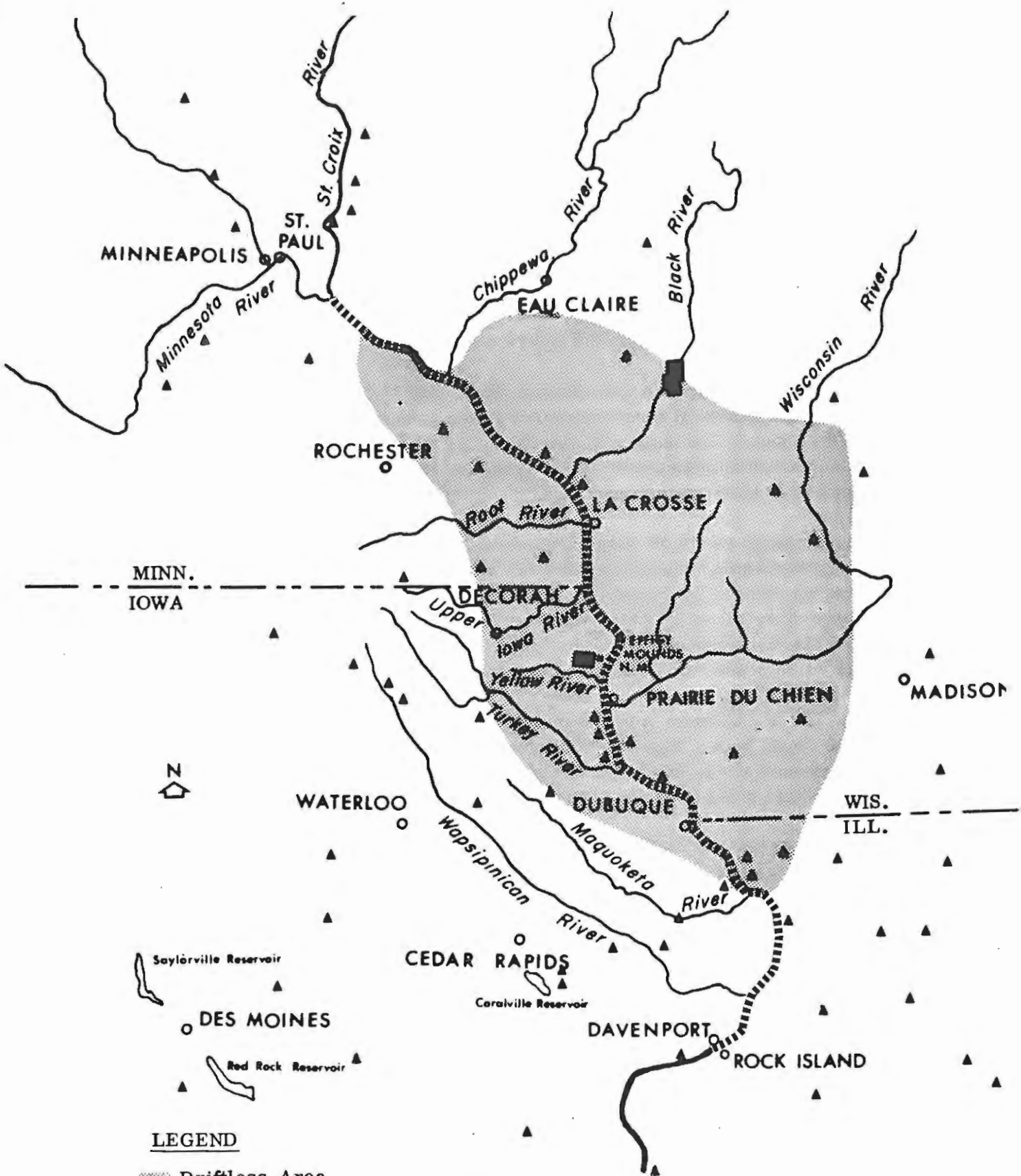
The State Conservation Commission maintains 14 fishing access sites on the rivers of northeast Iowa of which three are on the Upper Iowa. These access sites have no facilities. The State also manages a number of the small, cold-water streams of northeast Iowa as put-and-take trout fisheries. They are extremely popular. Forty-two miles of the trout waters are tributary to the Upper Iowa.

In Wisconsin the Black River flows into the Mississippi above La Crosse. The Black has some beautiful stretches, although its valley tends to be somewhat broader and the landscape milder than that of the Upper Iowa. Ten miles of the upper river are in Black River State Forest. One canoe campsite has been developed. The State of Wisconsin also manages a wildlife area near La Crosse which contains six miles of the Black. Public boat access to the river is very limited.

The lower Wisconsin River is a different type of river than most of those being considered here. It is a broad river with numerous islands and sand bars. There are several towns on its banks and roads parallel its course; however, much of the immediate river environment is undeveloped.

The course of the Root River is generally parallel to the Upper Iowa. It flows across extreme southeastern Minnesota into the Mississippi approximately 23 miles above the mouth of the Upper Iowa. The Root's landscape is milder and development is higher than that of the Upper Iowa. The State of Minnesota has designated the Root River a canoe stream and is considering plans for further recreation development.

The St. Croix River in Wisconsin and Minnesota is the closest river to the Upper Iowa that has been given formal scenic river status. The St. Croix flows out of northern Wisconsin, entering the Mississippi near Minneapolis about 150 miles north of Decorah. The portion of the river above Taylor Falls has been designated



**LEGEND**

- Driftless Area
- State parks and recreation areas
- State forests
- Upper Mississippi Wildlife and Fish Refuge

Upper Iowa River  
REGIONAL RECREATION AREAS

a component of the national wild and scenic rivers system and plans have been prepared by the National Park Service for its management and development. The 53-mile section of the river between Taylor Falls and the Mississippi is being studied as a potential addition to the system.

The water body in the area with the greatest overall recreation potential is the Mississippi River. The Mississippi in this region is included in the Upper Mississippi River Wildlife and Fish Refuge. This great waterway with its abundant sloughs and islands provides some of the best waterfowl hunting, sport fishing, and boating in the nation. The river has immense recreation potential and is presently under study by a Federal task force as a prospective national recreation area. Comprehensive recreation development of the Upper Mississippi Valley must involve the numerous tributary streams. These streams, of which the Upper Iowa is one, can provide variety and balance to the range of recreational opportunities available.

Other Resources. In addition to the Upper Mississippi River Wildlife and Fish Refuge, the Federal Government operates the Effigy Mound National Monument near Marquette, Iowa. This area is an archaeological site; no active recreation facilities are provided. The closest national forests are in northern Wisconsin and Minnesota.

As the accompanying map shows, there are several State parks and recreation areas, and two State forests within and on the periphery of the Driftless Area. The Yellow River State Forest in Iowa is the closest major development to the Upper Iowa. The forest is about 28 miles southeast of Decorah and contains 5,000 acres. Its forested hills and two trout streams are the principal attractions.

The Black River State Forest in Wisconsin is a 63,000-acre area. It is approximately 100 miles northeast of Decorah. The forest contains ten miles of the Black River but has very few river-oriented facilities.

In southeastern Minnesota the State is developing the Memorial Hardwood Forest. The area now contains 20,000 acres and will eventually cover 200,000 acres. Recreation development is light at present.

Lake Louise State Park is located in Minnesota on the upper reaches of the Upper Iowa. The park contains 1,100 acres, including a small campground of 19 sites.

There are no large lakes or reservoirs in the immediate region; however, the Mississippi River with its regulated pools serves essentially as a huge reservoir for the area. The closest reservoirs are in south central Iowa where four Corps of Engineers reservoirs are in various stages of completion. When all four are built, they will contain 30,400 surface acres.

## Recreation Resource Needs

The best available quantitative estimate of overall recreation needs in this region is contained in the Upper Mississippi River Comprehensive Basin Study, Appendix K.

This study is in the final stages of preparation. In the study subareas from which most users of the Upper Iowa would be drawn--northeast Iowa, southeast Minnesota, southwest Wisconsin, and northwest Illinois--the report estimates that 1,068,070 additional acres of land and water will be needed by 1980 to satisfy potential demand for Bureau of Outdoor Recreation Class I and Class II type recreation areas. Class I lands are high intensity areas and Class II are general recreation areas, such as large regional parks. An Upper Iowa scenic river would not, for the most part, fit either of these classes; however, this report gives some idea of the intensity of recreation needs throughout the region.

For the subarea which encompasses northeast Iowa, that is, the basins of the Turkey, Maquoketa, Wapsipinicon, and Upper Iowa Rivers, the report estimates that 54 percent of recreation demands will be unmet in 1980, given the projected supply of facilities. Translated into land and water acreage this means a need for an additional 43,488 acres of general recreation land (Class II) and 21,049 acres of water surface.

The outdoor recreation plan for Iowa, Outdoor Recreation in Iowa, published by the State Conservation Commission in 1968, indicates that an additional 26,233 acres of State and Federal recreation lands will be needed to meet demands in northeast Iowa by 1985. The plan does not specify what types of recreation land will be needed; however, State and Federal lands tend to be used for the more dispersed types of recreation activities.

V

DESCRIPTION AND ANALYSIS

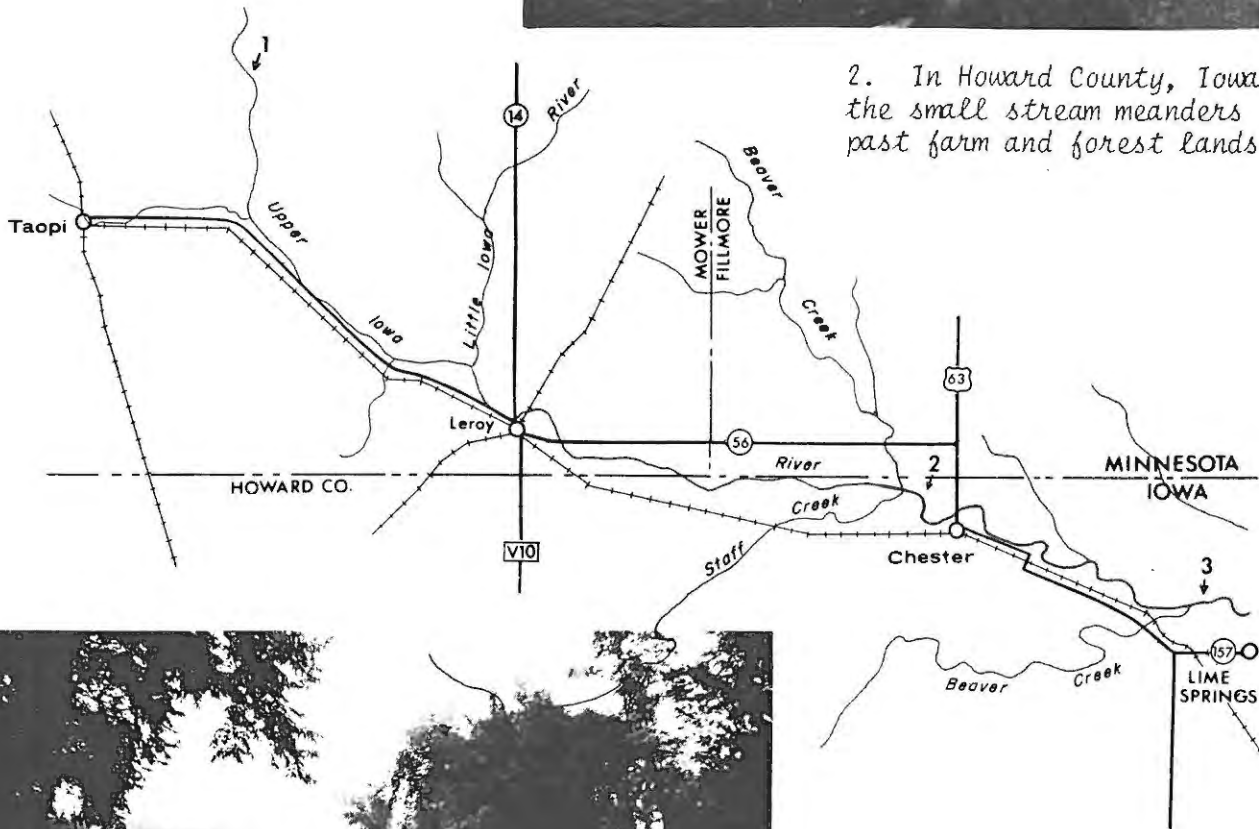
A PHOTO TRIP DOWN THE UPPER IOWA RIVER



1. The headwaters in the prairie country of southeastern Minnesota.



2. In Howard County, Iowa the small stream meanders past farm and forest lands.



3. A small recreation pool for Howard County's Litke Park is formed by an old mill dam at Lime Springs.



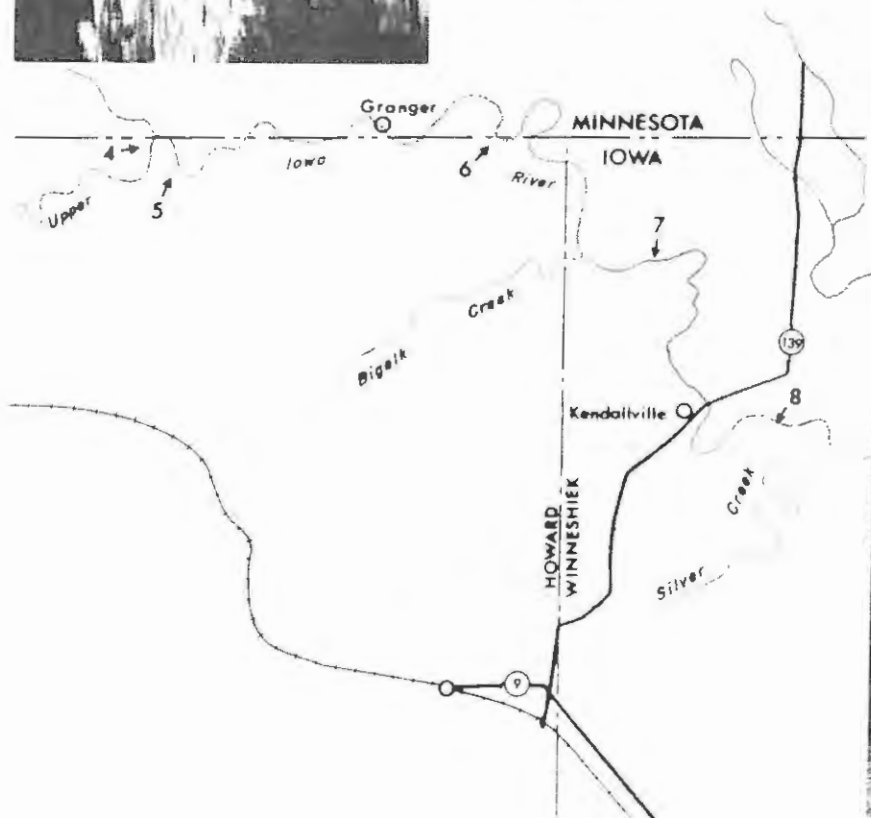
4, 5. Small riffles alternate with long pools.



6. Limestone bluffs and outcroppings in bends of the river occur more frequently.



7. The river course gradually deepens, losing its prairie stream characteristics.



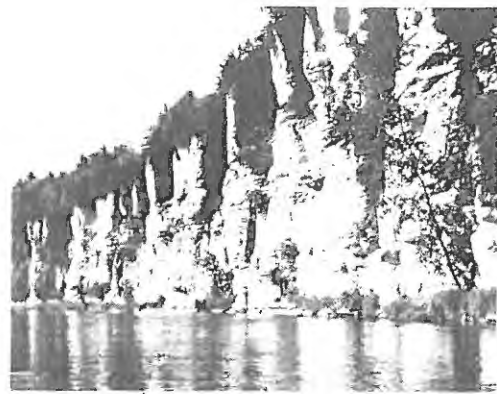
8. Most bridges are old, small, and relatively unobtrusive spans.







Coldwater  
Creek  
Pine  
Creek  
Upper



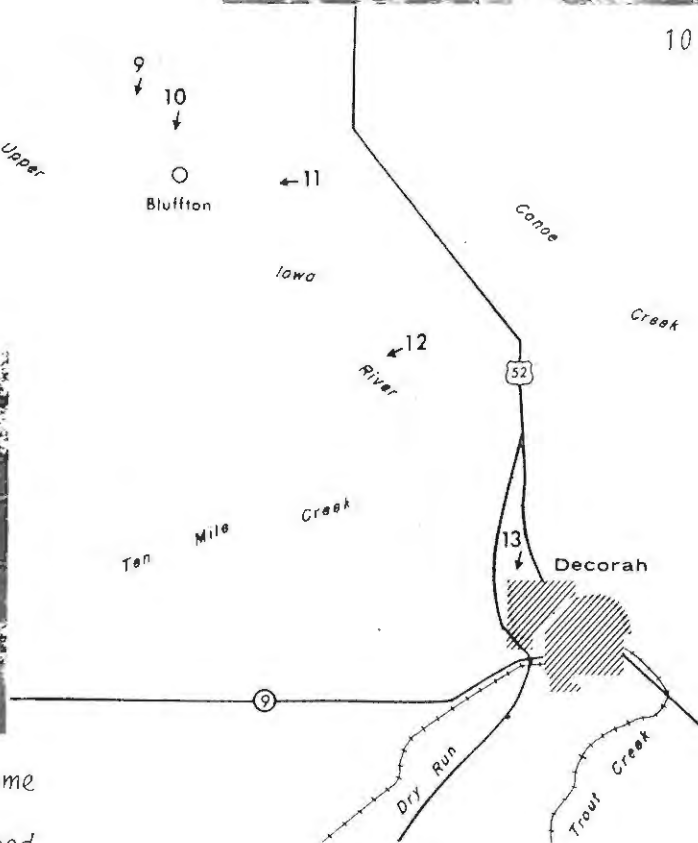
10.

9, 10. Between Kendallville and Bluffton spectacular limestone formations often flank the river.



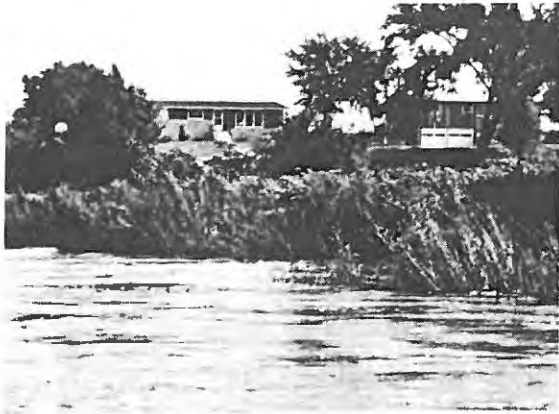
11. Below Bluffton the rock bluffs become infrequent, but the river environment continues to be attractive and undeveloped.

