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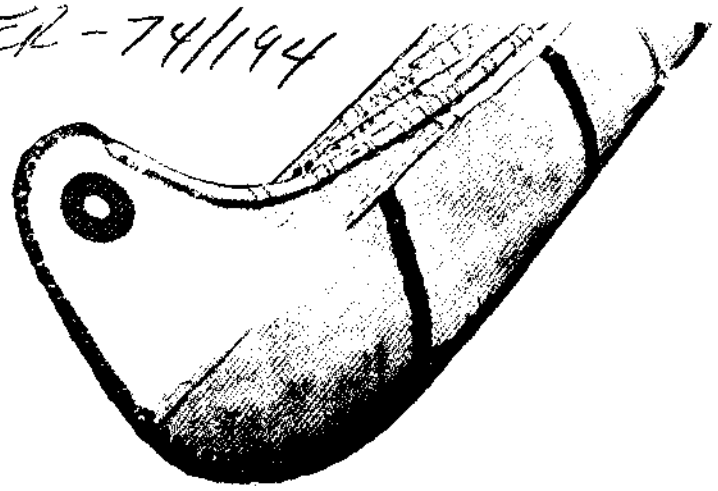

WILD AND SCENIC

RIVER STUDY REPORT

Pere Marquette River

Forest Service • U.S. Department of Agriculture

WILD AND SCENIC RIVER

STUDY REPORT

PERE MARQUETTE RIVER

MICHIGAN

U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE

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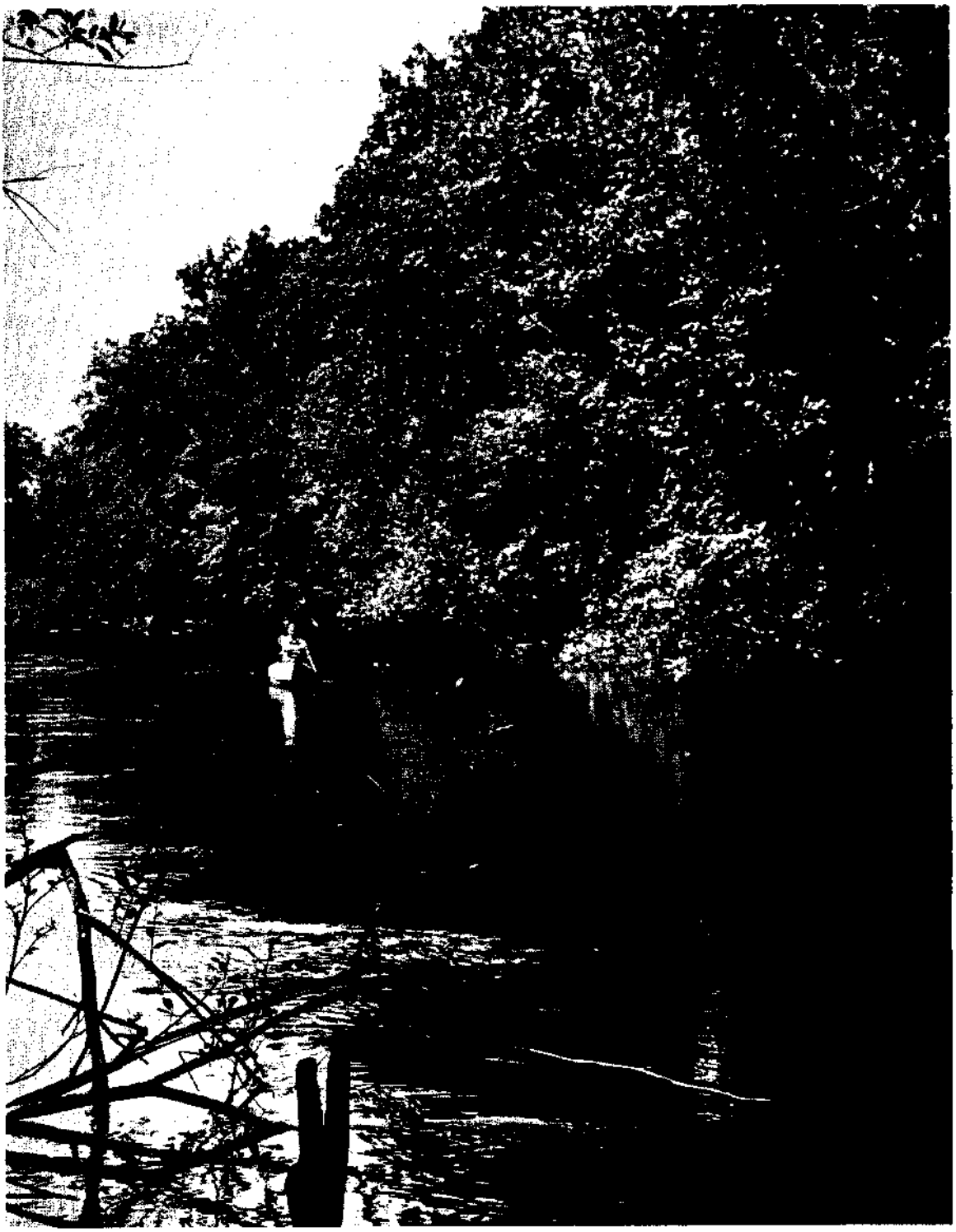


The Pere Marquette River

I. INTRODUCTION

The National Wild and Scenic Rivers Act (PL 90-542) directed that the entire Pere Marquette River be studied as a possible future addition to the National Wild and Scenic Rivers System. The study area included the entire main stream of the river from its mouth at Lake Michigan and its four major tributaries, the Middle, Little South and Big South Branches, and the Baldwin River, a total of 153 miles.