12. Several miles above Decorah the valley becomes broader and more open; the river scene assumes a pastoral character.

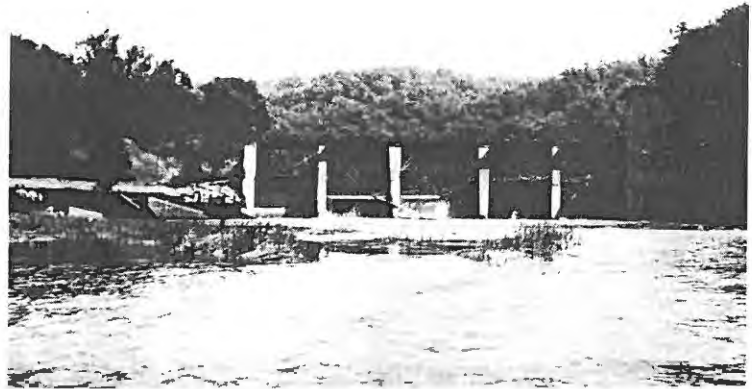


13. The buildings of Luther College are visible as the river enters Decorah from the west.

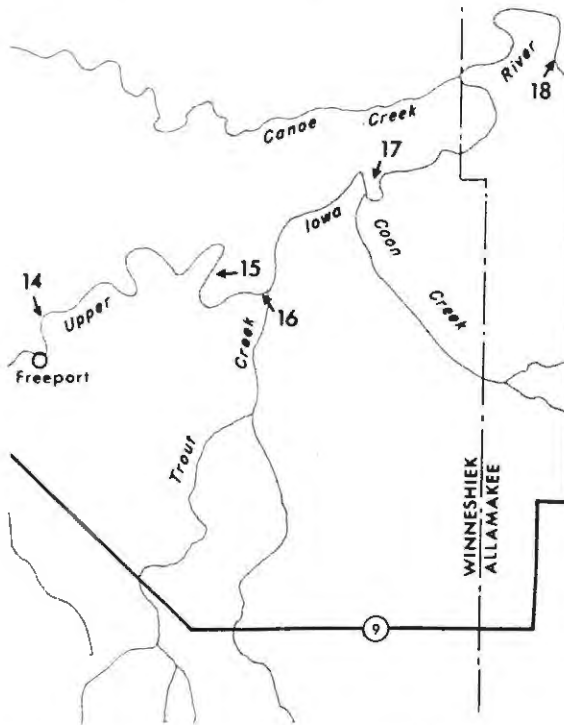




14. Two of the few non-farm homes which can be seen from the river.



15. The "upper dam" has been abandoned for nearly 25 years and presently is in State ownership.



16. Although neither dam creates a substantial backwater, there are several long pools between the upper and lower dams.

18. Near the Winneshiek-Allamakee County line the valley deepens.

17. The "lower dam", built over a waterfall, has had a portion removed by blasting.

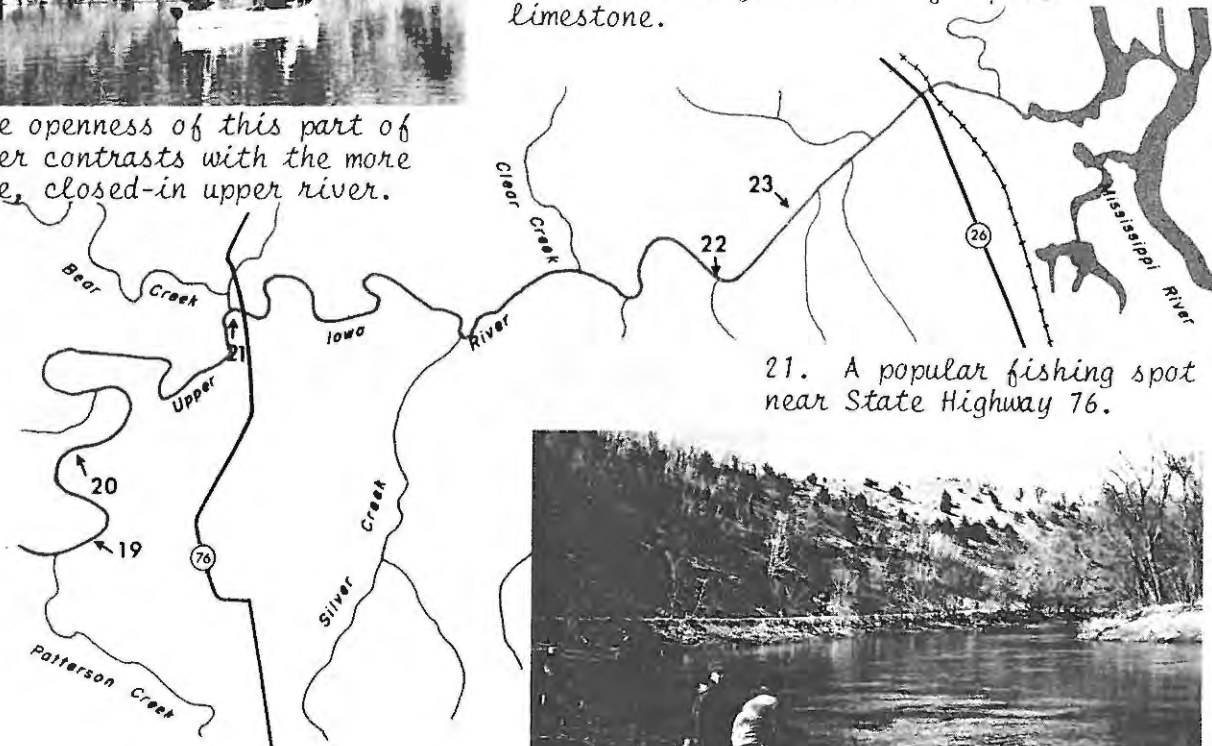




19. The openness of this part of the river contrasts with the more intimate, closed-in upper river.



20. Many of the grassy, cedar-dotted slopes are crowned with "mural escarpments", 30-50 foot bands of exposed limestone.



21. A popular fishing spot near State Highway 76.

22. As it nears the Mississippi the Upper Iowa flows through fertile farmland.



23. From Lane's bridge to the Mississippi River the Upper Iowa has been straightened for flood control purposes.



## V. DESCRIPTION AND ANALYSIS

### River and Riverscape

From the southeastern corner of Mower County, Minnesota, the Upper Iowa River flows in a southeasterly direction to Decorah, Iowa; thence northeasterly, entering the flood plain of the Mississippi River about one and one-half miles south of New Albin, Iowa. The length of the river from the edge of the Mississippi flood plain to its headwaters is approximately 125 miles. It has a drainage basin of 1,057 square miles, 80 percent of which lies in Iowa, in Winneshiek, Howard, and Allamakee Counties. Small portions of the Upper Iowa Basin lie within the southern boundaries of Houston, Fillmore, and Mower Counties in southeastern Minnesota. Major tributaries are the Little Iowa River and Bear, Canoe, Trout, Coldwater, and Dry Run Creeks.

The Upper Iowa falls 735 feet in its descent from its source to the Mississippi River, resulting in an average gradient of approximately six feet per mile. The river is bordered by high banks and, in some cases, limestone bluffs, and has developed a flood plain that has a general width of three-fourths of a mile, widening in its lower course to a mile or more. The banks are predominantly soil, and many sections have been scoured and undercut by the river. The bottom consists mostly of sand, gravel, and limestone outcroppings and rubble.

The river traverses an alternating pattern of wooded hillsides, limestone bluffs, and farmland. From the river, the transition from farm to forest is often not very noticeable because of a bordering fringe of trees. Few man-made structures exist on the river's edge, and those which do occur are generally hidden from view by high banks or a screen of trees. However, bridges serving farm roads cross the river frequently, and occasionally a bridge serving a paved road can be seen. Most of the bridges are old, small, and relatively unobtrusive spans which detract little from the scenic qualities of the river. In many of the more scenic sections of the river there are few bridges. This river is unusual in that summer cottages are very few; however, several farmsteads can be seen from the river and near small towns some residences are visible.

From the headwaters to Lime Springs the Upper Iowa River can be characterized as a small prairie stream with low, grassy banks and periodic hardwood fringes. Water depth averages two to 18 inches over riffles and three feet through holes and runs. Very few places contain water over four feet deep. The average width is between 10 and 30 feet. Two small reservoirs exist in this area. A lowhead dam at Le Roy, Minnesota, creates a modest sized recreation pool at Lake Louise State Park, and an abandoned mill dam at Lime Springs provides another pool which is presently used for recreation.





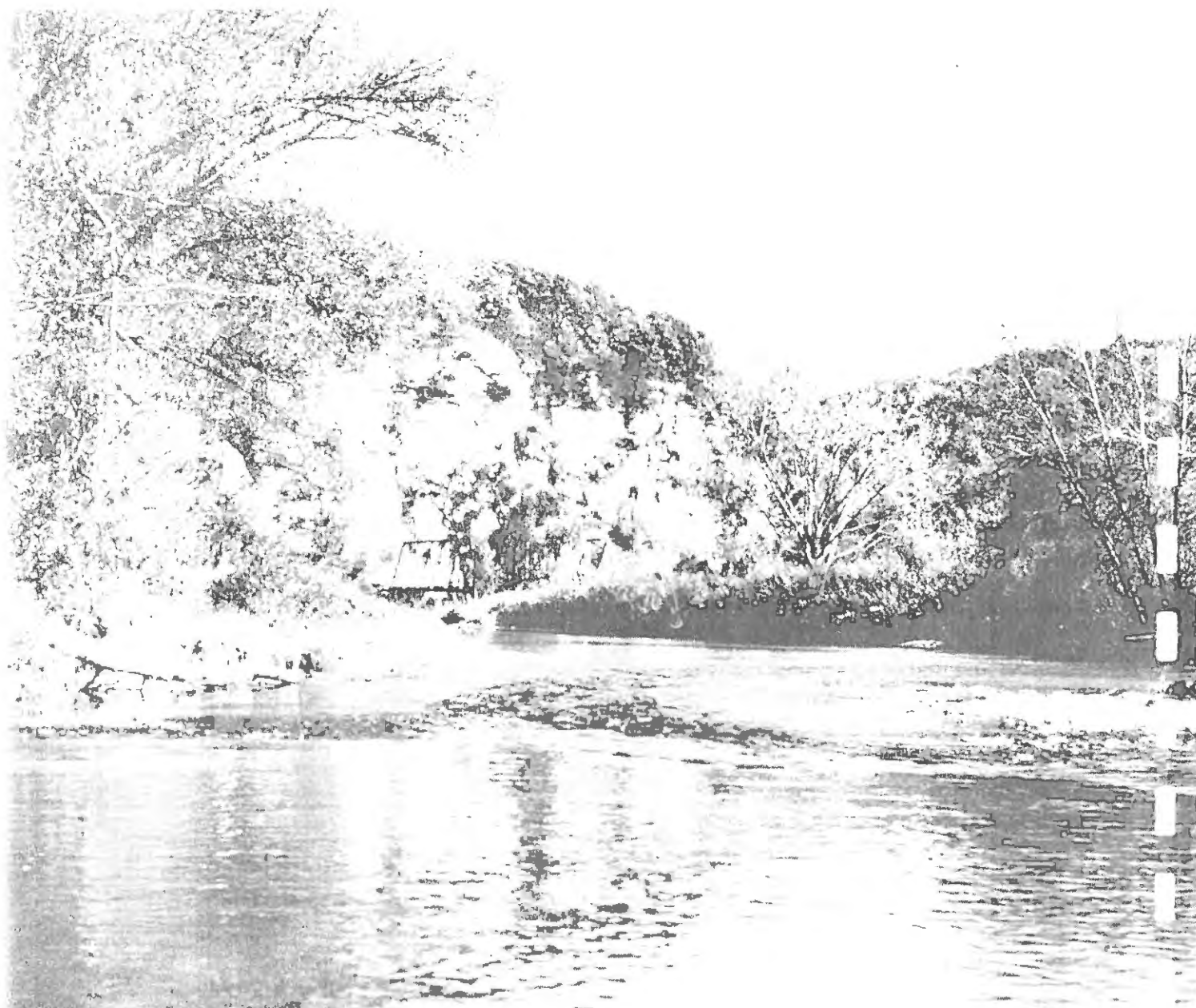
For most of the distance between Lime Springs and Kendallville the Upper Iowa River meanders through gently rolling prairie country, its flow fed by numerous springs and small spring-fed tributaries. Toward the lower end of this zone limestone bluffs and outcrops become more evident and the valley deepens as the river enters the Driftless Area. Frequent riffles alternate with long pools. Stream gradient becomes steeper in this reach, averaging 7.5 feet per mile and the width increases to a range of 30 to 70 feet. In this stretch the river is still essentially a prairie stream, but some parts appear quite wild and a few large bends are bordered by high, steep slopes.

One of the most scenic sections of the river is from Kendallville to river mile 60 below Bluffton. The river valley is narrow, bounded by 100 to 150 foot limestone bluffs, palisades, chimney rocks, and slopes cloaked with a mixture of balsam fir, white pine, cedar, and hardwoods. In several places farmland with a fringe of trees is present on one bank of the river and high limestone bluffs on the other, forming pleasant "half-canyons." Numerous sharp bends, alternating pools, and short riffles add to the beauty of this section. Here the river is normally 60 to 100 feet wide with a gradient of 7.25 feet per mile and a depth from several inches to five feet.

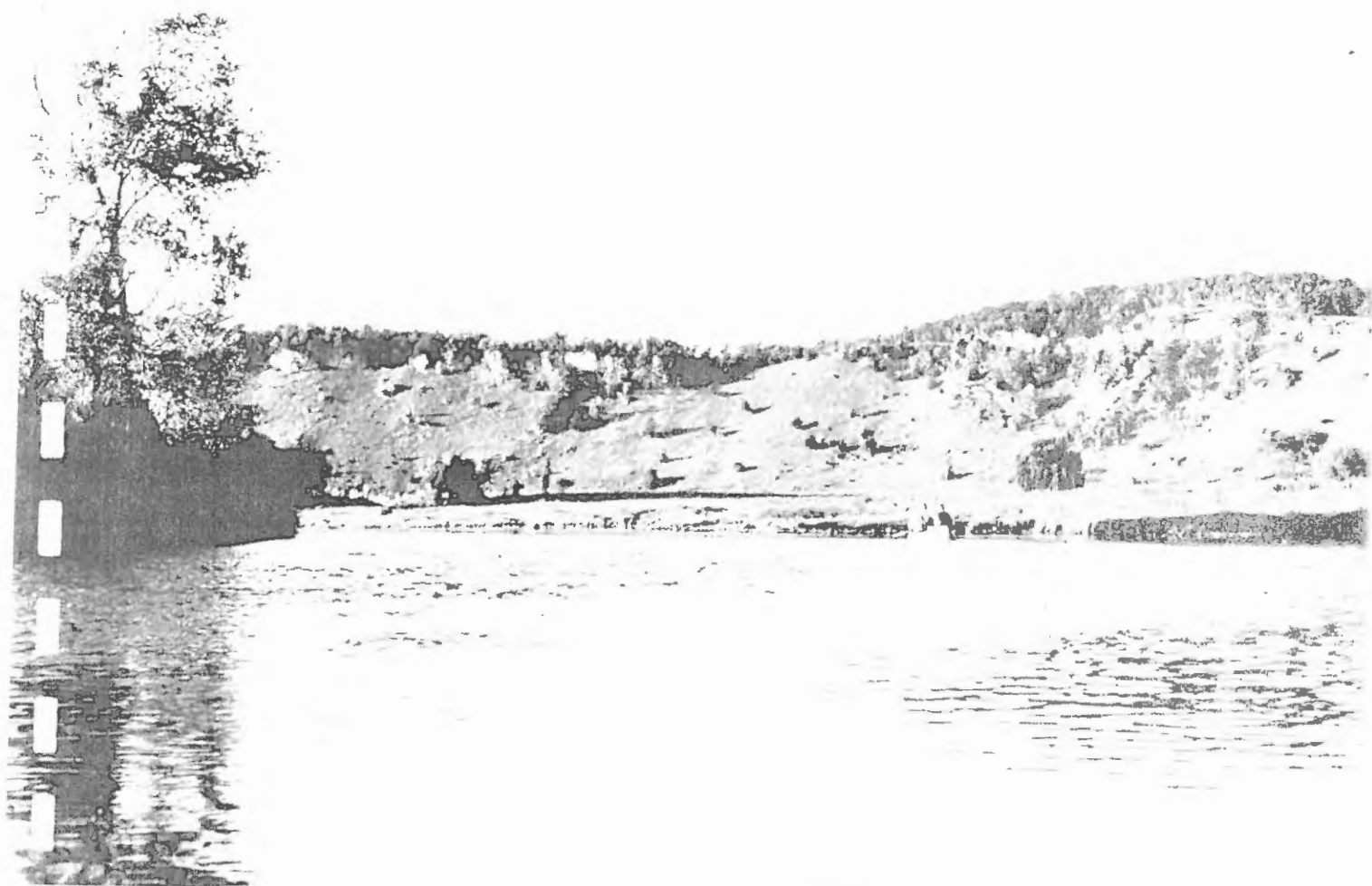
Below river mile 60 the character of the Upper Iowa River changes somewhat. Farmland becomes more prevalent and in several places cattle can be seen grazing to the shoreline. Where cultivation or grazing extends to the river's edge, bank erosion is often a problem. The pattern of alternating wooded hillsides and farmland provides a pleasant pastoral environment, less striking than the preceding reach but adding variety and interest to the river scene. A levee system has been erected through the city of Decorah for flood protection. The levees are lightly vegetated and usually screen the river traveler from views of the city. The view from the river is generally pleasant except for a small portion of the river on the east side of Decorah where industry has littered and altered the banks on one side.

Below Decorah the valley gradually becomes wider and deeper. Two impoundments were built in the past on the lower stretch of the river for hydroelectric purposes. Both have been abandoned for over 20 years and are now owned by the State. The upper dam, about six miles below Decorah, is approximately 10 feet high. Five miles further downstream another dam was built over a 30 foot waterfall. Portions of the dam have been removed by blasting. Between dams the river forms several long pools; however, neither dam creates a substantial backwater. From river mile 60 to the Allamakee-Winneshiek County line the Upper Iowa has a gradient of 5.35 feet per mile and is from three to 10 feet deep. The river is normally between 60 and 120 feet wide.

The character of the river changes again below the Winneshiek-Allamakee County line. From here to Lane's Bridge, a distance of 26 miles, the Upper Iowa flows



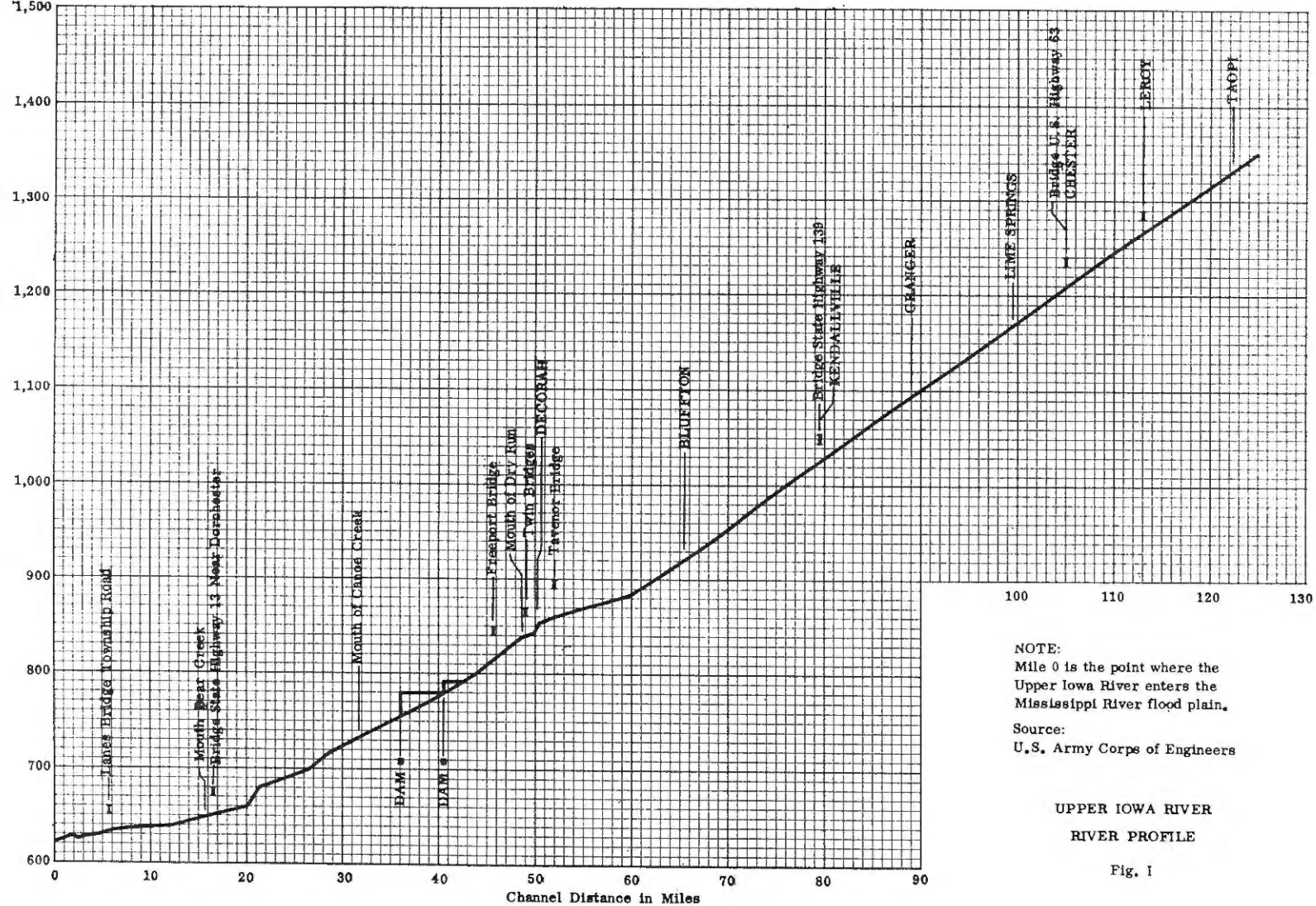
*View at Top Bridges below Bluffton*



The broad valley of the lower reach of the Upper  
Tara. "Hill country" top the grassy slope.



Elevation in feet  
M.S.L.  
1,500



NOTE:  
Mile 0 is the point where the  
Upper Iowa River enters the  
Mississippi River flood plain.  
Source:  
U.S. Army Corps of Engineers

UPPER IOWA RIVER  
RIVER PROFILE

Fig. I

through a broad, flat-bottomed valley, flanked by steep bluffs that reach to 450 feet in height. The valley gains depth, width, and openness, creating a sense of spaciousness contrasting with the more intimate, closed-in, upstream sections. Many of the grassy, cedar dotted slopes are crowned with "mural escarpments," 30-50 foot bands of exposed limestone. The river ranges up to 150 feet wide and the gradient drops. It continues to flow in a series of great loops and bends until reaching Lane's Bridge.

Flood control modifications have altered the character of the river from approximately one and one-half miles below Lane's Bridge to the Upper Iowa's entrance into the Minnesota Slough on the Mississippi River. The channel modifications include the straightening of approximately four miles of the Upper Iowa River flood plain. The channel is 150 to 200 feet wide and relatively shallow due to siltation. In this section of the river the valley bottom is from one to one and one-half miles wide. Fertile farmland lies between the river and the hills on both sides of the river. Very little of the surrounding countryside can be seen from the water surface because of the spoil banks that resulted from the channelization project.

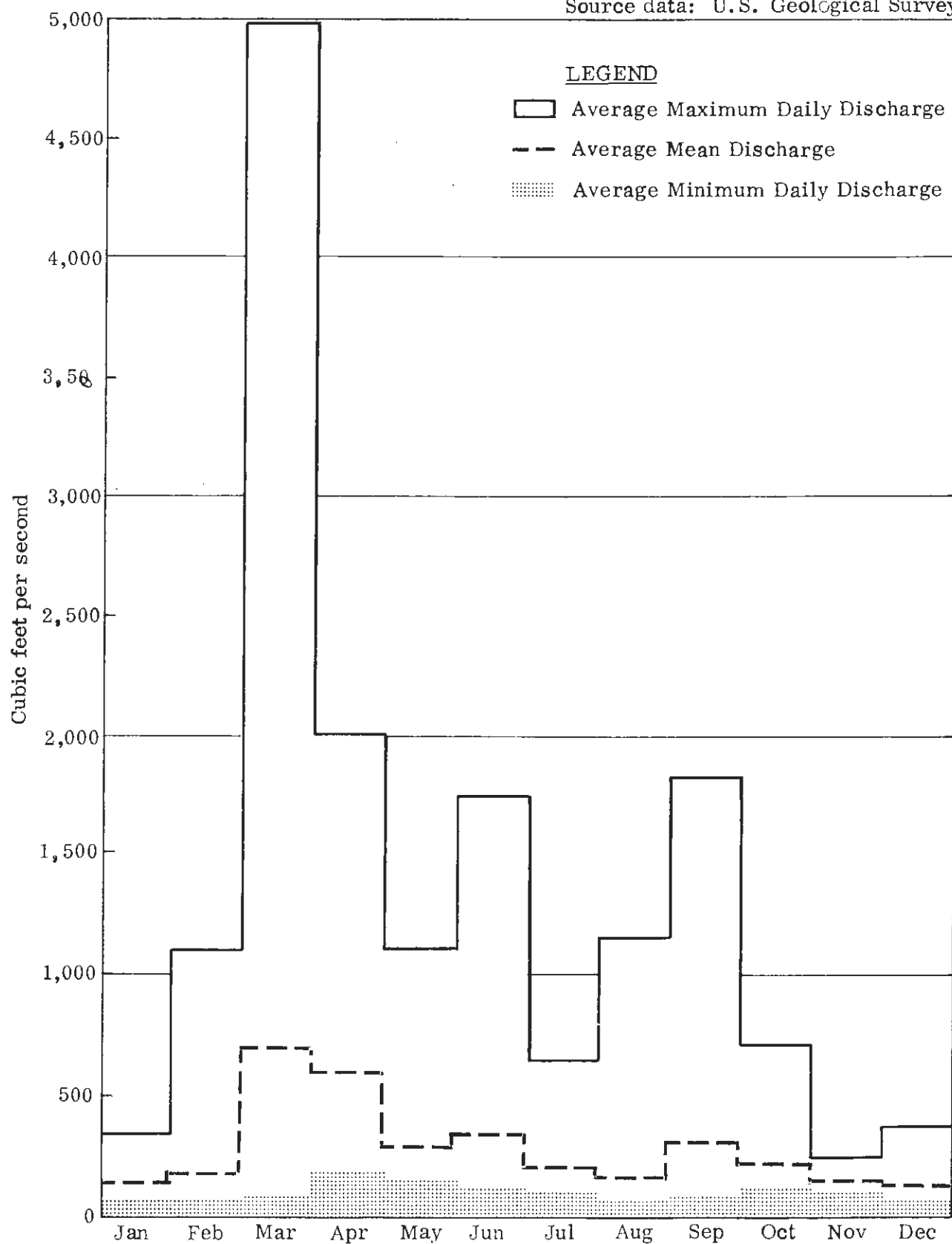
### Flow Characteristics

An important consideration in evaluating the recreation potential of the Upper Iowa River is the amount of water which flows in its course throughout the year. This is particularly significant during the mid to late summer months when recreation use is at its yearly peak and water level often at its lowest.

The only source of recent flow data on the Upper Iowa is from the gauge station at Decorah, Iowa. It should be noted that the flow data taken from this station is not a completely accurate indication of the flow characteristics of those portions of the river above and below Decorah. It is, however, an indication of the proportional amount of flow in the upper and lower sections and, therefore, was used in the analysis of the flow characteristics for the entire river.

The source and upper reaches of the Upper Iowa River are in the Iowa drift plain where drainage is sometimes slow and the subdued topography is not conducive to high run-off rates. However, the larger part of the drainage basin is located in the rolling to rough topography of the Kansan drift plain and the Driftless Area. Here, the narrow valleys and steep slopes of the basin give rise to rapid run-off, flash flooding, and rapid recession of floodwaters. The wide fluctuation of flow is evident in the flow data shown in Figure II. Flash flooding is not frequent enough to significantly impair recreation use of the river. Although the discharge can fluctuate a good deal, the Upper Iowa River exhibits good low-flow characteristics. A considerable portion of the flow during low-flow conditions is derived from the discharge of shallow ground reservoirs. The river is fed by numerous springs, some of large size, and many spring-fed tributaries.

Source data: U.S. Geological Survey



UPPER IOWA RIVER  
1959-1968 AVERAGE DISCHARGE

Fig. II

It is difficult to evaluate the effect of a river's low-flow characteristics on boating use, but such an analysis is especially important for a river as generally shallow as the Upper Iowa. A number of factors complicate the analysis; examples are the depth of a boat's draft under various loads, the stream velocity, the nature of the streambed materials, and the tolerance of boaters for dragging, towing, or portaging.

Canoes and watercraft with similar draft are the most suitable for use on the Upper Iowa, and are the basis for our evaluation of the river. The study team's field investigations indicated that a flow of 100 cubic feet per second (cfs), recorded at the Decorah gauge, is a reasonable minimum for satisfactory canoeing of the Upper Iowa above Decorah. Considerable dragging, towing, and portaging will be necessary in the upper sections of the river when the flow falls below 100 cfs. Below Decorah the river is generally deeper and should be suitable for canoeing in all but the driest seasons. Using 100 cfs as a base, the suitability of the river for canoeing was calculated as is shown in Figure III. Data were gathered for a 10-year period from 1959 to 1968 for the months of April through October, the recreation season. During June, July, and August, the most intensively used months of the recreation season, the flow can be considered good for canoeing 70 percent of the time. High flows in April and May balance low flows in September and October, thus the Upper Iowa above Decorah provides good water levels for floating 70 percent of the total recreation season. The figures are averages and actual conditions will be variable. Extremely wet or dry years will result in additional or decreased canoeability. During the driest year of the period, 1964, the river flow was above 100 cfs for 39 percent of the recreation season.

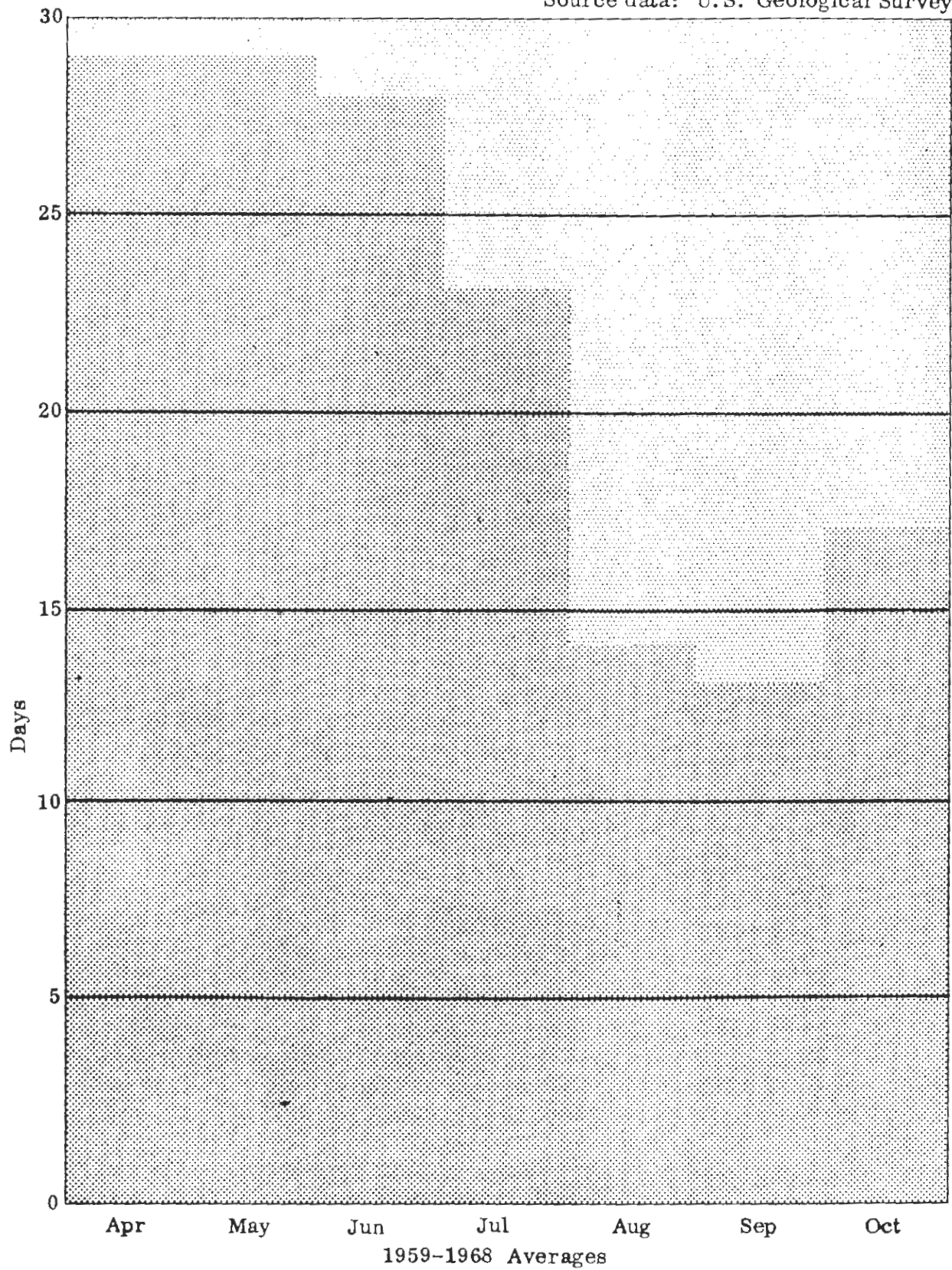
The velocity of the river is dangerous only at extremely high water. Although riffles are numerous, they are never difficult or hazardous at normal flow levels and few portages are necessary.

### Water Quality



Although water quality records for the Upper Iowa are inadequate for a full analysis, the limited sources of municipal and industrial pollution indicate that the river contains water of relatively high quality. Pollution sources reflect the predominantly agricultural nature of the basin. Nutrients from commercial fertilizer usage and from livestock wastes are reaching the stream in quantities which are unknown at the present, but are believed to be significant.

The Upper Iowa is generally clear. There is no evidence of floating debris, undesirable aquatic life or other objectionable substances. However, sediment loads and turbidity are high after periods of rain. This reduces the river's attractiveness and impairs fishing and fish habitat.

Source data: U.S. Geological Survey



LEGEND

-  Days of good canoeing  
(above 100 cfs)
-  Days of fair to poor canoeing

Upper Iowa River  
WATER LEVELS FOR CANOEING  
(Upstream from Decorah)

Fig. III

Treated domestic waste is discharged at Decorah, Lime Springs, and Cresco, Iowa; and Le Roy, Minnesota. All of these communities have secondary treatment facilities. The only industrial source of pollution that appears to be a problem is a small creamery at Granger, Minnesota. This source was noted as a pollution problem in 1967 by the Federal Water Pollution Control Administration. Waste treatment facilities for the creamery are scheduled to be in operation by December 1971.

Since the Upper Iowa is an interstate stream, it comes under the provisions of the Federal Water Quality Act of 1965, Public Law 89-234. Standards for the interstate streams of Iowa have been established with exceptions from approval being that requirements for disinfection and for maximum temperature are needed. Because the quality standards developed by the State of Iowa in accordance with the Act were found in part not to meet the Act's provisions, the U.S. Department of the Interior has promulgated a set of proposed regulations. A copy of the proposed standards is included in the appendix of this report. At the time of this writing, these standards are still open to a process of hearings and negotiation.\*

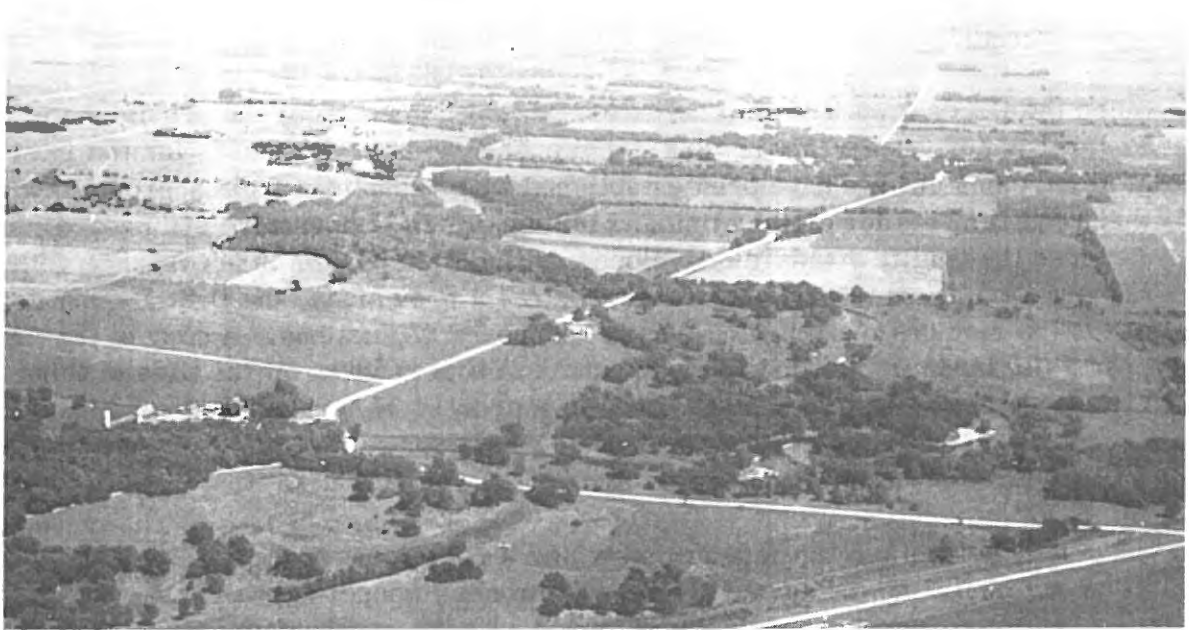
Section 12(c) of the Wild and Scenic Rivers Act states that:

The head of any agency administering a component of the national wild and scenic rivers system shall cooperate with the Secretary of the Interior and with the appropriate State water pollution control agencies for the purpose of eliminating or diminishing the pollution of waters of the rivers.

In conformance with the provisions of the Act, if the Upper Iowa becomes a part of the national rivers system the State of Iowa should work closely with the Department of the Interior for the purpose of developing standards which ensure the enhancement and maintenance of high water quality for the Upper Iowa River. It is recommended that water in the Upper Iowa meet standards for primary (full body contact) recreation. At present neither Minnesota nor Iowa has classified the Upper Iowa River for whole body contact recreation use. The States of Iowa and Minnesota and appropriate Federal agencies should work cooperatively to enforce water quality standards and to encourage soil conservation practices in the watershed.

Existing water quality records for the Upper Iowa are limited. Records of suspended sediment concentrations were obtained at Decorah from October 1962 to December 1967. Testing for biological or chemical characteristics has not been conducted on a regular basis. A sampling station was designated for use at Decorah in the spring of 1969, but as of September no samples had been collected. Systematic collection of samples should be initiated at an early date.

\*Federal-State standards for all interstate streams of Iowa were approved June 1971.



*Agriculture is the dominant land use in the upper reaches. View three miles west of Lime Springs.*



*Allamakee County is 32 percent forested.*



## Land Use

The breakdown of major land use categories shown below for the Upper Iowa River is based on an area six miles wide (three miles on each side of the river) for the entire length of the river. The acreage in roads was not separated out.

TABLE II

### Land Use

<u>Use</u>	<u>Acres</u>	<u>Percent</u>
Cropland	234,455	65
Pasture (permanent)	53,663	15
Forest	62,170	17
Developed (residential, commercial, industrial)	6,282	2
Water	<u>2,065</u>	<u>1</u>
TOTALS	358,635	100

Agriculture. Farming is the dominant land use in the Upper Iowa River area. Livestock, dairy, and cash grain are the most common types of farming. There are over 300,000 cattle and calves and over 400,000 hogs and pigs in the farm county area of Mower, Minnesota; and Allamakee, Howard, and Winneshiek, Iowa. Corn, oats, soybeans, and hay are the most important crops. The average farm size is 200 acres with a current trend toward fewer farms of larger size.

The acreage of row crops increases from east to west along the Upper Iowa River. This is a result of the rough, Driftless Area topography found in Winneshiek and Allamakee Counties. About 40 percent of the land in the Driftless Area is in permanent pasture.

The agricultural land blends well with the scenic setting of the Upper Iowa River. Because of rolling, rather rough topography, much of the cropland is contoured, terraced, and strip-cropped. This results in scenic patterns of land use where pasture, forest, farmstead, and cropland are visible to the river traveler.

Along some stretches of the river, farmland is cropped to the river's edge. This is more common along the lower half of the river where the basin is wider. Stream-bank erosion is very noticeable along these cropland areas.

Very little pasture is fenced from the river. Domestic livestock utilize the river as a source of water, and frequently cross the river to go from pasture to pasture. The sighting of occasional stock along the river, or grazing on nearby pastures generally enhances the pastoral atmosphere for the river traveler. However,





*Domestic livestock utilize the river for watering.*



*Bank erosion is a problem where cropping extends to the river's edge.*

where heavy grazing occurs, the fencing of water lanes to the river would be desirable to prevent streambank erosion and preserve vegetation along the riverbanks. Overgrazing is a problem on some of the adjacent pastures. Evidence of "trailing" and incipient erosion emphasizes the need for good pasture management practices.

A few farm feedlots occur close to the river's edge. These are a potential source of stream pollution and the strong odors are not compatible with recreation use of the river. The landowners should be encouraged to move such feedlots away from the river proper, and to utilize natural vegetation and topography for screening effects.

Land use conditions are currently quite stable. There is very little land clearing for agricultural purposes. Many of the remaining forest and prairie areas are unsuited for crop production because of steep topography, soil conditions, drainage or flooding, or the high cost of land conversion. Some marginal lands are reverting to native vegetation as the farmers concentrate their production efforts and modern farming techniques on the most suitable areas.

Recreation use of the Upper Iowa should not seriously conflict with farming enterprises in the valley. Only in some sections of a narrow strip adjacent to the river would it be necessary to restrict agricultural use. If a scenic river program becomes reality, every effort should be made to limit interference with agricultural uses where they do not seriously diminish natural values or conflict with recreation use. With cooperation and careful planning the river valley can accommodate both agriculture and recreation.

Forestry. Northeastern Iowa is one of the most heavily forested parts of the State. Allamakee County is 32 percent forested, Winneshiek County is 13 percent, and Howard County is 4 percent forested. The principal species of commercial value in the area are red and white oak, black walnut, and maple.

There are no sawmills located within the Upper Iowa Basin. However, three are located nearby in Allamakee County and one in southeastern Howard County. These four mills buy timber in the Upper Iowa area. Each has an annual production of 100,000 to 2,500,000 board feet of mixed hardwood lumber, ties, pulpwood, and veneer.

The major forest industries are located in Dubuque. They must import much of their raw materials because local stock does not meet specifications. There is a need for forest management of local stands so that quality and quantity can be produced to meet industrial requirements.



*These photographs illustrate the need for protection of the river environment. Removal of vegetation degrades natural and scenic values, destroys wildlife habitat, and alters stream ecology.*

*Before*



*After*

Much of the forest land is poorly managed or unmanaged. Hydrologic condition of such areas varies from poor to fair, and could be improved through grazing control. In general, the forest land yields relatively small amounts of sediment and surface run-off.