The study findings and recommendations encompass three major areas:

1. Identification of those portions, if any, of the river which meet the qualifications necessary for inclusion in the National System.
2. Determination of the proper classification for any qualifying portion.
3. Formulation of a proposed management and development plan which would accomplish the objectives of the Act should the Pere Marquette be included in the System.

This report deals mainly with background and rationale for recommending the qualifying portion of the river system, its classification, and broad management policies. A detailed management plan will be prepared when the Pere Marquette is included in the National Wild and Scenic Rivers System.

Study of adjoining lands was most intensive from one-fourth to one-half mile from the river and its major tributaries. Data on landownership, use, degree of development, water quality and other items pertinent to inclusion in the system were gathered and evaluated. Information on a more extensive basis was gathered and studied on the remainder of the watershed and within the regional zone of influence.

U.S. Geological Survey official names are used throughout the report. Names sometimes used locally are Baldwin Creek for Baldwin River and North Branch for the main stream of the Pere Marquette.

The Pere Marquette drainage basin encompasses approximately 740 square miles. It is designated as 0405000013 in the listing of River Basins of the United States, USDA-SCS June 1963. Included within the watershed are portions of Lake, Mason, Oceana and Newaygo Counties all located in the area known as Northwestern Lower Michigan.

The study was led by the U.S. Forest Service and conducted jointly with the State of Michigan. An Inter-Agency Task Force was organized consisting of the Forest Service representing the U.S. Department of Agriculture, The Michigan Department of Natural Resources representing the Governor's Office, The Bureau of Outdoor Recreation representing

the U.S. Department of Interior, and the Great Lakes Basin Commission, representing the other agencies involved in planning within the Great Lakes area. The full task force met four times during the study for on-the-ground survey of the river, analysis of study findings and formulation of recommendations.

In addition to the task force agencies, assistance and cooperation were received from the Soil Conservation Service, Agricultural Stabilization and Conservation Service, Cooperative Extension Service and many other state and local agencies. The public was also deeply involved in the study through public meetings, written requests for comments and personal contacts. A chronology and synopsis of public involvement in the study process is included in Appendix A.

Correspondence pertaining to the study and data collected during the study process are on file in the Supervisor's Office, Huron-Manistee National Forests, Cadillac, Michigan.

II. SUMMARY OF STUDY FINDINGS AND CONCLUSIONS

A. Findings, Conclusions

The Pere Marquette River wanders gently across the central Michigan landscape, alternately hidden in the forested shadows of overhanging bluffs and stretches across the convoluted channel patterns of grassy floodplains. Free-flowing and clear for over 60 miles--from the junction of the Middle and South Branches west to its terminus in Pere Marquette Lake--it is accessible to more than 50 million people who live and work within one-day's drive.

Water quality in the system, with only three localized exceptions, meets the Water Quality Criteria, FWPCA, April 1, 1968 for rivers in the "scenic" classification. With the same exceptions, it meets the highest State of Michigan standards for recreational use rivers. The three exceptions affect two tributary streams and a small area on the main river. Action by the local county authorities has been taken to correct these situations.

The river zone is rich in wildlife of all sorts. Extensive marshes provide valuable habitat for a variety of waterfowl; and, where the mixed hardwood-pine forest sheathes the river channel, deer, turkey and small game are abundant. It is the river itself, however, which is most highly acclaimed. Recognized as one of the leading trout streams in the country, the Pere Marquette supports vigorous populations of native brown trout in its upper reaches, along with northern pike and other warm water species as it flows westward. Spring runs of steelhead, followed by spawning coho and chinook salmon in the fall, provide additional variety to the Pere Marquette fishery; and there are plans now to introduce Atlantic salmon as well.

Land uses within the watershed are compatible with the criteria established in the Act for a Scenic River. The exception to this is major land subdivision and subsequent streambank development for recreation and permanent homes which, if unchecked, could ruin the natural appearance of the shoreline landscape. This use is most prevalent in the upper reaches of the watershed. Bridges, roads, and other evidence of man's activities are also most common on the headwaters areas.

There are no Corps of Engineer, Federal Power Commission or other agency plans or studies approved or underway for impoundments or other projects which would affect the free-flowing nature of the stream. The topography of the area restricts potential for development of hydroelectric power generation stations. The undeveloped floodplain and low frequency of damaging floods eliminate the need for flood control structures. Consumptive uses of water are limited to very small amounts used for irrigation.

Culturally, the history of the Pere Marquette River can be traced to ancient Indian civilizations, existing as early as 10,000 B.C., and, in some cases, occupying the same site continuously for several thousand years making them highly significant for study of the evolution of the Great Lakes Indian Cultures. Although much archeological evidence has been destroyed in subsequent land use and development, this area still promises important contributions. More recent history focuses on the death of the explorer-priest Pere Marquette, traders and the white pine logging era.

The watershed clearly shows the effects of glaciation. Land forms and soils are characteristics of glaciated areas of the Great Lakes Basin.

The tributary streams do not possess the outstanding combination of characteristics warranting national recognition. Their relatively small size, degree of streambank development and lack of high quality recreational attributes make them less than outstanding. Their overall character is similar to other streams found in this area. Below the U.S. 31 Bridges, the river enters Pere Marquette Lake and loses the character of a free-flowing river.