From the economic viewpoint, the forest land could be improved through under-planting and stand conversion to more marketable species. The value of existing forest stands could be increased through stand improvement measures such as thinning and pruning. Such management would be prudent for all stands in the river basin with the possible exception of those immediately adjacent to the river. Some of the latter should be maintained in their natural state to enhance the natural and scenic qualities of the river environment.

The impact on the forest land resulting from the designation of the Upper Iowa as a scenic river could be substantial. Fire control, which is not a serious problem now, could become more of a problem with increased recreation use of the river and the adjacent forest land. Heavy use of sites for camping, picnicking, and hiking could lead to site deterioration due to loss of natural ground cover and soil erosion.

Forest lands near the river would probably increase in value through the establishment of a scenic river. An influx of people to the river for recreational purposes could bring about a corresponding increase in demand for land for recreational development. Land values would be expected to increase accordingly, with the greatest increase anticipated for forest lands when compared to agricultural, industrial, or urban lands.

There would be a need for additional forest plantings on any critical erosion areas of the upper watershed to control surface run-off and prevent downstream damage to recreation areas along the river. Vigorous forest stands in the watershed, in addition to their economic return, would also be of value in yielding a sustained base flow of high quality water to the river proper.

Some of the forest stands are presently being grazed by domestic livestock. Over-grazing destroys the esthetic, recreation, and watershed values of forest stands. It is not compatible with forest production and recreation use and should be controlled throughout the watershed.

Residential, Commercial, and Industrial. There are no major industrial developments within the Upper Iowa River Basin. Dubuque, to the southeast, is the nearest industrial center.

A creamery, poultry processing plant, and a specialty manufacturing plant are located in Decorah. There are also creameries at Lime Springs, Iowa, and Granger, Minnesota.

Minerals are not an important resource in this part of Iowa, although there was once a large iron ore strip mine north of Waukon. The limestone and dolomite bedrock is quarried for road surfacing, riprap, railroad ballast, cement rock, agricultural limestone, and concrete aggregate. Three sand and gravel operations exist on the flood plain. There are several small rock quarries in the area.

At the site of a concrete materials operation on the east side of Decorah, the esthetic qualities of about 500 yards of one bank of the river have been degraded with debris and the solidified washings from concrete mixer trucks. Restoration of this section would not be difficult and is well warranted. Removal of the debris, discontinuance of the truck washing, and planting of a screen of trees would correct the situation. Other than this site, there are very few locations where commercial or industrial uses detract from the river scene. A small sand and gravel operation at Kendallville should be screened from the river, and at Granger, Minnesota, bankside debris should be removed and a sewage outfall from a creamery should be controlled.

At several places on the river damage to vegetation due to road and power line right-of-way spraying is evident. Where feasible this practice should be discontinued, and tree and shrub species limited to low or medium height should be used for screening.

Decorah, with a population exceeding 7,000, is the largest residential and commercial area within the watershed boundaries. Other residential and commercial developments include the villages of Le Roy and Granger, Minnesota; the villages of Chester, Lime Springs, Kendallville, Bluffton, Freeport, Dorchester, Burr Oak, and Highlandville, Iowa. The population of Le Roy is 971. The other villages have populations ranging up to 500.

#### Water Resources Development

The U. S. Army Corps of Engineers has completed seven miles of channel modification and levee construction at the mouth of the Upper Iowa River. This project was started in 1958 and was designed to alleviate flooding that resulted from a debris choked channel.

The Corps of Engineers also constructed a 3,200-foot diversion channel, completed in 1950, to carry flow from Dry Run Creek through adjacent bluffs into the Upper Iowa River above Decorah. Prior to this, Dry Run Creek junctioned with the Upper Iowa River within the city limits of Decorah. The purpose was to prevent the loss of and damage to property in Decorah that resulted when Dry Run Creek flooded. In conjunction with this project, a levee system was constructed along the Upper Iowa River within the city of Decorah.

A flood prevention project in the English Bench watershed has been undertaken by the Allamakee County Soil Conservation District with assistance from the U. S. Soil Conservation Service and the U. S. Forest Service, under the authority of Public Law 566. This project is currently operational and involves structural and land treatment measures in conjunction with channel improvement. The English Bench drainage flows into the Upper Iowa River approximately 10 miles above its mouth. This 4,700-acre project will help reduce the peak flow and sediment yield of the Upper Iowa River. None of the structure sites are visible from the river.

The Upper Iowa River is not used for water supply. All communities and industry use ground water sources, which are projected to be adequate to the year 2020. \*

The Wild and Scenic Rivers Act requires that river studies authorized by the Act be coordinated with any water resources planning involving the same river which is being conducted pursuant to the Water Resources Planning Act. In this regard, the Upper Iowa Basin is included in the Upper Mississippi River Comprehensive Basin Study. To effect coordination, preliminary drafts of the Upper Mississippi study were consulted in the preparation of this report. In addition, a preliminary draft of the Upper Iowa report was submitted to the Corps of Engineers, the lead agency of the Upper Mississippi River Comprehensive Basin Study Coordinating Committee, for review and concurrence. Comments received from the Corps have been incorporated into the report.

The Upper Mississippi River Comprehensive Basin Study involves State and Federal agencies and is primarily concerned with economic development based on the current and projected demand for water and related land resources. The objective is to provide general guidelines for future water resource development.

In Appendix I of the preliminary basin study report, the U. S. Army Corps of Engineers identified a physically feasible flood control reservoir at river mile 5 of the Upper Iowa. Flood control alone was the determining factor in this very preliminary selection, without consideration of other land and water resource values. Economic feasibility has, therefore, not been determined. The basin study report does not recommend construction of a reservoir at this site through the year 2020. This flood control reservoir, which is not currently proposed, is the only development considered in the Upper Mississippi Comprehensive Basin Study that would conflict with scenic river designation.

In summary, there are no existing or proposed water resource developments that would seriously conflict with scenic river recreation use of the Upper Iowa. The designation of the Upper Iowa River as a scenic river would appear to be compatible with the multiple use potential of this area.

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\*Upper Mississippi River Comprehensive Basin Study, Appendix H (Preliminary), UMRCBS Coordinating Committee, 1969.

## Land Ownership

The following tabulation shows the land ownership pattern occurring along the Upper Iowa River, based on an area three miles on either side of the river for its entire length:

TABLE III

### Land Ownership

<u>Ownership*</u>	<u>Acres</u>	<u>Percent</u>
Iowa Conservation Commission	2,005	.6
Minnesota Department of Conservation	1,100	.3
County	135	-----
Municipal	1,664	.5
Private	351,666	98.0
Water	<u>2,065</u>	<u>.6</u>
 TOTALS	 358,635	 100.0

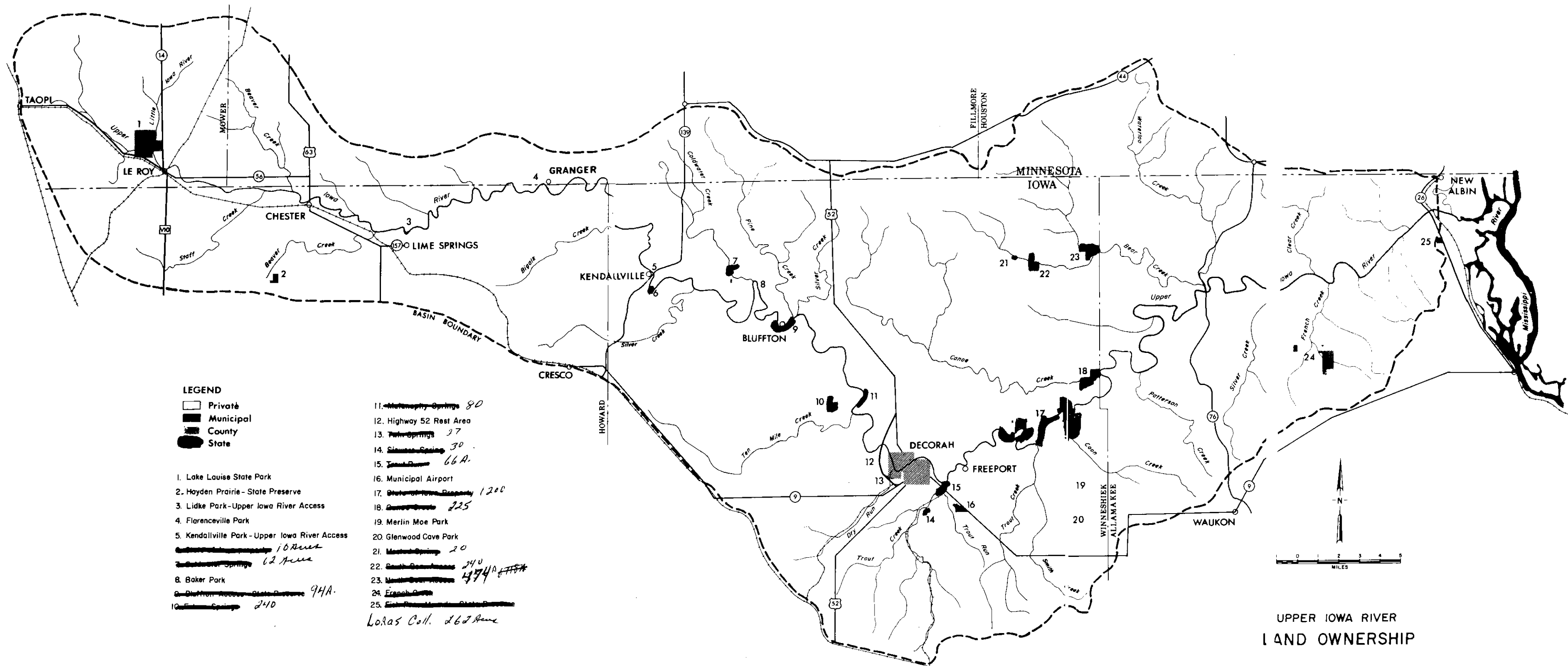
\*No attempt was made to determine the area in county and State owned highways and roads.

The land owned by the Iowa Conservation Commission is utilized primarily as public access to the Upper Iowa and adjacent streams. There is a State fish hatchery just southeast of Decorah. The access areas contain no improvements other than roads, fences, and some buildings.

The Minnesota Department of Conservation land is managed as Lake Louise State Park. It lies just northwest of the town of Le Roy. There are improvements such as picnic tables, trails, roads, grills, etc.

The county land consists of several small parks and a roadside rest area along Highway 52. The city of Decorah is the only municipal landowner. Its land includes an airport, city parks, and some undeveloped land.

The area in private ownership is predominately utilized as farmland, farmsteads, and private homes in villages and towns. Luther College, at Decorah, is one of the private landowners. The trend toward fewer, but larger farms is resulting in the abandonment of some farmsteads. When the buildings are badly deteriorated they are razed and the land is converted to crop or pasture use.



App. 3900 Acres owned by State of Iowa in Winn. County

Cardinal Marsh (861)



## Access

Two U.S. highway and four State routes transect the Upper Iowa River Basin. County primary, secondary, and feeder roads cross the river frequently. In its 125-mile course, the Upper Iowa is crossed by 51 bridges. Only 17 of the bridge crossings serve paved roads and these occur at population concentrations and at the major highway crossings.

Designated public access to the Upper Iowa is limited. There are 11 sites along the river where it is possible to launch a boat from public land. Only three of the points are designated as public boat access sites. The others are county and city parks, and undeveloped lands owned by the State. Many of the bridge crossing areas provide potential access, however, it is necessary to cross private land. At present, permission to cross private land is usually given.

The State Conservation Commission has acquired access for fishermen to several of the tributary streams which are managed as trout waters, and is continuing in its efforts to acquire more land adjacent to the river for access purposes. Access areas presently in public ownership are:

### Designated Canoe Access Upper Iowa River\*

Bluffton  
Malanaphy Springs  
Lime Springs

### Existing Undesignated Boat Access - Upper Iowa River (Public Land on River)\*

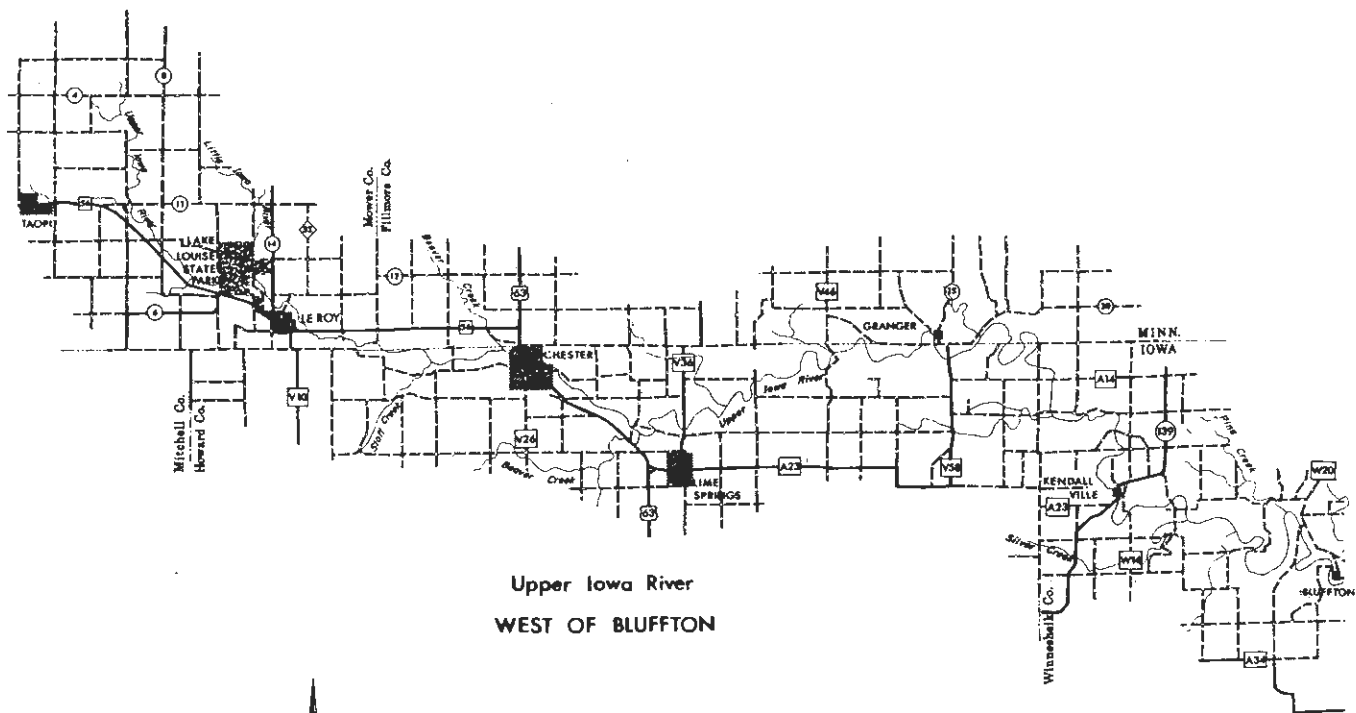
Florenceville Park  
Kendallville County Park  
Decorah City Campground  
Upper Dam  
Lower Dam  
Canoe Creek  
Baker Park  
Trout Run

### Public Fishing Access Tributary Trout Streams\*

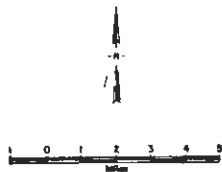
Bigalk Creek  
French Creek  
Bear Creek - North and South  
Coldwater Springs  
Twin Springs  
Seiwers Spring  
Canoe Creek

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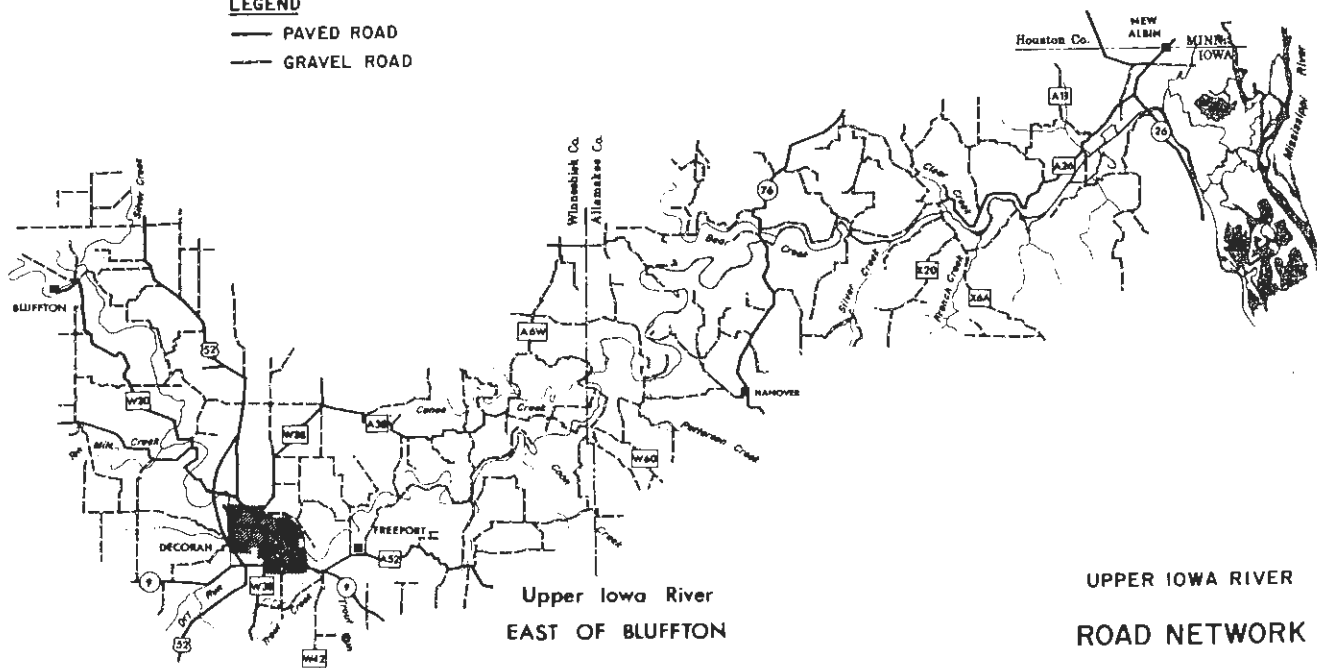
\* For location see map, page 48.



Upper Iowa River  
WEST OF BLUFFTON



**LEGEND**  
 — PAVED ROAD  
 — GRAVEL ROAD



Upper Iowa River  
EAST OF BLUFFTON

UPPER IOWA RIVER  
ROAD NETWORK

## Water Rights, Navigability, and Riverbed Ownership

Iowa law declares that water in all water-courses is public water subject to public control. For all of its streams the State has designated "protected flow" levels.

Artificial reduction below the protected flow is not permitted. For the Upper Iowa River, 80 cfs at the Decorah gauging station has been designated the protected flow level.

As is the case in many States the questions of navigability, riverbed ownership, and the public's right to use a watercourse are embroiled in controversy in Iowa. The Iowa State Code defines navigable streams--at least for the purposes of enforcement of boating regulations--as waters "which can support a vessel capable of carrying one or more persons during a total of six months in one out of every ten years."\* By this definition the Upper Iowa would be designated navigable. However, an opinion issued by the State Attorney General in 1965 stated that this definition was only applicable in the context of boating regulations. He maintained that the right to canoe streams should be asserted only to the extent they were "meandered" in the original government surveys in the mid 1800's. Meandering is surveying terminology designating the technique used for defining and mapping watercourses. In the Attorney General's opinion the Iowa courts have established that Iowa streams are navigable only to the extent meandered in the government surveys. For the Upper Iowa this is the three miles of the river above the mouth. There appears to be considerable disagreement within the State with the Attorney General's opinion, but the question has not yet been tested in court.

The ramifications of the question for a scenic river program are twofold. If the Upper Iowa were to be declared navigable, with the implication of public control over the riverbed, then the necessary rights to be purchased for the scenic river program would be substantially reduced.

Secondly, if the river were declared a public passageway, the practice of private landowners of fencing across the river would come under legal question. The fences represent a hindrance and hazard to river users.

The resolution of the navigability question will have implications for Iowa's total river recreation program as well as for an Upper Iowa Scenic River. The Iowa Conservation Commission should pursue a clarification of the issue before embarking on a State scenic river program.

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\* Code of Iowa, Chapter 106.2, Definition #8, 1966.

## Geology and Soils

Geology. The geology of northeastern Iowa and southeastern Minnesota is primarily of sedimentary and glacial origin. Ancient seas covered the area during the Paleozoic period and resulted in deposits of shale, limestone, and sandstone that form today's bedrock. An era following the Paleozoic resulted in the uplifting, folding, and faulting of the land and a long period of erosion.