Today, although the Pere Marquette River retains much of its wild character, it is under increasing pressure not only by fishermen and canoeists but, more important, by people interested in developing riverside properties of all sorts. Allowed to continue unrestrained, even with rigorously enforced environmental safeguards, it can only be a matter of time before the natural beauty and spontaneity of this river setting are replaced by the geometric precision of an urban park.

B. Conclusions

The 66.4 mile reach of the main stem of the Pere Marquette River between the junction of the Middle and Little South Branches, and the U.S. 31 Highway Bridges meets the criteria of P.L. 90-542 and should be included in the National Wild and Scenic Rivers System.

A zone containing approximately 13,000 acres should be established around this segment of river and managed to protect its unique qualities.

Management of the river zone should be under the administration of the U.S. Forest Service as part of the Manistee National Forest in cooperation with the State of Michigan, other agencies and local governing bodies.

The management zone would leave the navigational control over the river and use of its bed under the authority of the State of Michigan.

III. REGIONAL ZONE OF INFLUENCE

Inclusion of any portion of the Pere Marquette River in the Wild and Scenic River System will have an effect felt to some degree throughout lower Michigan. The major social and economic impact however, would be concentrated in the counties containing that portion of the river included in the system. These counties would benefit most from the publicity inherent with having a "national" river and subsequent recreation use of the area. They would also be most affected by any loss of real property tax base due to public land acquisition and restrictions on river front development. For these reasons, the regional zone of influence was determined to be the four-county area including and adjoining the watershed.

A. SOCIO-ECONOMIC CONDITION

Settlement of the area began in the mid 1800's and increased rapidly following the white pine logging era of 1860-1890 when most of the land was cleared. Subsistence farming was common. When the land "gave out", the owners would move on. When the Manistee National Forest purchase unit was established in 1934, acquisition and reforestation of these abandoned farms was a top priority. The State Forests were established during this period and include a high percentage of tax reverted lands. Today public land acquisition is aimed more toward providing lands for public recreation. A high percentage of land in the zone of influence is now in public ownership.

Table 1 - Public Ownership in Zone of Influence

County	Acres in County	National Forest	State	Local	Public Total	% Public
Lake	366,080	106,546	60,425	0	166,971	46
Mason	315,520	57,179	5,495	496	63,170	20
Oceana	343,040	47,132	4,425	228	51,785	15
Newaygo	548,840	106,209	158	29	106,396	19
Total	1,573,480	317,066	70,503	753	388,322	25

Permanent population of the area is relatively stable. The slight increase of 6% expected from 1960-1980 is well below the expected statewide increase of 26%.

Table II - Population Change 1960-1980

County	1960	1965	1970	(Predicted) 1975	(Predicted) 1980	% Change Expected 1960-1980
Lake	5,388	5,414	5,661	5,239	5,329	0
Mason	21,929	22,058	22,612	21,970	22,795	+4
Newaygo	24,160	25,338	27,992	26,566	27,926	+16
Oceana	16,547	16,401	17,984	15,719	16,085	-0
Total	67,974	68,851	74,249	69,494	72,135	+6

Nonresident property owners have a great impact on the area. The presence of large areas of public land, many lakes and rivers, and wooded environment give the area the "north country appeal" so desired by urban residents to the south. This is evidenced by a tremendous increase in summer home development from 1950-1960.

The number of seasonal residences increased in Lake County by over 200 percent, by nearly 160 percent in Oceana County and by about 80 percent in Mason and Newaygo Counties. The rate of increase has declined somewhat since 1960, but summer home development still remains a major factor in the area. The type of structure varies from converted buses and mobile homes to elaborate full facility residences. In Lake County, seasonal residences outnumber permanent residences by nearly 2 to 1. The preference being for lake or river front properties.

Table III - Characteristics of Residences 1970

County	Occupied	Seasonal
Lake	4,146	2,405
Mason	9,266	1,225
Newaygo	10,638	2,344
Oceana	6,385	1,872

Economically the area lags behind the rest of Michigan. In recent years, conditions have improved, but are still well behind statewide levels.

Table IV - Economic Condition

County	1969 MEAN Fam. Income	1970 % Families Income Under $3,000	1970 % Families Income Over $10,000	Percent Unemployed
Lake	$ 6,000	24.9	21.3	11.9
Mason	$ 9,182	10.9	37.6	7.0
Oceana	$ 8,841	14.5	35.8	17.5
Newaygo	$ 9,320	12.8	34.3	12.4
State Av.	$12,296	7.5	57.2	7.0

The number of farms, total acres under cultivation, and agricultural employment are declining, but the value of agricultural products sold is increasing. The remaining farms are being more intensively managed and are becoming better economic units. This trend is expected to continue and little change in total acreage in farmland is expected.

Table V - Change in Acreage of Farmland

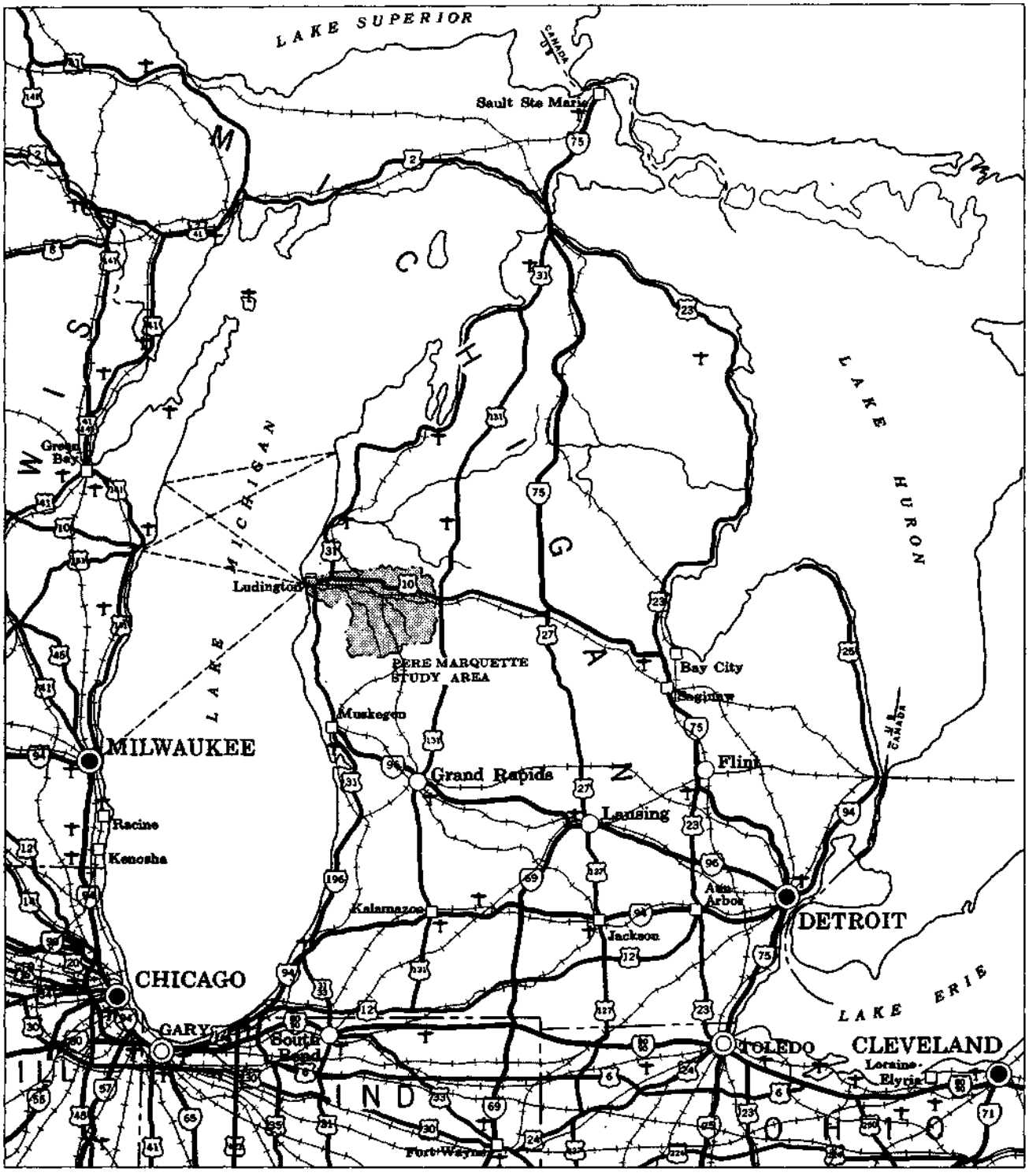
County	Thousands of Acres 1959	1964	1969
Lake	48	34	33
Mason	125	118	118
Oceana	171	152	152
Newaygo	184	166	166
Total	528	470	469

B. ACCESS TO THE AREA

More than 50 million people live within a day's drive of the river with most users reaching the study area from the south. The existing highway system shown on the map on the following page, makes this an easy and safe trip.

Michigan is well served by the Interstate highway system. Interstate Highway 80-90 closely parallels the southern boundary of the state connecting with highway systems in the Eastern megalopolis and populous region of the Midwest. Interstates 75 and 96 link with I 80-90 carrying travelers north and south through Lower Michigan.

Within the State, Interstate and State highway nets provide excellent access from the heavily populated regions to the



PERE MARQUETTE WILD AND SCENIC RIVER STUDY
MANISTEE NATIONAL FOREST
MICHIGAN
1973

Scale
0 50 100 150 200 Miles

TRANSPORTATION SYSTEMS

- Interstate Highway
- U. S. Highway
- Railroad
- Railroad Car and Auto Ferry
- Landing Field

south of the river. U.S. 31, U.S. 131 and M-37 are the major north-south arteries, with U.S. 10 the primary east-west highway. These link with Interstate systems which presently terminate about 75 miles to the south.

The Chesapeake and Ohio Railroad provides scheduled auto ferry service across Lake Michigan to Ludington from Milwaukee and Manitowac, Wisconsin. Commercial air service is available to most of the major municipalities in Lower Michigan; the closest being Muskegon and Grand Rapids about 75 miles to the south, and Traverse City about the same distance to the north.

U.S. 31 and U.S. 131 are scheduled for eventual reconstruction to Interstate highway standards. U.S. 31 will cross the river just east of Ludington and U.S. 131 will link with U.S. 10 about 25 miles east of Baldwin.

C. CLIMATE AND SEASONS

The climate of the area is continental in nature, strongly influenced by Lake Michigan. This great body of water warms slowly in the summer and very rarely freezes in the winter. The prevailing westerly winds blowing across the lake temper the cold blasts of winter and cool the summer temperature. Great numbers of recreationists are attracted to the cooler lake shore zone to escape the summer heat of the interior cities. Daytime summer temperatures along the lake are often 10 degrees cooler than those only a few miles inland.