Northeastern Iowa was not appreciably affected during the Cretaceous period, but during the Pleistocene a portion of the area was subjected to the Nebraskan, Kansan, and Iowan glaciers. Large quantities of material (glacial till) were deposited as the ice sheets melted, leveling the topography and resulting in the flat prairies characteristic of the Upper Iowa headwaters area.

Although there is controversy among geologists as to the actual extent of the Driftless Area, the area not glaciated, the topography of most of the Upper Iowa Basin in Winneshiek and Allamakee Counties has been little affected by glacial activity. Erosional processes have continued unabated, resulting in a topography with greater relief than that of the surrounding areas where glacial deposition occurred. The basin was covered with loess, a wind deposited silt, during the most recent glacial period.

Galena limestones and dolomites form the most conspicuous bedrock above Decorah. They were deposited in warm shallow seas some 450 million years ago and have been heavily eroded, leaving isolated pillars known locally as "the Chimney," the Pulpit," "the Steamboat," and other scenic formations visible from the Upper Iowa River. The palisades near Bluffton are some of the most impressive of such formations. The Galena deposits support many large springs which surface from master joints. Fossils such as crinoids, trilobites, cystoids, and cyclocystids have been found in the Galena strata.

The St. Peter sandstone occurs as bluffs rising above the river just below Decorah. These bluffs are easily observed from the river. The sands were probably deposited along ancient shorelines some 470 million years ago.

The high bluffs encountered along the lower part of the Upper Iowa River in Allamakee County have a prominent layer of Oneota limestone. These sparsely vegetated bluffs are up to 400 feet above the river. They are clearly visible as the river meanders through open pastures and cropland.

There are a number of large caves in the Driftless Area. A few have been commercially developed, including two in the watershed of the Upper Iowa. Recently, two University of Iowa students discovered a large, spectacular cave at Coldwater Spring, about three miles northwest of Bluffton. The entrance to the cave is on State-owned land a mile north of the river. The cave has been termed the longest



*Palisades*

*Pulpit Rock*



*A chimney*

and most spectacular in Iowa. It extends more than six miles and contains many beautiful formations. It has remained undiscovered until now because entrance can be gained only by an underwater swim of one-fourth mile in scuba gear and wet suits.

The Iowa Conservation Commission and the Iowa State Preserves Board are considering means for preserving the cave. A gate has been placed across the entrance to stop any hardy adventurers who might attempt to enter the cave and perhaps vandalize it. Present plans are to limit entrance to scientific and other special purposes. The cave is a significant natural feature of the Upper Iowa environment, and, if eventually opened to the public and a new entrance developed, it would be of considerable value and interest to many river users.

Soils. The principal soils occurring in the immediate bottoms of the Upper Iowa River Valley are silt loams, silty clays, and recent alluviums. These soils are moderately fertile and, except for areas of frequent flooding and high water table, are suitable for pasture and row crops. Steep, rocky land frequently separates the bottoms from the surrounding uplands. Upland soils are mostly silt loams formed on loess and are used for field crops and pasture, except in steeply sloping areas.

The major soil associations in the valley bottoms are the Wabash and Dorchester silt loams and silty clays. Upland associations include the Tama-Downs, the Fayette-Dubuque-stony land, and the Fayette and Cresco-Masson-Clyde silt loams.

The major limitation to recreation use of the area soils would result from flooding and high water tables in some areas of the bottomland.\* Because of the comparatively light development and low use pressure anticipated in a riverway program it will not be difficult to find areas with suitable soils for development. Care must be taken, however, in the selection of any sites where heavy use is expected.

## Climate

The climate of the Upper Iowa Basin is generally favorable for outdoor recreation pursuits from April through October. The summers are warm and the winters are cold.

There are occasional periods of extreme temperatures. The average daily high is 86 degrees in July and 27 degrees in January. Slightly warmer temperatures occur near the Mississippi River. The average frost-free season is 138 days. Precipitation in the basin averages approximately 32 inches annually with an average snowfall of 40 inches. About 70 percent of the annual precipitation occurs during the period of April 1 to September 30, although the spring season may fluctuate from extremely wet to fairly dry.

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\* U.S. Soil Conservation Service, Soil Interpretations for Recreation for Major Land Resource Area 108, October 1967.

## Vegetation

The unglaciated portion of the Upper Iowa's watershed has been deeply dissected by the river and its tributaries. The vegetative composition and succession has been greatly influenced by such factors as slope, exposure, moisture, soil conditions, and the effects of man's activities.

The terrain surrounding the river has varied vegetative cover. Bottomland species such as elm, hackberry, silver maple, box elder, willow, black walnut, cottonwood, and butternut grow on the stream terraces. Slopes and uplands support an oak-hickory association which in some places is being succeeded by a maple-basswood climax type. Other woody species on the forested slopes include red cedar, white pine, balsam fir, white birch, aspen, and Canadian yew.

The balsam fir stands on the bluffs at Bluffton and upstream are unique in that they represent the southernmost stands of native balsam fir in Iowa. This species is often a member of relict "boreal communities" that occur on the cool, north-facing limestone bluffs. These plant communities are several hundred miles south of their normal range. The balsam fir stand at Bluffton is protected as a part of the Iowa State Preserves System.

Poisonous and pest plants to be avoided in the area include poison ivy, the stinging nettle, and sand burs. Flowering species of interest, occurring generally in forest association, include the violets, trillium, columbine, jack-in-the-pulpit, marsh marigold, and pasque flower.

Within the forest community, small areas that have been protected from grazing still produce such interesting herbaceous species as bloodroot, ginseng, bellwort, golden seal, and an orchid--the yellow moccasin. Several of these are collected for their medicinal values.

Mushroom collectors find many desirable species of edible mushrooms in the woodlands along the Upper Iowa River. Morels are especially abundant and each spring finds many people out collecting these choice food items.

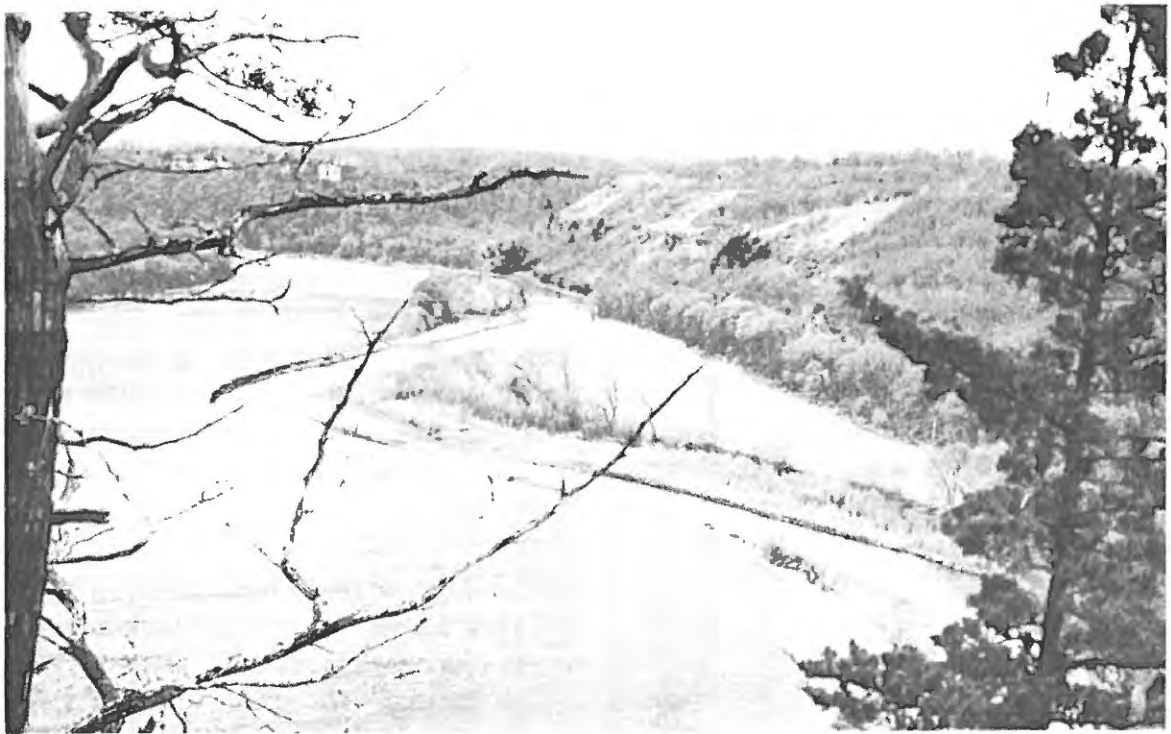
In summary, this area has a great variety of trees, shrubs, flowering plants, grasses, ferns, and other forms of interesting plant life. Much of it is still relatively undisturbed by man's activities. The occasional contrasting mixture of conifers and broad-leaved species provides an attractive forest cover that is quite colorful in the spring and fall.

## Fish and Wildlife

The Upper Iowa River provides a natural travel lane, as well as permanent home, for numerous wildlife species. The river-banks are well covered with numerous trees, shrubs, and herbaceous species highly attractive to a variety of wildlife. Vegetation



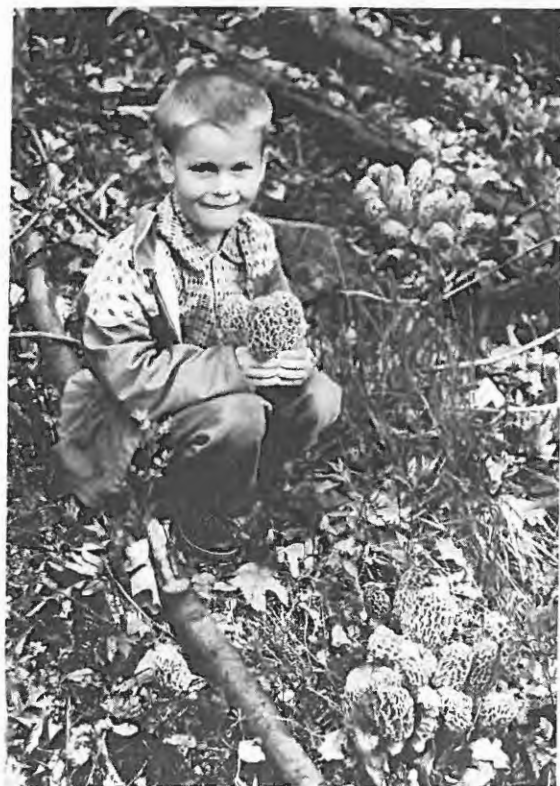
*Bankside vegetation is frequently lush. At other times the river breaks out into open farmland.*







*Rare double Bloodroot.*



*Morel mushrooms are common in the Upper Iowa Valley.*

*Biology students from Luther College.*





*Cliff swallows form large colonies on the bluffs along the Upper Iowa.*

along the river is lush, occasionally forming a closed canopy. Game birds and mammals find the interspersed trees, brush, river bottoms, and adjacent crop fields nearly ideal habitat. There are good populations of white-tailed deer, fox squirrels, grey squirrels, and woodchucks. Hunting opportunity for these species is above average. Cottontail rabbits are common, though not abundant. Pheasants and quail are not plentiful but do occur throughout the valley and provide some hunting. Ruffed grouse provide huntable populations in portions of the area. Mourning doves are abundant, but Iowa law does not permit hunting for this species. Wild turkeys have been introduced in the area and have survived for two winters.

Most furbearers, including raccoon, opossum, muskrat, mink, beaver, and striped skunk are common to this region and provide income for local trappers. Both red and grey foxes are present and provide opportunities for hunting and trapping. Otter are occasionally found along this stream and are protected by Iowa law.

The area is much used by songbirds, especially as a stopover during migrations. Numerous colonies of cliff swallows use the area, sometimes forming spectacular concentrations. Wood ducks, owls, hawks, and kingfishers are common residents. Rattlesnakes are found on the limestone bluffs and drier hillsides. Other forms of wildlife include soft-shelled turtles and snapping turtles, both of which are interesting additions to the fauna. They are also sought after for their food values. There is high potential for considerably greater use of this area for nature study, bird watching, and wildlife photography.

The Upper Iowa River supports a fine variety of fish life. Approximately 42 miles of tributary streams are stocked periodically with brook, brown, and rainbow trout. These streams support considerable fishing pressure. In addition, some fish move downstream and are taken in the river.

Smallmouth bass, channel catfish, carp, and white suckers are species in the sport catch. Smallmouth bass fishing is excellent in some stretches of the river, especially when turbidity levels are low. Fishing is highly rewarding for those who know the river. Following periods of heavy rain, siltation and turbidity become a serious problem, and fishing success is sharply reduced, except for such species as catfish, suckers, and carp.

There are a few local problems relating to habitat. Sparse cover limits wildlife populations along some reaches of the river. In a few areas, overgrazing has reduced the quality of woody cover and opened the understory to the point where it no longer provides adequate escape cover or food supplies. However, this condition would rapidly correct itself, following elimination of overgrazing, if the Upper Iowa were to be designated as a scenic river. Limited replanting, with species selected for their erosion control and wildlife values, would be desirable in a few localities.







*Smallmouth Bass*



*Rainbow Trout*

*Leatherback Turtle*



The bank sloughing and erosion that is a problem along some stream sections destroys wildlife and fish habitat. Bank stabilization measures, combined with strategic placement of gabions, submerged wing dams, or other carefully selected and placed protective features could be employed in such a manner that they would not mar the natural beauty of the area. Streambank protection would help retain the wildlife habitat base, enhance the appearance of the stream, and help the fishery by improving water clarity during periods of heavy run-off. However, the program should be accomplished in a manner that does not impair esthetic or natural qualities.

## **History and Archaeology**

History. The Upper Iowa Valley was Indian country in historic as well as prehistoric times. Nicholas Perrot, fur trader, explorer, and agent for the French government, is regarded as perhaps the first white man to encounter the Iowa Indians of this valley in 1685. Many other early explorers who traveled the Mississippi passed the mouth of the Upper Iowa but there is no evidence that any ascended the stream.

The valley of the Upper Iowa River continued to be Indian country even into the early years of frontier settlement. The Federal Government settled the Winnebagos here in a 40-mile strip of land along the Upper Iowa known as the Neutral Ground. The Neutral Ground was established in 1830 to separate the Sioux to the north and the Sacs and Foxes to the south. Fort Atkinson was built and occupied by Federal troops in 1844 to protect the Winnebagos from other tribes. This fort, 13 miles southwest of Decorah, partially restored and containing a museum, is a historical preserve in the State Preserves System. In 1848 the Winnebagos were moved to Minnesota. The Neutral Gound was then thrown open to settlers.

During the next decade American pioneers began to settle and establish themselves in the valley. Norwegian, German, Swedish, Irish, and Czech immigrants came close on the heels of these first settlers.

Of the many nationalities that settled in communities along the Upper Iowa--notably the Czechs who founded the strong Spillville settlement, the Germans near Postville, and later the Irish colony near Bluffton--none quite compared in number to the Norwegians around Decorah. The Norwegians have contributed greatly to the culture and development of the region for more than 100 years. Luther College, founded by the Norwegian Lutherans, was moved from La Crosse, Wisconsin, to Decorah in 1862. It rapidly became a strong cultural force among Norwegian immigrants throughout the country. In 1864, B. Anundsen founded the Decorah-Posten, a Norwegian language paper that continues to serve its people.

The Norwegian-American Museum was established in Decorah in 1877. It contains displays and artifacts which illustrate the life and culture of the Norwegian immigrant



*The old mill and dam at Lime Springs.*



*An archaeological "diggings" near the Upper Iowa.*

in America and in the Upper Iowa Basin. In celebration of their Norwegian heritage the people of Decorah stage a three-day "Nordic Fest" each July.

The town of Decorah was founded in 1849 on the Upper Iowa, approximately 50 miles upstream from its mouth. Several water powered saw mills were promptly established on the river to saw lumber needed for building homes. Other mills were built for grinding feed. Some of these were later used as flour mills. Woolen mills run by water power were established early in Decorah.

The first mill in Winneshiek County was built in 1849 at the present site of Dunning Springs, just north of the river at Decorah. In 1860 the Bernatz Mill was built in Decorah. It continued operation until 1967, and plans are now underway locally for the Norwegian-American Museum to preserve and interpret this fine example of an early day mill.

The first dam and mill at Lime Springs was built in 1857. It was used first to saw timber and later converted and enlarged to become a prosperous flour mill. The mill was rebuilt twice following fire in 1894 and flood damage in 1916. It continued operating until 1960, and today it stands idle, but in fair condition. The Howard County Historical Society has recently acquired the property, thereby assuring its preservation.

Thirteen mills were located on the Upper Iowa in 1880, most of them between Lime Springs and Decorah. There were never many mills established on the lower portion of the river due to the loss of gradient a few miles below Decorah.

In later years two small hydroelectric plants were established on the Upper Iowa. The two structures, the "upper" and "lower" dams, have been abandoned for nearly 25 years and are presently in State ownership.

The mill sites and the abandoned power dams are the principal historical resources which might be incorporated into a scenic river program. Historical interpretation would be a secondary element in the river program, but the sites do represent early human use of the river resource and warrant preservation. As indicated, local efforts are underway to preserve the remaining mills.

Archaeology. The rich farmland adjacent to the river contains many sites related to different Indian cultures. Approximately 40 miles south is Effigy Mounds National Monument (a related archaeological area famous for its outstanding mounds of the Woodland culture), which is under the administration of the National Park Service. The Upper Iowa area contains sites representative of the various cultural developments that have taken place during prehistoric time.

Indian cultures in this region range in time from the big-game hunting people of the late glacial period to modern Indian tribes. The people of the period known to



archaeologists as the Red Ocher, 2000 B.C. and earlier, represent the late Archaic culture of this area--a life-way with an economy based on hunting and food collecting. During the Woodland period, 2000 B.C.-900-1100 A.D., it is likely some gardening was introduced into the Upper Iowa River Valley, the staple crops on which it would have been based being corn, beans, and squash. In the latter part of the Woodland period, Indian groups from the lower Mississippi Valley had a profound effect on the local Woodland peoples, with the result that some sites became fortified towns, with marked changes in economy and technology. Notable among these changes was increased dependence on agriculture. Where the earlier Woodland peoples had never quite given up the old Archaic concern with hunting and food collecting, these later Woodland peoples, who were in contact with the more southerly tribes, came to place greater emphasis on farming.

Eventually, the native culture of this locality seems to have been submerged by a massive influx of southern traits, with the result that a new culture group, the Oneota, A.D. 1200-1650, is recognized by archaeologists. The Oneota peoples, in turn, were greatly influenced by whites after the discovery of America. In many of the later Oneota sites, trade objects derived from French sources are found. Studies of historical documents coupled with archaeological research have demonstrated that the Oneota were the Iowa Indian tribe, or the group from which the State takes its name.

Archaeologists have named certain areas in which diggings have uncovered significant archaeological finds. Some of the more renowned excavated sites are the Lane, Elephant, New Galena, O'Regan, Hartley Fort, Hogback, and Fish Farm Mounds. The latter area is a part of the State Preserves System. These sites are located near the Upper Iowa and have produced many important artifacts. Increased recreation use might endanger some of the sites. Efforts are warranted to protect them and to perhaps interpret the more important finds for the public.

## Recreation

Existing and Potential Uses. At present, total recreation use of the Upper Iowa is relatively light. However major holiday weekends see considerable use, with the major river access sites and trout stream areas overcrowded. Canoeing groups come from as far away as Chicago. Numerous youth groups from Iowa cities visit the river each year.

There are yearly visitation figures available for several areas on or near the Upper Iowa River. Lake Louise State Park is located on the river's upper reaches in Minnesota. The 19-site campground in the park had 769 campers in 1969. Day use declined from 14,251 in 1968 to 4,491 in 1969 because of flood damage to the small reservoir in the park. In 1969 the city of Decorah opened a new campground of 18 sites on the Upper Iowa. It attracted 5,332 users from June 30 to November 1.

Yellow River State Forest is located 28 miles southeast of Decorah in the Yellow River watershed. This area was used by 34,970 campers and 13,000 horseback riders in 1969. Hunters using the area totaled over 23,000. The forest information center recorded visits by travelers from 17 States and all 99 Iowa counties.

The Upper Iowa provides a resource base for expanding recreation use. The low degree of difficulty, the leisurely pace of the river, and a meandering channel marked by frequent riffles, make a trip on the Upper Iowa an enjoyable experience for the average canoeist. The river is ideal for family float trips and group outings. Few designated canoe access sites exist on the river and opportunities for increasing the number of canoe launching areas are numerous. The river is floatable during a large portion of the recreation season. Usually most of the river is too shallow for boats using motors; however, the longer and deeper pools in the lower half of the river may permit limited use by motorboats.

As discussed previously, the Upper Iowa River Valley possesses a rich fish and wildlife resource. The river is one of the State's best smallmouth bass streams and although fishing is presently one of the major recreational uses of the river, fishing pressure is relatively light on the river's main stem. The tributary trout streams are very popular and are heavily used. There is a wide variety of wildlife present and the basin is one of the State's better hunting areas. The Iowa Conservation Commission reports that its hunting and fishing areas in the watershed of the Upper Iowa attracted 45,170 users in 1969. Additional access, trails, and facilities would enhance the human enjoyment of the fish and wildlife resource.