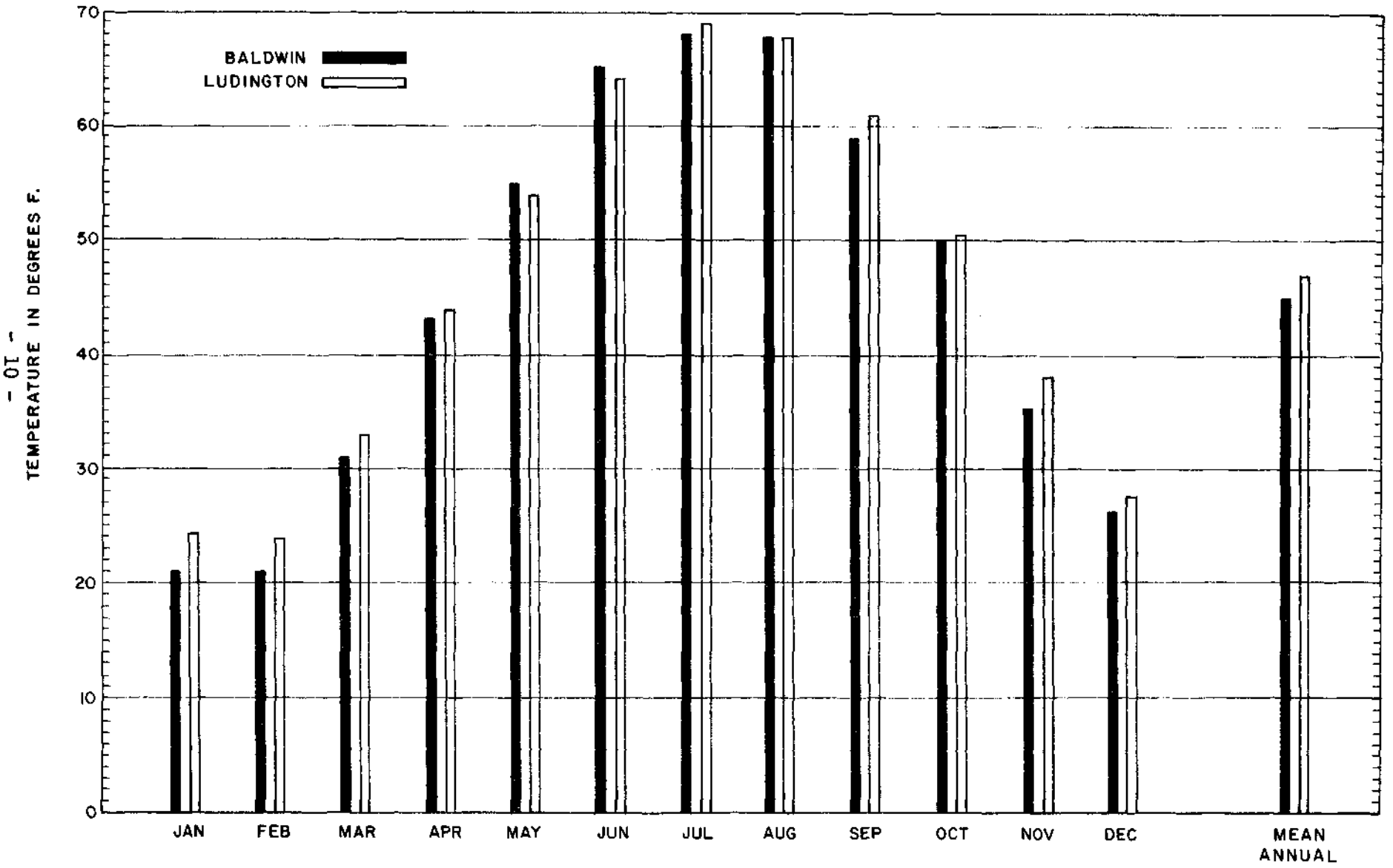
The lake's influence is also responsible for the Fruit Belt, a zone of climatic conditions along the lake especially favorable to fruit production. The cool lake breezes retard the opening of the fruit buds in the spring until after the danger of frost, and the warming effect of late autumn winds allows the fruit to ripen by delaying the fall freeze.

The tables on the following page display climatic data taken from U.S. Weather Bureau records 1936-1970 and illustrate the moderating effects of Lake Michigan on the weather. The station at Ludington is on Lake Michigan, and Baldwin is 30 miles inland.

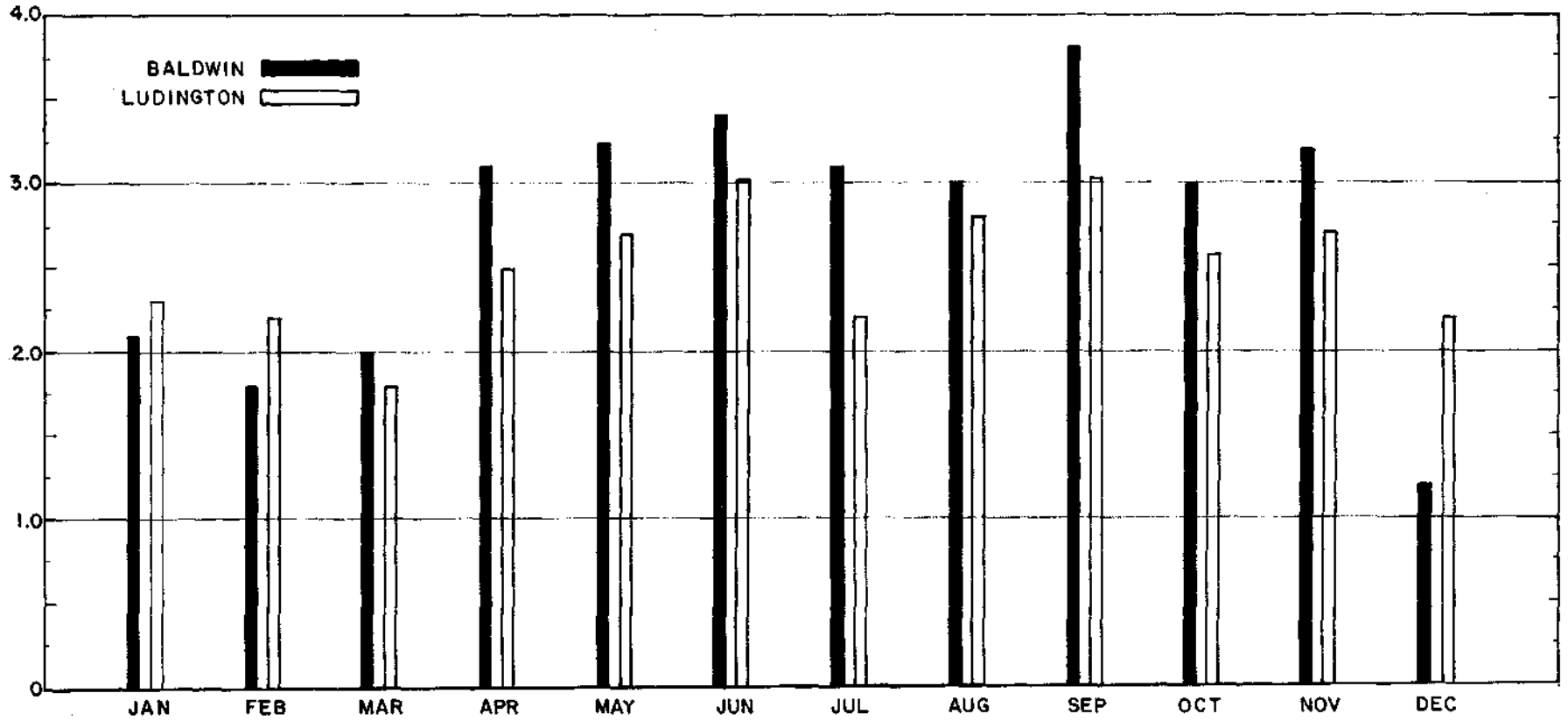
D. OTHER FREE-FLOWING RIVERS

There are several rivers within 100 miles of the Pere Marquette which afford river oriented recreation opportunities. Best known of these are the Pine and Manistee to the north and the AuSable to the east. These rivers, shown on the map on the following page, were added to the "5d" category of the Act in September 1970, which states, "In all planning for use and development of water and related land resources, consideration