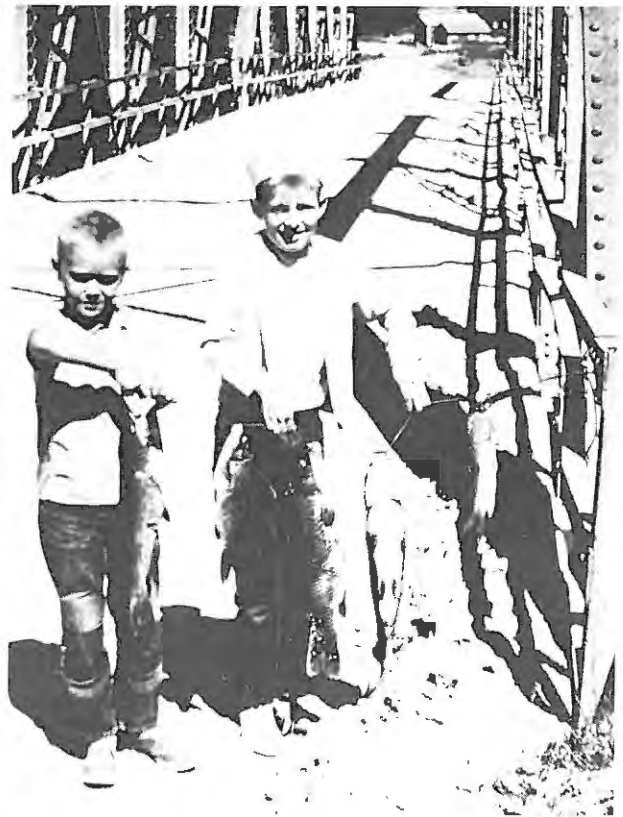
Although camping would generally be associated with other river-oriented activities, some recreators will engage in this activity as an end in itself. Undeveloped camping sites exist at several State, county, and municipal areas along the river. The city of Decorah has a fine 328 acre park system, a large part of which is on the Upper Iowa River. The river portion of Decorah's park system includes a new campground with 18 sites, the only developed campground on the river in Iowa. Lake Louise State Park in Minnesota, on the upper reaches of the river, has a campground containing 19 sites. There are numerous opportunities for camping developments and, associated with other river-oriented facilities, camping would be an important recreational use of the riverway.

The Upper Iowa is generally too shallow to provide extensive opportunities for swimming. The deeper pools could offer some swimming in association with other uses.





*Fishing the Upper Iowa*



There are excellent opportunities for development of a riverside trail system. Trail riding is growing in popularity and a private riding stable has been developed on the river upstream from Decorah. Recently, the city of Decorah authorized construction of 12 miles of bridle trails on its river flood plain lands. Trail use, both hiking and horseback riding, could potentially be a major facet of the river program.

There would be opportunities for several other outdoor activities which are sometimes neglected in recreation planning but are, in total, of great significance in natural areas. Some of these would be rock hunting, wild food gathering, amateur botanizing, bird watching, wildlife photography, and even just relaxing on the riverbank.

The activities discussed above are those which appear to be of major significance in a scenic river program, yet other secondary activities play an important role. Picnicking will be associated with many of the activities on or near the river, and opportunities exist to provide facilities at development sites. Historical and archaeological features associated with man's settlement and use of the riverway can contribute to recreation use. As indicated earlier, there are old mill sites and archaeological areas which may have potential for interpretive programs.

Perhaps the most important characteristic of the Upper Iowa Valley is the serenity of its pastoral landscape; it offers the chance to "re-create" in an environment whose quiet beauty contrasts sharply with the urban surroundings in which most of us live.

Limiting Factors. There are a number of physical and cultural factors which can inhibit recreational use of a riverway. Several of these such as water quality, water flow, access, water and land uses, water rights, and riverbed ownership have been discussed previously. This section summarizes some of the factors previously discussed and expands on those not completely evaluated from a recreation use point of view.

Water quality is not yet a significant limiting factor in the case of the Upper Iowa. Water quality is generally very good except for high turbidity after rains, a problem common to most rivers flowing through agricultural lands. Turbidity caused by soil erosion can be significantly reduced by streambank stabilization and land conservation methods in the watershed.

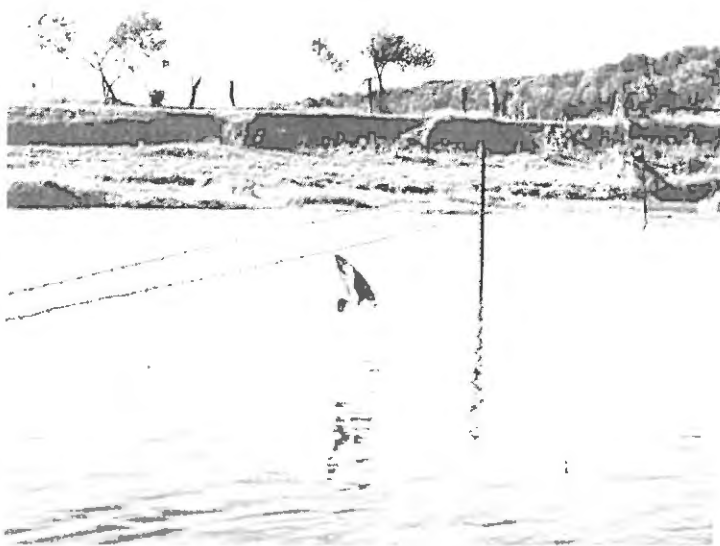
The Upper Iowa River is relatively shallow. During extended dry periods, most water related activities, including canoeing, may be somewhat limited in the upper stretches. Generally the river is too shallow for boats with motors, except in the lower section where the longer and deeper pools may permit some use of motor-boats. This lessens the possibility of conflict between canoeists and boaters.



*River access is frequently gained across private land at bridge crossings.*

*The public's right to use the river has been questioned.*



*Livestock fences can be a hazard to canoeists.*



The scarcity of designated and developed public access sites presently limits use of the river. Although one can usually obtain permission to cross private lands at bridge areas to launch boats, knowledge of the most suitable sites is limited to local people and to frequent river users. Many of these sites are now fenced and if use pressure increases, landowners could restrict access across their lands to the river. Additional access sites under public control are needed to assure access to the river.

Existing uses of riparian lands are for the most part compatible with recreation use. As noted previously, a few commercial and industrial developments should be screened from the river and their deleterious effect on the river's banks eliminated. Stock grazing has been noted as a problem in some areas. Cultivation to the river's edge and the removal of bankside vegetation should be prevented and the areas revegetated and protected.

The question of the public's right to use the river for recreation has been discussed previously. The bed of the Upper Iowa is presently owned by the adjacent land-owners, except in the lower three miles which are considered navigable. The legal question of bed ownership has not directly inhibited use of the river itself since the water has been declared to be in "public" ownership. However, the question does have important ramifications in regard to the cattle fencing problem. Because the river is generally shallow and bisects many farms, farmers find it necessary to place fences across the river to prevent stock from straying. Many of these fences are several strand barbed wire and a few are electrified. They are a hazard to canoeists, especially at dawn and dusk and during periods of swift water. At present the problem is not extensive; about a dozen fences exist on the entire river and only eight are in the stretch of river herein recommended for scenic river status. However, the question must be dealt with. It would appear that since the rivers of the State have been declared public waters, the State could legally forbid the construction of fences which inhibit public passage. This, however, would not solve the practical problem of the farmer's cattle watering needs. It would force the issue. Some of the suggested solutions that are alternatives to fee purchase of the sites include:

- 
- Construction of a fenced and graveled cattle watering pen
  - Cutting a watering channel back from the river
  - Pumping water from the river to a watering trough
  - The placement of canoe gates in the fence
  - Flagging the fences and placing rubber hose over the wire
- 

In many cases the fences may be easily negotiated by passing over or under the wires, but a more satisfactory solution should be pursued if recreation use is to expand. It will be necessary to approach the problem on a case by case basis, negotiating a method mutually satisfactory to the farmer and the State.

## VI

## CONCLUSIONS



## VI. CONCLUSIONS

The conclusion of this study is that the Upper Iowa River possesses values which qualify it for inclusion in the national wild and scenic rivers system.

The Upper Iowa River:

- is in a free-flowing natural condition. The two low dams on the middle river do not unreasonably diminish the free-flowing nature of the stream,
- possesses an outstanding combination of scenic, recreational, fish and wildlife, geological, and archaeological values,
- contains water of high quality and meets the "Aesthetics--General Criteria" as defined by the National Technical Advisory Committee on Water Quality in the Federal Water Pollution Control Administration's Water Quality Criteria, April 1, 1968,
- has an immediate environment that is very lightly developed,
- is a valuable recreation resource in an area where there are few river-oriented recreation developments and only minimal river area under protection,
- is not subject to any proposed land or water resource development that would seriously conflict with a scenic river program.

The Upper Iowa from river mile 86 at the Iowa-Minnesota State line in Howard County, Iowa, to "Lane's Bridge," Allamakee County, Iowa, is the best section of the river from the point of view of natural and scenic quality and recreational use potential. This segment, which lies wholly within the State of Iowa warrants immediate protection and consideration as a component of the national wild and scenic rivers system.

Upstream from river mile 86 to Lime Springs the Upper Iowa remains attractive and pleasant, although its size diminishes and the topography becomes more prairie-like. Recreational boating is limited by the shallowness of the stream but sport fishing remains good. In this reach the river meanders into Minnesota in several points. Above Lime Springs the river is very small, shallow, and lacks significant scenic or recreational attributes. Below Lane's Bridge the river has been straightened and channelized.

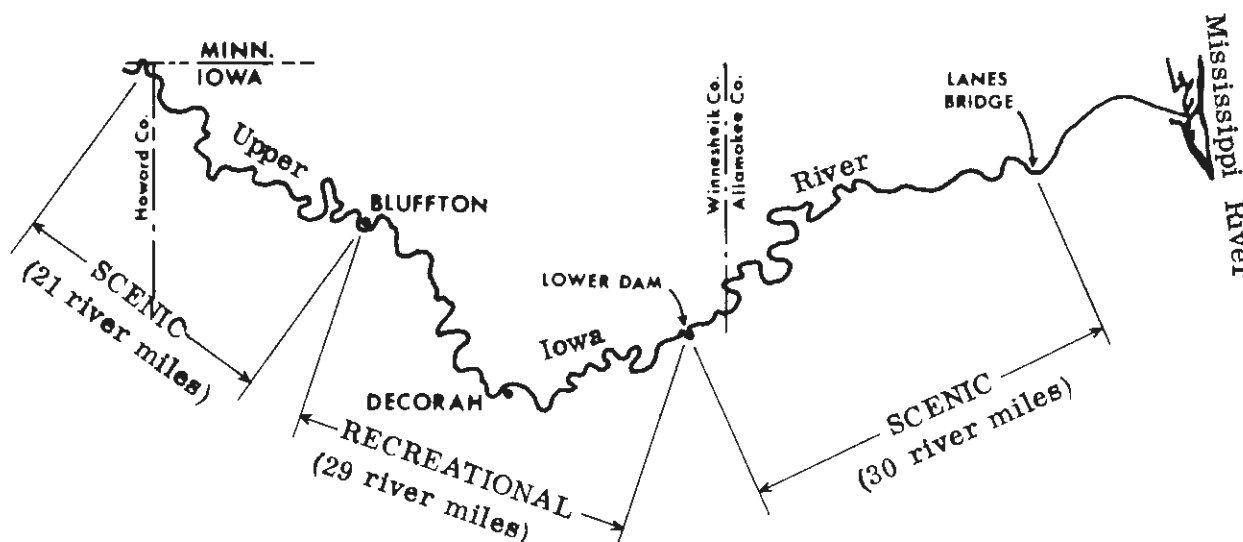
Although the Upper Iowa River above mile 86 is not now recommended for inclusion in the national system, the State of Iowa and Minnesota should give further consideration to the upstream area to determine what measures should be taken to protect the integrity of the headwaters area and to determine whether or not an additional segment of the river should be considered for designation as a scenic river.

Classification. The Wild and Scenic Rivers Act requires that the rivers in the national wild and scenic rivers system be classified as "wild," "scenic," or "recreational." The proposed Upper Iowa Scenic River contains two of the three classes defined in the Act, recreational and scenic. These two river classifications are defined as follows:

Section 2(b)(2) Scenic river areas - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Section 2(b)(3) Recreational river areas - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment in the past.

The approximately 80 miles of river under consideration has been divided into three segments. Two of these segments are classified as "scenic;" the third is classified as "recreational."



Upper Iowa River  
RIVER CLASSIFICATION

Fig. IV

From river mile 86 to Bluffton, a distance of 21 miles, the river should be classified as scenic. Very little development occurs in this stretch and farmlands are generally well screened from the river and unobtrusive. Ten road bridges cross the river in this segment, only one of which serves a paved road. The gravel road crossings are lightly used. This portion of the river is the most widely known for its scenery and canoeing, and presently receives the most use.

The recreational river segment extends from Bluffton, at river mile 65, to the "lower" dam, a distance of 29 miles. There is more urban development in this segment, farming use is more visible from the river, and there are two small impoundments. About four miles of the river lie in the city of Decorah and the river passes the small community of Freeport. Most of the riverside lands within Decorah are open and undeveloped but urban development is occasionally visible. In this section roads occasionally parallel and often cross the river. The two abandoned power dams, the "upper" and "lower" dams, are at river miles 40.5 and 36. They have heights of approximately 10 feet and 30 feet, respectively.

That part of the river between the lower dam, river mile 36, and Lane's Bridge constitutes the lower scenic river segment. In this 30 miles of river seven bridge crossings occur, only one of which is paved. The river flows through a broad valley flanked by steep bluffs. The only use visible from the river is farming. Farmsteads are occasionally seen and crop and pasture land sometimes extends to the river's edge.

Administration. The study team has concluded that the protection and development of the Upper Iowa River can be effectively achieved by the State of Iowa, in cooperation with local units of government, if Federal monies assist in the acquisition of necessary lands and rights. The State has had a land acquisition program on the river since 1967, but limited funds have permitted the purchase of only 885 acres since that date.

In conformance with the intent of the Wild and Scenic Rivers Act, a scenic river program for the Upper Iowa should have comparatively light development of facilities. The Iowa Conservation Commission has an administrative unit at Decorah for its trout stream program on tributaries of the Upper Iowa, and a unit at nearby Yellow River Forest. The State could expand the Decorah office for administration of the scenic river program.

A river program in cooperation with the local county conservation boards should be feasible. Iowa has an excellent system of county conservation boards, a program begun in 1955. Of the three Upper Iowa area counties, Howard and Winneshiek have established conservation boards. Each board is selected by

the County Board of Supervisors on the basis of demonstrated interest in conservation matters. Funds for the conservation board activities are appropriated by the Board of Supervisors with an annual property tax levy of not more than one mill on the dollar of assessed valuation. The State Conservation Commission works closely with the conservation boards, providing technical advice and counsel. These boards can play an important role in the development and administration of the scenic river program.

The State conservation officers are now active in policing and protecting the river. They enforce a number of State laws concerning flood plain construction, pollution, boating, and conservation that are important to a river preservation project. Through these programs the State has established excellent working relationships with local government officials, groups, and landowners.

City and county planning publications have given evidence of local interest in protection and recreation development of the Upper Iowa. In addition, a local citizens conservation group, the Northeast Iowa Council for Outdoor Resources Preservation (NEICORP), has been actively promoting the protection of the Upper Iowa.

The established lines of communications and the high level of favorable local interest should be invaluable to the State in encouraging local participation in a scenic river program, and in negotiating and enforcing scenic easements and other land controls along the river.

Federal Action. One of the major goals of the Wild and Scenic Rivers Act is to stimulate State and local scenic river efforts. The total program for protection of the nation's rivers is viewed as a shared effort at all levels of government. Prompt action by Federal, State, and local interests is essential if our finest streams are to be saved.

Section 2(a)(ii) of the Act is specifically intended to encourage State action by extending the protection of the national wild and scenic rivers system to qualified State-designated and managed rivers. The States presently have available to them Federal monies from the Land and Water Conservation Fund for recreation land acquisition and development. These funds are provided on a 50-50 matching basis. The State of Iowa has made full use of the monies available to it each year under this program. These funds have been committed to urban and rural recreation projects throughout the State, with 50 percent of the allocations supplied to local units of government and 50 percent provided for State uses. Heavy demands are made on the available monies.

Federal assistance provides incentive for State action on its finest rivers--those which might qualify for inclusion in the national system. These rivers would then form a nucleus for a State scenic rivers system. The State of Iowa has expressed

its intention to use the Upper Iowa as a first member and model for an Iowa Wild and Scenic Rivers System. As a step in that direction, an Act providing for a wild and scenic rivers system was passed by the Iowa General Assembly in May 1970.

VII

RECOMMENDED RIVER PLAN

## VII. RECOMMENDED RIVER PLAN

This river plan is designed to provide the State of Iowa with recommended management policies and developments for the administration of the Upper Iowa River as a part of the national wild and scenic rivers system. The boundaries and developments shown are presented as general recommendations and should not be construed as being the complete or final plan for an Upper Iowa Scenic River.

### Area

The proposed plan is for a scenic river program for approximately 80 miles of the Upper Iowa River. The riverway would extend from the Iowa- Minnesota State line in Howard County, Iowa, at river mile 86 (NE 1/4, Sec. 12, T 100 N, R 11 W) to Lane's Bridge in Allamakee County, Iowa, at river mile 6 (NW 1/4, Sec. 31, T 100 N, R 4 W).

Four miles of the scenic river are within the city limits of Decorah. These lands are largely in park and open space use now. The State of Iowa should work with the city of Decorah towards the permanent protection of the river frontage.

Adjacent lands recommended for protection of the river environment and the provision of recreation use areas total approximately 14,300 acres, of which 13,500 are in private ownership. It is estimated that 6,000 acres of this would be purchased in fee. Less-than-fee control is recommended for the remaining 7,500 acres. These figures are estimates and it is expected that the State will refine them as planning for the scenic river proceeds.

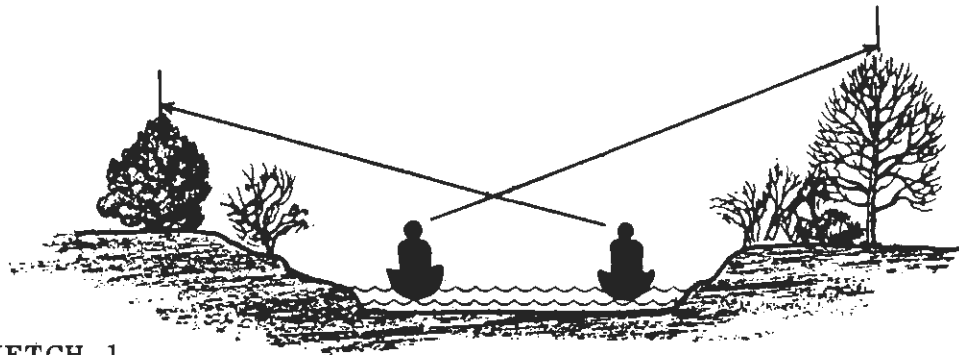
### Costs

The acquisition of the fee and less-than-fee rights for the 13,500 acres in private ownership within the recommended scenic river boundary would total approximately \$1,269,000.

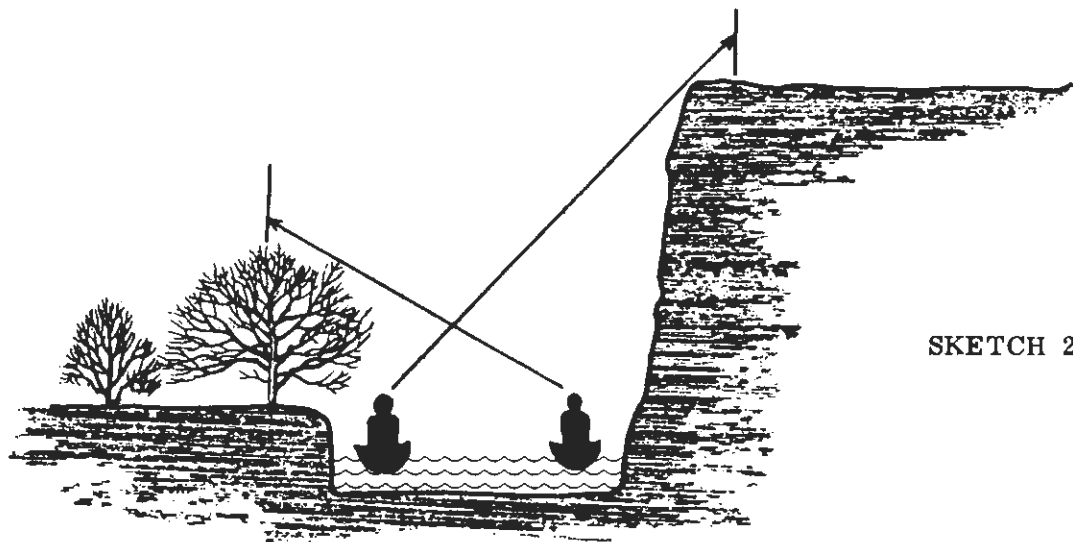
Provision of the recreation developments recommended in the river plan would cost an estimated \$700,000.

### Appropriate Boundaries

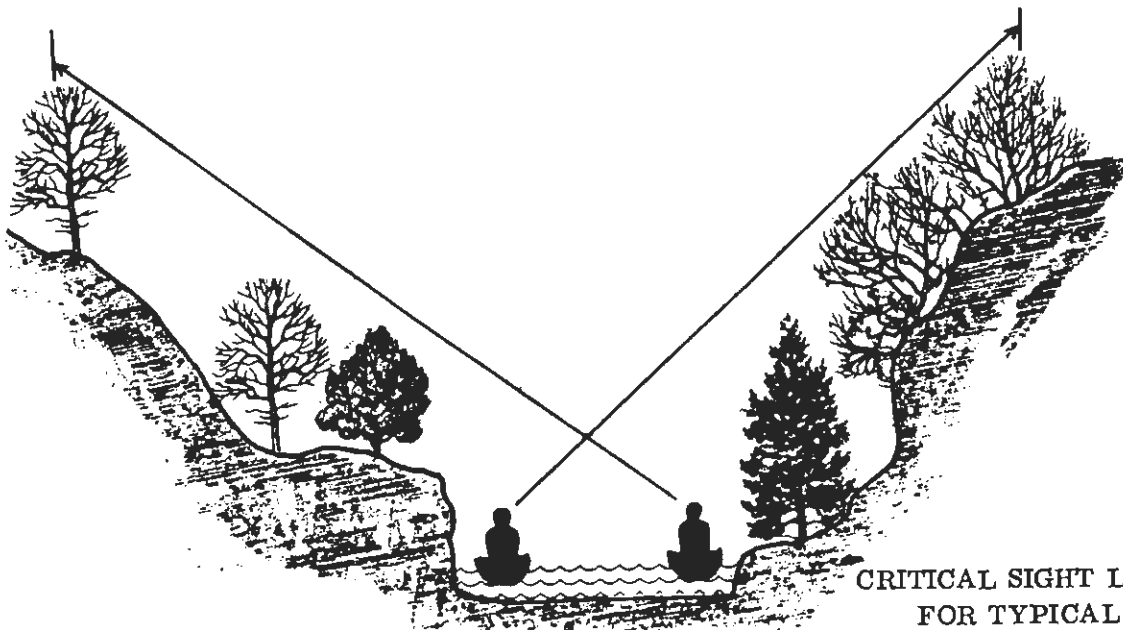
The map on page 99 shows a recommended plan for an Upper Iowa Scenic River. The rationale used for determining the appropriate boundaries was drawn from concepts developed in a number of recent studies containing riverway recreation proposals. The basic element is the idea of a "critical sight line," or "visual horizon," or "perceptual corridor." The sketches in Figure V illustrate the concept as it applies to typical Upper Iowa Valley cross sections. Essentially, it is the zone of adjacent land which has a visual impact on the river user and, therefore, must be protected from adverse use if the natural and scenic appeal of the riverway is to be retained.



SKETCH 1



SKETCH 2



SKETCH 3

CRITICAL SIGHT LINES  
FOR TYPICAL  
VALLEY CROSS-SECTIONS

Fig. V



Within this framework, lands were selected along the river using four basic guidelines:

1. Where the river's banks are low (Sketch #1) a strip of land 200-400 feet deep on each side of the river will be adequate to protect the view from the river. This strip of land along the bank would support a screen of trees and brush and would also accommodate a hiking and horse trail. It would be narrow enough, however, to leave practically all of the rich agricultural land in the alluvial bottoms under private ownership.
2. Where bluffs or hillsides front the river on one or both sides (Sketch #2 and #3) the boundaries should be drawn to the ridge line of the hill or bluff to ensure protection of slopes within view of the stream, and to provide room for routing a riverside trail over the rough terrain. These hills are usually unsuitable for development; therefore, purchasing larger acreages in these areas should not involve great expense, as it would in the bottomlands used for agriculture.
3. In most cases the lands provided in the previous categories are adequate for accommodation of recreation facilities. However, there are cases where expansion is necessary to provide adequate room to place facilities back from the river.
4. In addition to the minimum areas outlined above, it is desirable to acquire less-than-fee scenic controls on adjoining lands where adverse development could damage the environment. This is especially true where trails will traverse bluff tops providing extended vistas of the surrounding country, and where protection of the view from the river is necessary. Controls would be particularly helpful to maintain agricultural uses within the river's bends.

Because of the significance of the river environment and adjacent land as wildlife habitat, attention was given to including peripheral woodlands in the boundaries where they could be justified by the scenic river program itself. As planning and development of the scenic river proceeds, consideration should be given to the acquisition of additional backup lands for forest management, game management, and improvement and protection of the tributary trout stream fishery. The purchase of these lands should have a lower priority than the critical zone along the Upper Iowa itself.

Further investigations may uncover unique biological areas or important archaeological sites not noted in this study. These areas do not fit under the "critical sight line" guidelines and, therefore, should be given special consideration for acquisition and protection.

## Acquisition Policy and Land Use Controls

The lands immediately adjacent to scenic rivers are the most significant from the standpoint of the river user and, therefore, require the most stringent controls. However, as discussed previously, the lands adjacent to this zone of stringent control also require some control to prevent undesirable development which would degrade the quality of the recreational experience.

The area where the tightest control is necessary corresponds to the "critical sight line." This area could appropriately be termed a "maximum preservation zone." Property rights acquired in this zone should be adequate to provide strong protection of the natural scene and accommodate recreation use. In general, where public use of the shoreline is needed for boat launching, camping, hiking, and trail riding, etc., purchase of full fee title will be necessary. In other parts of this zone where less stringent controls are necessary, recreation easements can be used to provide for certain recreational uses, permit compatible agricultural uses, and control non-compatible development. However, in those cases where the cost of an easement would approximate the full fee value of the property, fee acquisition should be used.

The lands peripheral to the maximum preservation zone, where it is desirable to obtain less stringent protection of the natural scene, should be designated a "limited control zone." The goal in this zone would be to permit existing uses while precluding any future adverse developments which would severely affect the quality of the riverway. The basic tool for control in this zone would be purchase of scenic easements, but efforts should be made to obtain equivalent local zoning of these backup lands in lieu of easements.

In many cases the easements obtained would provide for continuing low density development of the lands for agricultural, residential, commercial, or even industrial use so long as those developments were carried on in a manner compatible with the scenic and recreational values along the river itself. In other places preservation easements would be needed to keep the lands in their present state without further increases in development.

Examples of appropriate easement provisions in the limited control zone are those which:

1. Restrict areas of development
2. Restrict height of developments
3. Restrict large signs
4. Prevent dumping
5. Limit the density of residential development
6. Prevent forest and farm management practices which destroy the landscape
7. Control air, water, and noise pollution

# LEGEND

## ----- Limited Control Zone

- Less than fee controls
- Agricultural areas
- Hills and bluffs back from river

## - · - · - Maximum Preservation Zone

- Fee and recreation easements
- 200' - 400' acquisition line on flatlands
- "Blocks" to control hills and bluffs
- Developed areas at road access points

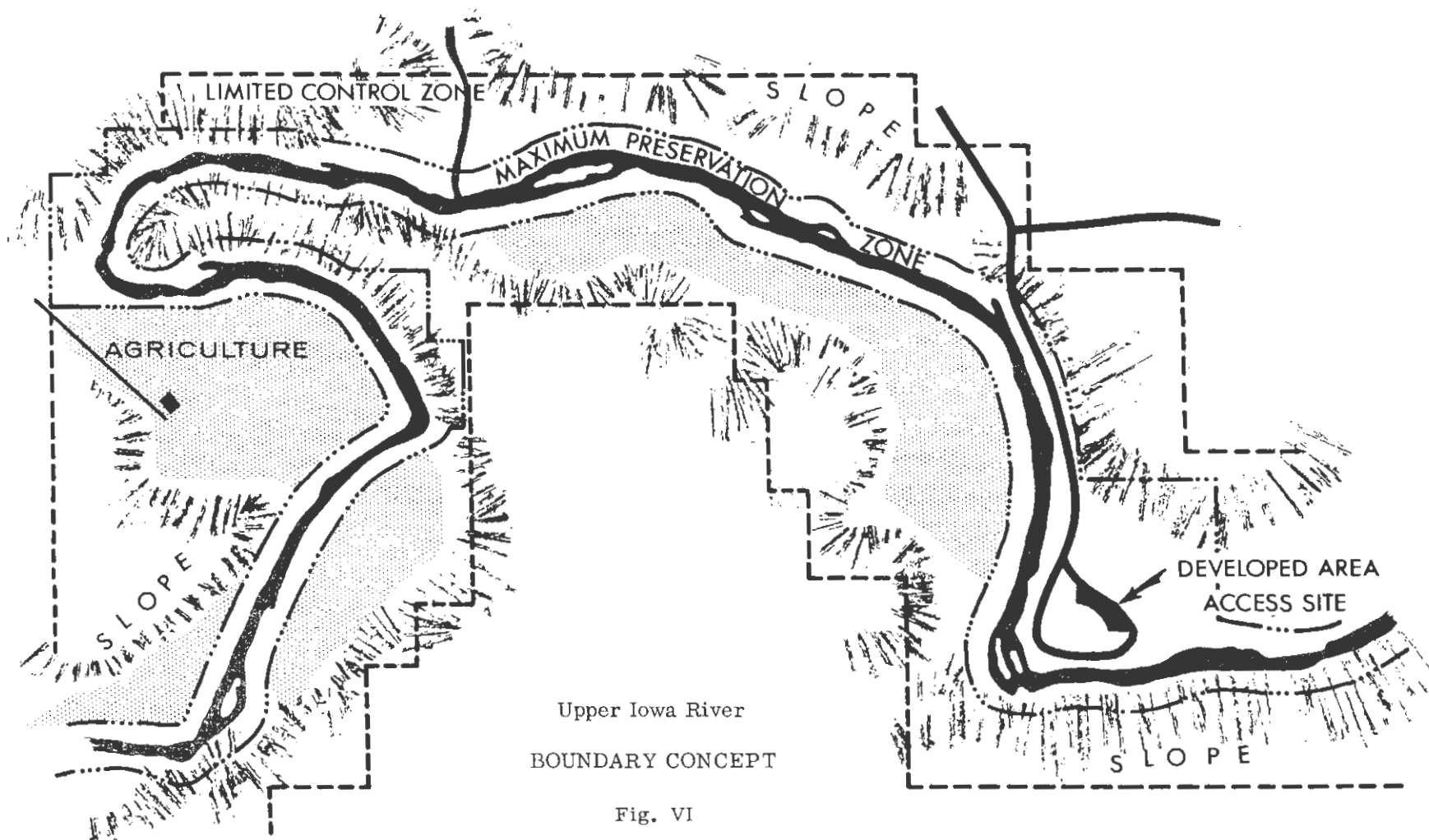


Fig. VI

The specific nature of the restrictions included in an easement must be determined on a case by case basis. In general, because of the desirability of maintaining their more natural character, the segments of the river classified as "scenic" should have stronger protection than the "recreational" segment.

One of the big problems with an acquisition program of this size is the large outlay of funds needed to obtain early land use controls. This situation can be alleviated to some extent by combining the use of lease-purchase agreements with fee and easement acquisitions. Under the lease-purchase concept the land is leased by the project agency for a specific period of time with an agreement for purchase at the end of the lease period. Control of the land is thus gained at an early date but the full purchase cost is deferred.

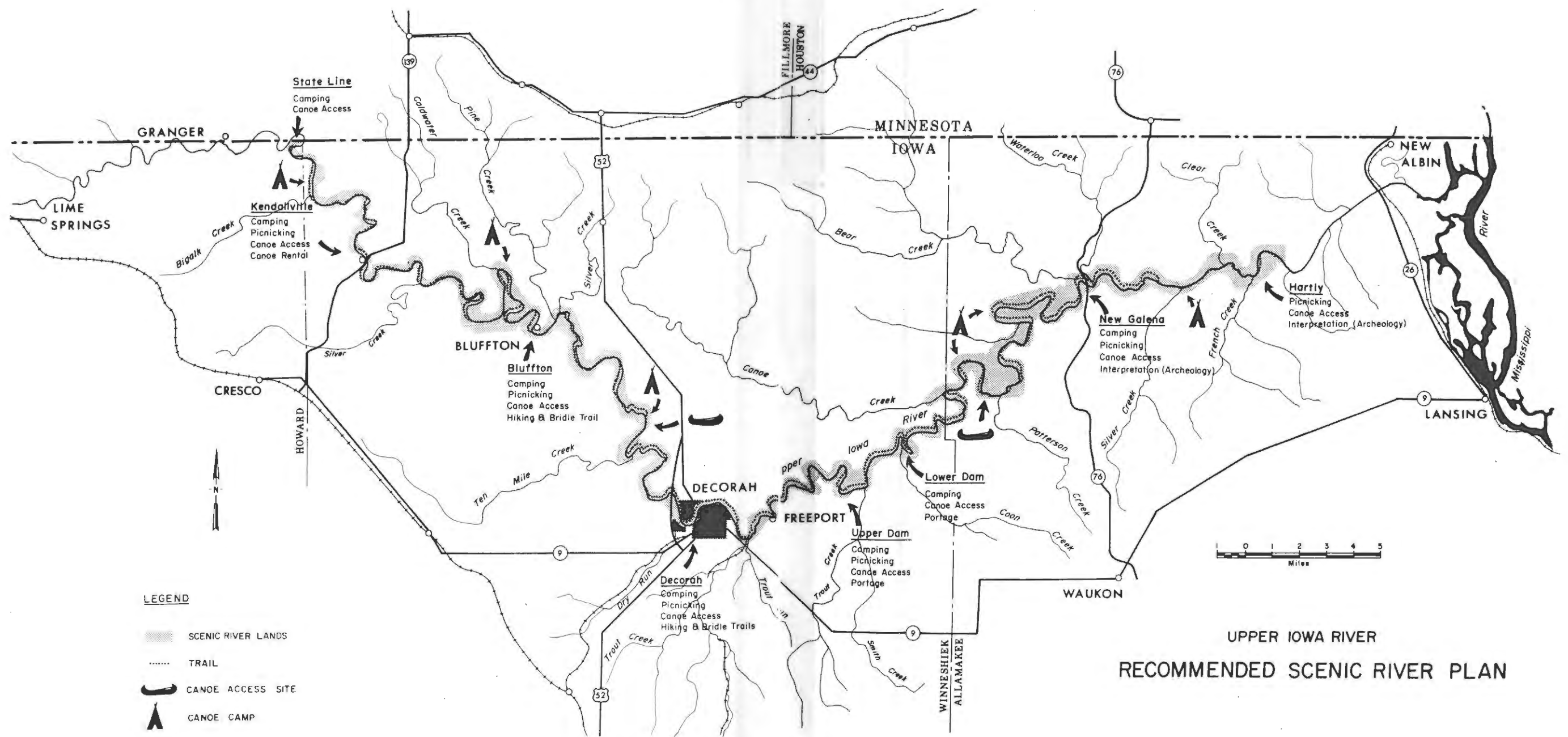
A method frequently used for recovering some of the purchase cost of a project is the lease back arrangement. In this case the land is purchased and then is leased back for compatible uses. Usually the original owner is given the first opportunity for the lease.

## Development

~~This recommended development plan is based on the concept of maintaining the scenic river environment in as natural a state as possible while providing the minimum of recreation facilities needed for appropriate visitor use and enjoyment of the river. Visitor use capacity should be limited to that which is consistent with the management objectives of the river, and development that is considered must be carefully evaluated to determine the effects on the river environment.~~ Therefore, the suggested development is purposely conservative. The facilities recommended for camping, picnicking, and trail use would accommodate approximately 121,000 annual users. As demands increase, additional facilities may be provided to the extent that they do not impair the quality of the river environment. Additional campgrounds and other overnight accommodations can be provided by private enterprise outside the scenic river boundary.

Eight potential development sites have been located. It is recommended that the sites be designed principally to serve the river user. Each of the major sites should be accessible by automobile and have a simple boat access to the river. A simple launching site can be provided by securing a few logs placed parallel to the shore. An asphalt walkway may be necessary where use would result in destruction of soil and vegetative cover.

Small campgrounds are proposed for five of the development areas. At several sites a special river user camp area composed of Adirondack-type shelters is also recommended. In order to maintain the integrity of the river trip experience, facilities for the general recreationist should be separated from those of the river user.



The following major sites and developments are suggested:

1. State Line (Mile 86 - beginning of the scenic river)  
Small campground (tables, fire rings, pad areas, vault toilet, water supply, and parking)  
Canoe launching site
2. Kendallville (Mile 79 - north side of river)  
River user camp area (Adirondack shelters, water supply, and vault toilet)  
Canoe launching site

The Winneshiek County Conservation Board presently manages a small park and camping area on the south side of the river. They could continue in this capacity and, using project funds, could also assume management of the river user area proposed for across the river. Kendallville is the closest community on a good road system to the beginning point of the scenic river project. A canoe rental concession and outfitters station would be appropriately located here.

3. Bluffton (Mile 66)  
Small campground  
River user camp area  
Picnic area (water supply, vault toilet, and parking)  
Canoe launching site

The Kendallville-Bluffton segment is presently the most popular part of the river, with the Bluffton area receiving heavy use on holiday weekends. The existing general store would continue to provide services for the river user. A trailer camping area developed by private enterprise should have potential. This general location could support a horse riding concession operated from private holdings and using, in part, the proposed area trail system.

4. Decorah (Mile 51)  
Campground - expansion of existing facility  
River user camp area  
Canoe launching site

The city of Decorah operates a modern public campground at this site between the Upper Iowa and Highway 52. The site provides access to the river and to nearby

city park lands. The city, using project funds, could assume management of the expansion for river users. A recently proposed system of hiking and bridle trails for the adjacent city park lands and other riverside lands would tie in very well with the scenic river project.

5. Upper Dam (Mile 41)

River user camp area

Canoe launching site

Marine portage with hand winch

6. Lower Dam (Mile 36)

Site #1 - general public use area adjacent to county road

Small campground

Site #2 - near dam overlook

Picnic area

Site #3 - separated from #2

River user camp area

Canoe launching site

Marine portage with hand winch

7. New Galena (Mile 17)

Small campground

River user camp area

Picnic area

Interpretation facilities (archaeology)

Canoe launching site

This site is just off of State Highway 76 and will probably attract numerous highway travelers. Special archaeological investigation should be conducted prior to campground development because of the known existence of numerous archaeological sites along this section of the river.

8. Hartly (Mile 6)

Picnic area

Interpretation facilities (archaeology)

Canoe launching site

The bluffs along the river at this site are rich in archaeological materials. An interpretation program could be combined with picnicking and canoe access. If developed, the site will probably attract travelers from the Great River Road, which is to cross the Upper Iowa only six miles to the east.

Small primitive-type campsites, accessible only by boat and trail, should also be provided. Their locations can best be determined as future use patterns develop. However, it is recommended that consideration be given to planning for the inclusion of a "canoe camp" approximately midway between the major campgrounds. Locating a site will require consideration of the availability of potable water and space for Adirondack shelters. The area should also be reasonably near a maintenance service road. Some suggested locations are:

- (1) Near the junction of Bigalk Creek (Mile 82)
- (2) Near Coldwater Creek (Mile 70)
- (3) Near Malanaply Springs (Mile 58)
- (4) Between Canoe Creek and Patterson Creek (Mile 30)
- (5) Bottoms area (Mile 21)
- (6) Near Silver Creek (Mile 11)

In addition to access at the major campgrounds, simple access points for canoeists and fishermen need to be provided between the Bluffton site and Decorah, and between the lower dam and New Galena. Facilities at these points would include: a small parking area next to the bridge, a trail down to the water, and a simple boat launching area. The recommended locations are shown on the accompanying development map.

The river valley and its enclosing hills and bluffs provide excellent hiking and riding possibilities. It is proposed that a trail system be constructed along the full 80-mile length of the scenic river project. Spur and loop trails should be developed to points of interest, scenic overlooks, and at major development sites. Trails in the system would serve as fire lanes and hunting and fishing access, as well as for riding and hiking.