MONTHLY MEAN OF DAILY MAXIMUM AND MINIMUM TEMPERATURES 1936 - 1970



MEAN MONTHLY PRECIPITATION 1936 - 1970

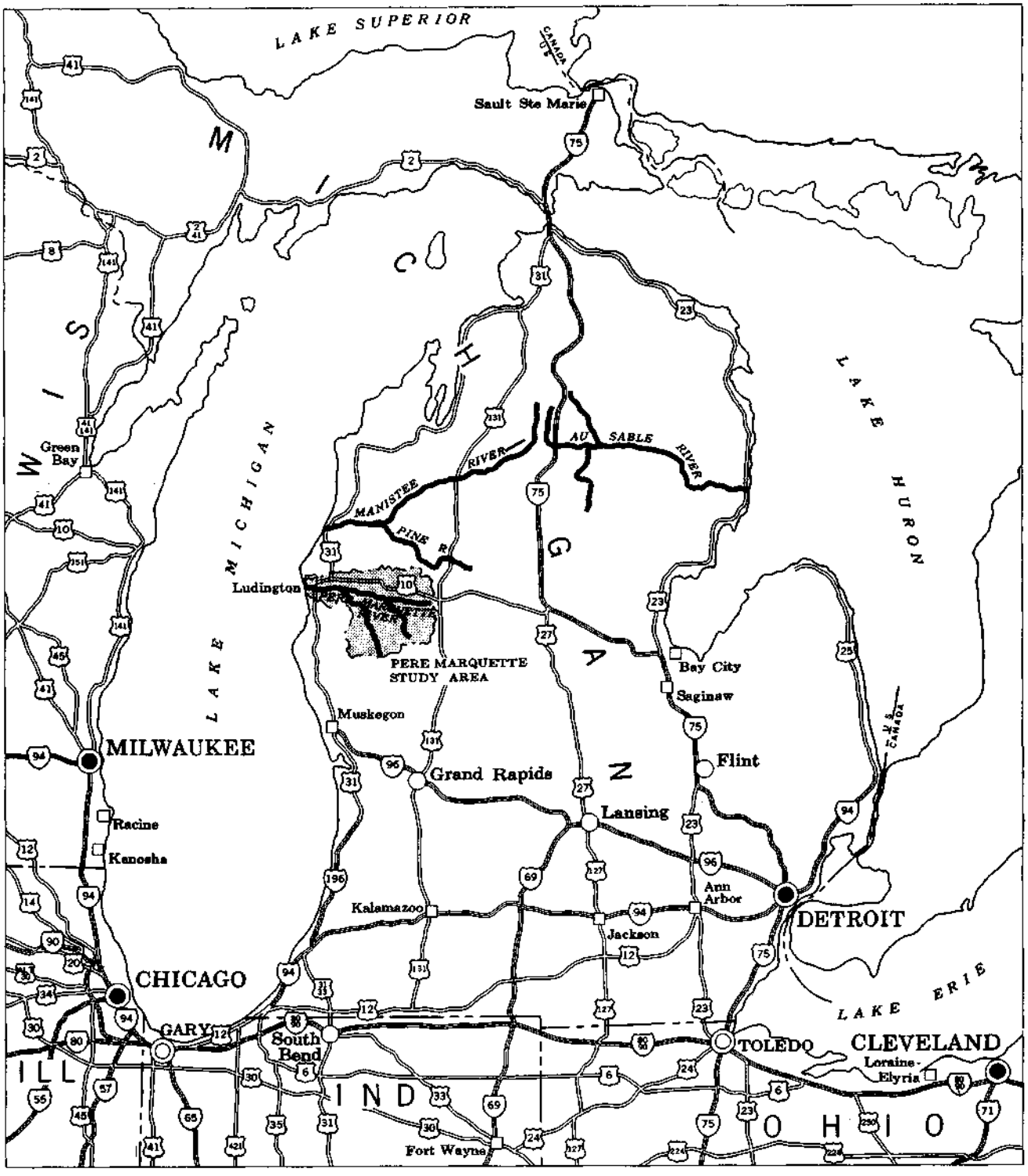


MEAN ANNUAL PRECIPITATION

BALDWIN	32.70
LUDINGTON	29.96

MEAN SNOWFALL

BALDWIN	61.3 inches
LUDINGTON	61.4 inches



PERE MARQUETTE WILD AND SCENIC RIVER STUDY
MANISTEE NATIONAL FOREST
MICHIGAN
1973

Scale
0 50 100 150 200 Miles

RIVERS INCLUDED IN SECTION 5(d) OF
WILD AND SCENIC RIVERS ACT

shall be given by all Federal Agencies involved to potential wild, scenic and recreational river areas, and all river basin and project plan reports will consider and discuss such potential."

Primary recreation use on these rivers is similar to that on the Pere Marquette--canoeing and trout fishing. The central portions of the AuSable and Manistee have been impounded for hydroelectric power generation. This causes marked fluctuations in stage flow below the dams and prevents steelhead runs. Bridges, roads paralleling the river and vehicular access are also more numerous on these streams. The rivers are similar in landform, gradient, and basic water quality. The AuSable and Manistee are larger drainages giving them a wider, less intimate character in their lower reaches. Canoe use overall in these rivers is higher than that on the Pere Marquette due in a large part to the proximity and advertising of area canoe liveries.

Outdoor recreation in this region of Lower Michigan is water oriented. The Huron-Manistee National Forests, State Forests, and Parks and the recently established Sleeping Bear Dunes National Lakeshore and private campgrounds all provide recreation facilities and attractions. In Lake and Mason Counties alone, there were, in 1972, a total of 1,362 developed camp units both public and private, capable of accommodating 6,672 people at one time.

	National Forests	State Forests	State Park	City Park	Private	Total
Lake Co.	62	50	---	---	130	242
Mason Co.	128	--	414	348	230	1,120
Total	190	50	414	348	360	1,362

The Pere Marquette receives heavy day-use type recreation. The proximity and popularity of the nearby campgrounds contribute to this use. A day's canoe trip or fishing on the Pere Marquette adds much to the enjoyment of a family vacation or weekend in the area. Canoeing is becoming an increasingly popular recreational activity, and use will increase on all suitable waters. Steps must be taken to insure the recreation attraction is not degraded from over-use and/or overcrowding.

There are 10 designated canoe rivers within a 100 mile radius of the Pere Marquette as listed by the Michigan Tourist Council, These provide over 800 miles of canoeable water. The proximity of so many canoeable rivers makes this region a mecca for canoe enthusiasts.

The State of Michigan is developing its own system of wild and scenic rivers. Its objectives are somewhat broader than the Federal program in that for the Pere Marquette River it includes the entire system (including the tributaries). When complete, the state system will complement the Federal program and insure protection of additional rivers and their tributaries for public recreation use.

An estimated 50 percent of the canoe use on the Pere Marquette originates from the Grand Rapids-Holland, Michigan area which is the closest urban complex to the area. Another 25 percent originates from the southeastern Michigan area which includes the cities of Detroit, Pontiac, Flint, Jackson, Ann Arbor and Lansing. The Chicago, northern Indiana and Ohio areas account for about 10 percent of the total use. The population of the areas contributing 85 percent of the use is expected to increase by nearly one-half by the year 2000. Projections indicate the per capita participation rate for canoeing will increase by two-thirds by the year 2000. This will create severe pressure on the capacities of popular canoe streams. The map on the following page shows the proximity of the Pere Marquette to large population centers.

E. OTHER RECREATIONAL OPPORTUNITIES

Trout fishing is not growing as rapidly as are other forms of fishing. More fishermen are turning to lakes, rather than streams, and the warmer water species of fish. The same waters cherished by the trout fishermen will be competed for by the canoeist and other users resulting in added conflicts.

A more affluent society and increased population will create added demands on the land resource. River and lake frontage for private home subdivision is already at a premium. Fewer private landowners will be willing and able to afford to hold large blocks of undeveloped frontage as "buffer zones" for their privacy.