## **Management**

The management objectives for an Upper Iowa Scenic River should be to protect and enhance the values which caused it to be recommended for inclusion in the national wild and scenic

river system. The river should be managed to:

- Maintain its natural free-flowing condition
- Protect scenic, recreational, geologic, fish and wildlife, historic, archaeological, and other similar resources
- Maintain or enhance water quality
- Provide opportunities for river-oriented recreation which are consistent with protection of the quality of the river and its environment



Some specific management suggestions are:

#### Recreation

- Efforts should be made to establish visitor use levels which do not endanger the values for which the scenic river was designated. Access sites and other facilities should be developed and distributed with close attention paid to the impact from use that would result. A system of periodic evaluation and monitoring focused on the outstanding values and more sensitive elements of the river environment should be developed.
- Facility development should not detract from the quality of the river scene. Development should be back from the river's bank and in most cases screened from the view of the river user.
- A detailed inventory of historic, geologic, archaeologic, and other similar sites should be made and a program developed for their protection and, where appropriate, their interpretation.
- The use of motorized vehicles for recreational purposes should be carefully controlled.

#### Fish and Wildlife

- Habitat management for fish and wildlife should reflect equal consideration of game and nongame species, and all practices employed should be in conformance with the maintenance of the natural qualities of the riverway.

#### Land Resource Use

- Where heavy grazing occurs, water lanes to the river should be fenced and rocked, or arrangements should be made to obtain an alternate water supply for livestock watering.
- Removal of bankside vegetation should be prevented and cropping restricted in the "maximum preservation zone" where it endangers natural or scenic values.
- Areas of bank erosion should be stabilized.
- Commercial timber cutting should be permitted only where it will not depreciate the scenic and natural qualities of the riverway.
- Efforts should be made to encourage local units of government to apply zoning controls on lands surrounding the scenic river.
- Forest fire prevention and control activities should be adjusted to increased recreation use as appropriate.

### Water Resources

- State and Federal standards for primary (full body contact) recreation should be established and enforced for the Upper Iowa.
- Efforts should be made to control contamination from cattle feedlots.
- Efforts to reduce siltation through land conservation measures throughout the watershed should be intensified. Investigations should be made of the feasibility of additional watershed projects similar to that developed in the English Bench watershed.
- A program for monitoring chemical, biological, and physical water quality characteristics should be established.
- No alteration of the natural channels that significantly affect the free flow of water should be permitted unless it is clearly demonstrated that such alterations are necessary to preserve the river's present characteristics.

VIII

APPENDICES

# Proposed Rule Making

## DEPARTMENT OF THE INTERIOR

### Federal Water Pollution Control Administration

[ 18 CFR Part 620 ]

### INTERSTATE WATERS OF STATE OF IOWA

#### Water Quality Standards

Notice is hereby given that, pursuant to the authority of section 10(c)(2) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466g(c)(2)), and pursuant to due notice (34 F.R. 4975) and conference held at Davenport, Iowa, on April 8-9, 1969, and at Council Bluffs, Iowa, on April 15-16, 1969, required by the provisions thereof, regulations setting forth standards of water quality to be applicable to the interstate waters located in the State of Iowa, of the Mississippi River, Missouri River, Fox River, Des Moines River, East Fork of the Des Moines River, West Fork of the Des Moines River, Iowa River, Cedar River, Shellrock River, Winnebago River, Wapsipinicon River, Upper Iowa River, Chariton River, Middle Fork Medicine River, Weldon River, Little River, Thompson River, East Fork of the Big River, Grand River, Platte River, East Fork of the 102 River, Middle Fork of the 102 River, Nodaway River, West Tarkio River, Tarkio River, Nishnabotna River, Little Sioux River, Big Sioux River, Rock River, and Kanaranz Ditch, are proposed to be promulgated. Such proposed water quality standards are in addition to the water quality standards established by Iowa on May 26, 1967, and which were determined to meet the criteria of section 10(c)(3) of the Federal Water Pollution Control Act, as amended, by the Secretary of the Interior on January 16, 1969, and published in the FEDERAL REGISTER (34 F.R. 7801) in the paragraph entitled "Iowa."

Interested persons may submit written data, views, or arguments in triplicate in regard to the proposed regulations to the Secretary of the Interior, Washington, D.C. 20240. All relevant material received not later than ninety (90) days of this publication in the FEDERAL REGISTER will be considered.

1. Part 620 would be amended to add § 620.11 as follows:

#### § 620.11 Iowa water quality standards.

(a) *Waters.* The water quality standards of this section are applicable to the interstate waters located in the State of Iowa, of the Mississippi River, Missouri River, Fox River, Des Moines River, East Fork of the Des Moines River, West Fork of the Des Moines River, Iowa River, Cedar River, Shellrock River, Winnebago River, Wapsipinicon River, Upper Iowa

River, Chariton River, Middle Fork Medicine River, Weldon River, Little River, Thompson River, East Fork of the Big River, Grand River, Platte River, East Fork of the 102 River, Middle Fork of the 102 River, Nodaway River, West Tarkio River, Tarkio River, Nishnabotna River, Little Sioux River, Big Sioux River, Rock River, and Kanaranz Ditch.

(b) *Dilution.* Dilution shall not be considered a substitute for proper waste treatment at any time.

(c) *Temperature.* Heat additions from man-made sources in all interstate waters, except the Mississippi River and Missouri River, shall not raise the mean daily temperature more than 5° F. and shall not exceed a maximum temperature for each individual water body such as is necessary to protect the production of locally occurring desirable fish populations and their associated biota, and in any case shall not exceed at any time a maximum temperature of 90° F.

(d) *Phenols.* Concentrations of phenols from other than natural sources shall not exceed one part per billion (0.001 mg/l).

(e) *Public Water Supply.* Waters designated as a source of public water supply shall be of such quality that USPHS Drinking Water Standards for finished water can be met after conventional water treatment, consisting of coagulation, sedimentation, rapid sand filtration and disinfection.

(f) *Treatment.* All municipal wastes discharged into the interstate waters of the Mississippi River and the Missouri River shall receive a minimum of secondary treatment to achieve a ninety percent (90%) reduction of BOD prior to discharge no later than December 31, 1973. All industrial wastes discharged into such interstate waters shall receive equivalent treatment prior to discharge no later than December 31, 1973.

(g) *Disinfection.* Continuous disinfection shall be provided for all municipal waste treatment effluents and for all other wastes which may be sources of bacterial pollution throughout the year where such wastes are discharged into interstate waters designated for public water supplies, and throughout the recreational season (April 1 to October 31) where such wastes are discharged into interstate waters used or classified for recreational use, and at all other times as necessary to prevent bacterial pollution which may endanger the public health or welfare.

#### § 620.10 [Amended]

2. Section 620.10 would be amended by deleting from the paragraph entitled "Iowa" the following: "except for the treatment requirements and implementation plan for waste discharges into the Mississippi and Missouri Rivers, the requirement for disinfection of controllable

waste discharges which may be sources of bacteriological pollution, and the temperature criteria for the interstate waters of Iowa other than the Mississippi and Missouri Rivers," and by inserting in lieu thereof the following: "except for any parts thereof which may be in conflict with the provisions of § 620.11."

Dated: October 24, 1969.

WALTER J. HICKEL,  
Secretary of the Interior.

[F.R. Doc. 69-13051; Filed, Oct. 31, 1969;  
8:47 a.m.]



ROBERT D. RAY  
GOVERNOR

# Office of the Governor

STATE CAPITOL  
DES MOINES, IOWA 50319

March 19, 1971

The Honorable Rogers B. Morton  
Secretary of the Interior  
U. S. Department of the Interior  
Interior Building  
Washington, D. C.

Dear Mr. Secretary:

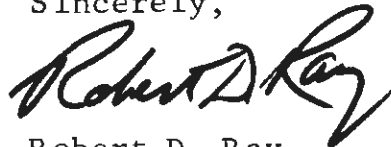
The opportunity to review and comment on the Upper Iowa Wild and Scenic River Study Report was appreciated. Our State Conservation Commission and its Director have examined this report. Based on their analysis and information, the following recommendations are hereby submitted for your consideration:

1. The Upper Iowa River segment from a point near river mile 86 in Howard County at the Iowa-Minnesota line to "Lane's Bridge" in Allamakee County be included in the Federal Wild and Scenic River System subject to the completed state master plan.
2. The Secretary of the Interior should give consideration to the following items:
  - A. The Upper Iowa River Wild and Scenic River Study Report is an excellent analysis of the Upper Iowa River segment. We recognize that it was a general report and did not address itself to some detailed issues.
  - B. Funding provisions are necessary for the development of the master plan.
  - C. To carry out the provisions of a master plan for an area of National significance, it will be necessary that additional funds be made available. (The draft copy recommended a 75% Federal - 25% State cost sharing rate, while the study implied a 50-50 rate.) The 75% Federal financing is sorely needed.

March 19, 1971

- D. The Study segment should be expanded in the upper reaches to include lands in Minnesota and Howard County, Iowa.
  - E. The master plan development should not necessarily be restricted to the detailed criteria of the general study plan.
  - F. The state should receive project credit for existing land holdings along the river.
  - G. It will be necessary for this department to work closely with various Department of Interior representatives in the formulation of the detailed master plan.
3. The State of Iowa has designated this segment of the Upper Iowa River as a natural river. (State Scenic River Act - Chapter 108a, 1971 Code of Iowa).

Sincerely,

A handwritten signature in black ink, appearing to read "Robert D. Ray". The signature is fluid and cursive, with a large, sweeping "R" and "Y".

Robert D. Ray  
Governor

RDR:sv



DEPARTMENT OF AGRICULTURE  
OFFICE OF THE SECRETARY  
WASHINGTON, D. C. 20250

January 27 1971

Honorable Fred J. Russell  
Acting Secretary of the Interior  
Washington, D. C. 20240

Dear Mr. Secretary:

This is in response to Assistant Secretary Loesch's letter of October 14, 1970, requesting our review and comments on your Department's proposed report on the Upper Iowa River.

The report recommends that an 80 mile segment of the Upper Iowa River, from the Minnesota-Iowa border to a point 6 miles from the river's confluence with the Mississippi, be designated by the State of Iowa as a State administered scenic river. As prescribed by Section 2 (a)(ii) of the Wild and Scenic Rivers Act, the State would then make application to the Department of the Interior for inclusion of the river segment in the National Wild and Scenic Rivers System.

The report indicates that the proposed use of the Upper Iowa River would not seriously conflict with other existing or planned uses, and it appears the proposal is responsive to the public interest in the use of water and related land resources.

In our review we did have some concern with the generalized nature of the evaluation of needs, benefits and adverse effects if the proposal is implemented. The report does not, for example, outline in specific terms the adverse consequences of failure to use the river in the prescribed manner, nor does it attempt to evaluate agricultural impacts from the proposed acquisition of 6,000 acres of land and some restrictions on the use of an additional 7,500 acres. It is possible, an indepth evaluation is not relevant to the study since the report recommends that the State implement the program. However, estimates of cost for implementing the suggested program, other than acquisition and recreation development costs, and an evaluation of the impacts on the volume of agricultural and forest industry products, local income, employment and business could help the State in making its decision. We are assuming the State would be expected to follow the report recommendations and suggestions rather closely if the river area is to qualify for national status.

The report mentions stream turbidity as a result of storm run-off, streambank erosion, and some agricultural practices which affect the quality of the river. With these problems in mind, the discussion of "Federal Action" could have emphasized the potential for intensifying several appropriate Department of Agriculture programs. Within their authorities and funding capabilities, Agriculture programs can provide cost-sharing and accelerated technical assistance on a local basis. This assistance can promote improved land treatment, proper land use and forestry practices and would also help to offset some of the loss of agricultural production and agri-business that can be expected to result from a scenic river designation for the area.

There is no apparent conflict between the proposed designation and plan for the Upper Iowa River and programs or projects of this Department. We have no objections to the proposal and concur in the report recommendations.

Sincerely,

A handwritten signature in cursive script, appearing to read "T. K. Cowden".

**T. K. Cowden**  
**Assistant Secretary**





DEPARTMENT OF THE ARMY  
WASHINGTON, D.C. 20310

DEC 1970

Honorable Fred J. Russell  
Acting Secretary of the Interior  
Department of the Interior  
Washington, D. C. 20240

Dear Mr. Russell:

Reference is made to Assistant Secretary Loesch's recent letter requesting the views of the Department of the Army on your proposed report recommending certain Federal and State actions to include portions of the Upper Iowa River as a unit of the National Wild and Scenic Rivers System.

Periodic flooding occurs along the Upper Iowa River causing damages to agricultural property. The 1965 flood caused an estimated \$175,000 in agricultural damages. The flood potential should be considered in further planning for recreational use along the river.

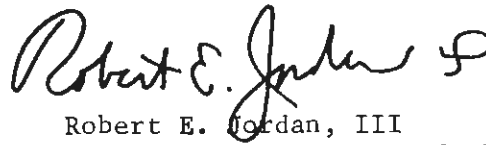
There are no Corps of Engineers studies currently underway on the Upper Iowa River. The Upper Mississippi River Comprehensive Basin Study, as indicated in the report, identifies a potential reservoir site of substantial storage capacity near the mouth of the Upper Iowa River, but does not recommend further study of this site in the framework plan which is expected to meet the water resources needs of the Upper Mississippi River basin through the Year 2020.

The Corps of Engineers has constructed two flood control projects on the Upper Iowa River, both of which are referred to in the report. A project to provide an improved outlet at the mouth was completed in 1959 with an upstream extension completed in 1964. This project is downstream from the segment of the river recommended for inclusion in the National Wild and Scenic Rivers System. The second project was completed in 1950 and protects the City of Decorah, Iowa, with a levee system along the Upper Iowa River and a 3200-foot diversion channel to carry flood flows of Dry Run, a tributary to the Upper Iowa River. As stated in the report, the levee system is lightly

Honorable Fred J. Russell

vegetated and screens the river traveler from views of the city. On the basis that inclusion of the Upper Iowa River in the National Wild and Scenic Rivers System would not adversely affect the operation or continued maintenance of either of these projects, the Department of the Army has no objection to the submission of the report to the President and Congress at this time.

Sincerely,

A handwritten signature in dark ink, reading "Robert E. Jordan, III". The signature is fluid and cursive, with a large, stylized "R" and "J".

Robert E. Jordan, III  
Special Assistant to the Secretary of the Army  
(Civil Functions)

FEDERAL POWER COMMISSION  
WASHINGTON, D.C. 20426

NOV 21 1970

Honorable Walter J. Hickel  
Secretary of the Interior  
Washington, D. C. 20240

Dear Mr. Secretary:

This is in reply to the letter of October 14, 1970, from Assistant Secretary Harrison Loesch, transmitting for the Commission's comments, pursuant to the provisions of the Wild and Scenic Rivers Act of 1968, the proposed report of your Department on the Upper Iowa River, Iowa.

The proposed report recommends that the State of Iowa designate an 80-mile segment of the Upper Iowa River from the Minnesota-Iowa border to a point six miles from the river's confluence with the Mississippi River as a State-administered scenic river, and that, in accordance with the provisions of the Wild and Scenic Rivers Act, the State make application to your Department for inclusion of this river segment in the national wild and scenic rivers system. The lands recommended for protection of the river environment and the provision of recreation use areas total approximately 14,300 acres, of which about 13,500 acres are privately owned. Acquisition of a suitable interest in the private lands is estimated to cost \$1,269,000, and provision of the proposed recreational developments would cost an estimated \$700,000.

The Commission staff has examined the hydroelectric power possibilities of the proposed scenic river segment of the Upper Iowa River. The examination shows that there are no existing conventional hydroelectric power developments or known sites for potential development within the proposed scenic river reach. There are no licensing actions pending before the Commission concerning possible developments in the proposed scenic river segment. Since Iowa is not a public land State, no Federal lands have been withdrawn for power purposes within the area.

Within the proposed scenic river reach there are two low dams which formerly were operated for hydroelectric power production. However, the power plants have been dismantled and the structures are now owned by the State. Staff review indicates that redevelopment of these sites for hydroelectric power production would not be warranted.

1920

"Meeting Today's Challenges



Providing for Tomorrow's Goals"

1970

50th ANNIVERSARY

Honorable Walter J. Hickel

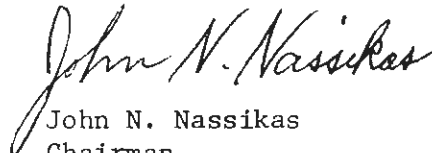
- 2 -

The Commission staff has also examined the possibilities for pumped storage development in the scenic river reach of the Upper Iowa River. Although there are bluffs up to 400 feet in height in places along the river, the staff review did not disclose any sites favorable for pumped storage projects reasonably sized to serve regional power loads.

There are no known studies of possible conventional or pumped storage hydroelectric power developments, under way or planned, in the proposed Upper Iowa River scenic river reach.

Based on its consideration of the proposed report of your Department and studies of its own staff, the Commission concludes that inclusion of the proposed 80-mile reach of the Upper Iowa River in the national wild and scenic rivers system would not affect development of any known potential hydroelectric power projects.

Sincerely,



John N. Nassikas  
Chairman



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE  
ENVIRONMENTAL HEALTH SERVICE  
ROCKVILLE, MARYLAND 20852

November 11, 1970

ENVIRONMENTAL CONTROL  
ADMINISTRATION

Honorable Harrison Loesch  
Assistant Secretary of the Interior  
Washington, D.C. 20240

Dear Mr. Loesch:

As requested by your letter of October 14, 1970, to the Secretary of Health, Education, and Welfare, we have reviewed your report on the Upper Iowa River.

We have no adverse comments concerning your recommendation to the inclusion of this as a component of the National Wild and Scenic Rivers System.

It is noted that part of your recommendation calls for the establishment of eight sites that would provide facilities for camping, picnicking and trail use. As indicated in previous correspondence, we would welcome the opportunity of working with your Department on the health and sanitation aspects in the development of these proposed and any additional sites.

Sincerely yours,

Robert E. Novick  
Director, Bureau of Community  
Environmental Management



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, D. C. 20410

JAN 14 1971

ASSISTANT SECRETARY FOR  
METROPOLITAN PLANNING AND DEVELOPMENT

Honorable Harrison Loesch  
Assistant Secretary  
U. S. Department of the  
Interior  
Washington, D. C. 20240

Dear Mr. Loesch:

Thank you for your letter of October 14, 1970 inviting our comments on your Department's proposed report on the Upper Iowa River.

The Upper Iowa appears well suited for designation as a wild and scenic river. The provisions for its development should result in significant recreational benefits to the nearby urban areas. Our Omaha Area Office has informed us that the proposal is compatible with other State and local planning.

Accordingly, I concur in the proposed report's recommendations, and I am particularly pleased that due recognition has been given to county and local governments participation in the planning and management of the proposed program.

Sincerely,

A handwritten signature in dark ink, which appears to read "Samuel C. Jackson", is written over the typed name. The signature is fluid and cursive.

Samuel C. Jackson



ASSISTANT SECRETARY

OFFICE OF THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590

December 31, 1970

Honorable Harrison Loesch  
Assistant Secretary of the Interior  
Washington, D.C. 20240

Dear Mr. Loesch:

In response to your request of October 14, 1970, to Secretary Volpe, we have reviewed the report of the wild and scenic river study of the Upper Iowa River.

This will confirm Mr. Convisser's telephone conversation of October 28, 1970 with Mr. Underhill of your office. Mr. Convisser indicated that the proposed action has no significant effect on the programs of this Department; therefore, we have no comments to make.

Thank you for the opportunity to review this report.

Sincerely,

A handwritten signature in dark ink, appearing to read "Michael Cafferty". The signature is stylized with a large, looped "M" and a cursive "Cafferty".

Michael Cafferty  
Acting Assistant Secretary for  
Environment and Urban Systems



# WATER RESOURCES COUNCIL

SUITE 900

1025 VERMONT AVENUE NW.

WASHINGTON, D.C. 20005

## Members

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Chairman*

*Secretary of Agriculture*

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*Chairmen, River Basin  
Commissions*

*Great Lakes*

*New England*

*Pacific Northwest*

*Souris - Red - Rainy*

JAN 13 1971

Honorable Harrison Loesch  
Assistant Secretary of the Interior  
Washington, D. C. 20240

Dear Mr. Loesch:

The Water Resources Council has reviewed the Department of the Interior's Proposed Report on the Upper Iowa River, as requested in your letter of October 14, 1970.

The report recommends that the State of Iowa designate an 80-mile segment of the Upper Iowa River from the Minnesota-Iowa border to a point 6 miles from the river's confluence with the Mississippi River as a State administered scenic river and make application to the Department of the Interior for inclusion of the river segment in the National Wild and Scenic Rivers Systems. It is not proposed as a Federally administered wild or scenic river.

A framework study of the water and related land resources of the Upper Mississippi Region, that has been under way since 1964, is nearing completion. From a review of the draft plan formulation appendix, prepared by a Coordinating Committee of Federal and State agencies conducting the study, we find that there is no conflict between the plans being proposed in the framework study and the proposed State administered scenic river.

Sincerely yours,

*W. Don Maughan*  
W. Don Maughan  
Director