Within a 50 mile radius of the Pere Marquette, there are over 600,000 acres of public land, and over half of this is within the regional zone of influence. The map on the following page shows the location of nearby State and National Forests, State Parks, and National Lake Shores. The presence of this much public land is in itself an attraction for certain types of outdoor recreation. Such pasttimes as hunting, nature study, fishing, driving for pleasure, snowmobiling, and trail bike riding are popular in the area. The spring mushroom season attracts people from the various parts of Michigan as well as the adjacent States.

A higher percentage of private land is being posted against trespass. In the past, most private owners permitted some public use of their undeveloped property such as picnicking, hunting, and access to the river. Problems with vandalism, littering, and the increasing pressure for public use of wild land is causing more private owners to post their land, gate roads, and prevent public access across their property to lakes and streams. This creates an even greater pressure on the publicly-owned land.

F. RIVER BASIN STUDIES AND PROJECT REPORTS

The Pere Marquette River is included in the area covered by the Great Lakes Basin Framework Study. The Great Lakes Basin Commission is represented on the study task force and recognizes the Pere Marquette River's potential in their planning activities.

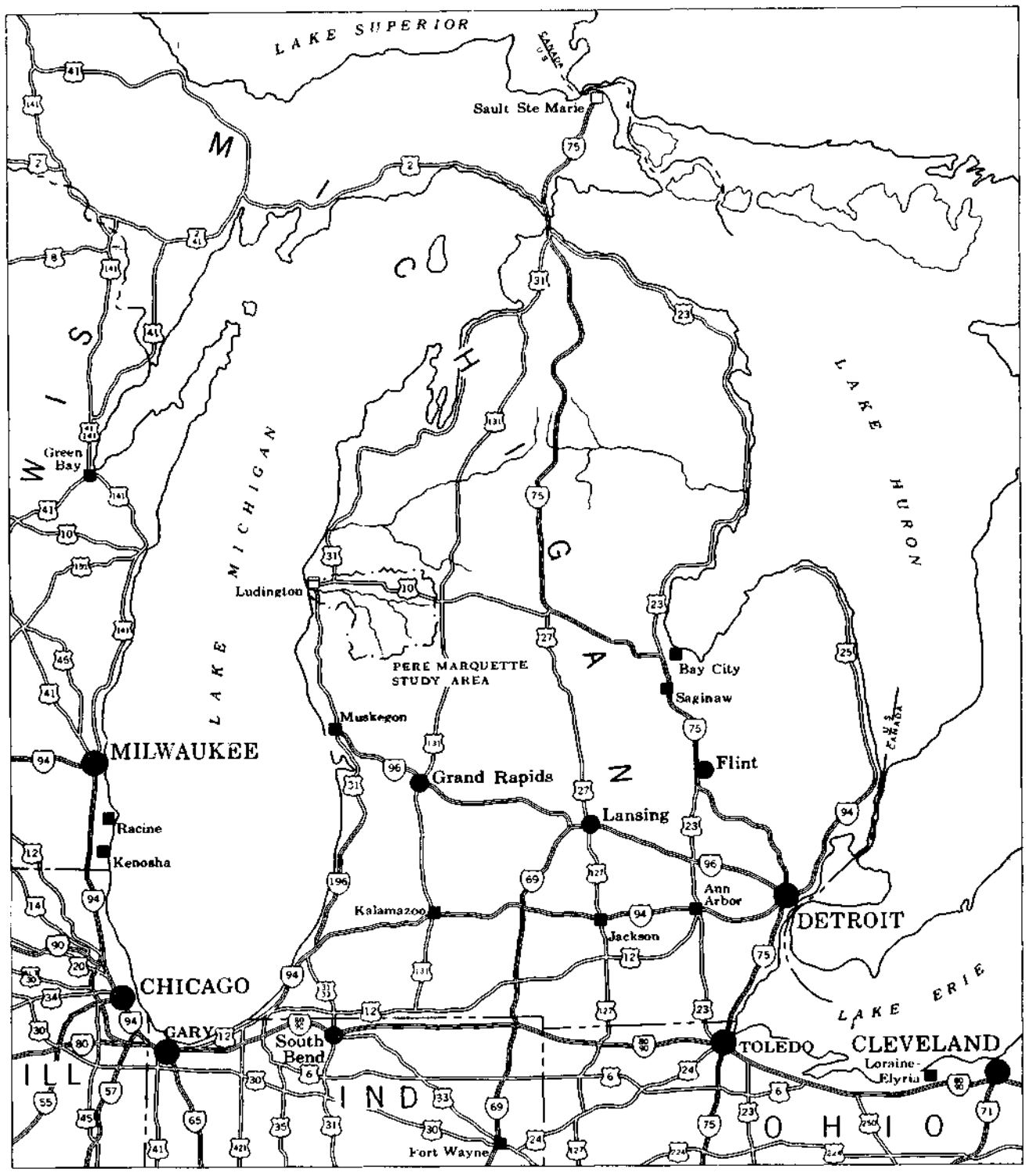
IV. THE WATERSHED

The Pere Marquette watershed encompasses approximately 473,000 acres--an area of 740 square miles split among the four counties as follows:

County	Square Miles	Percent
Lake	392	53
Newaygo	158	21
Mason	121	17
Oceana	69	9
	740	100

The watershed is divided into five major subdrainages.

Subdrainage	Area in Square Miles	Percent
Main Stream	218	30
Big South Branch	259	35
Little South Branch	105	14
Middle Branch	58	8
Baldwin River	100	13
	740	100



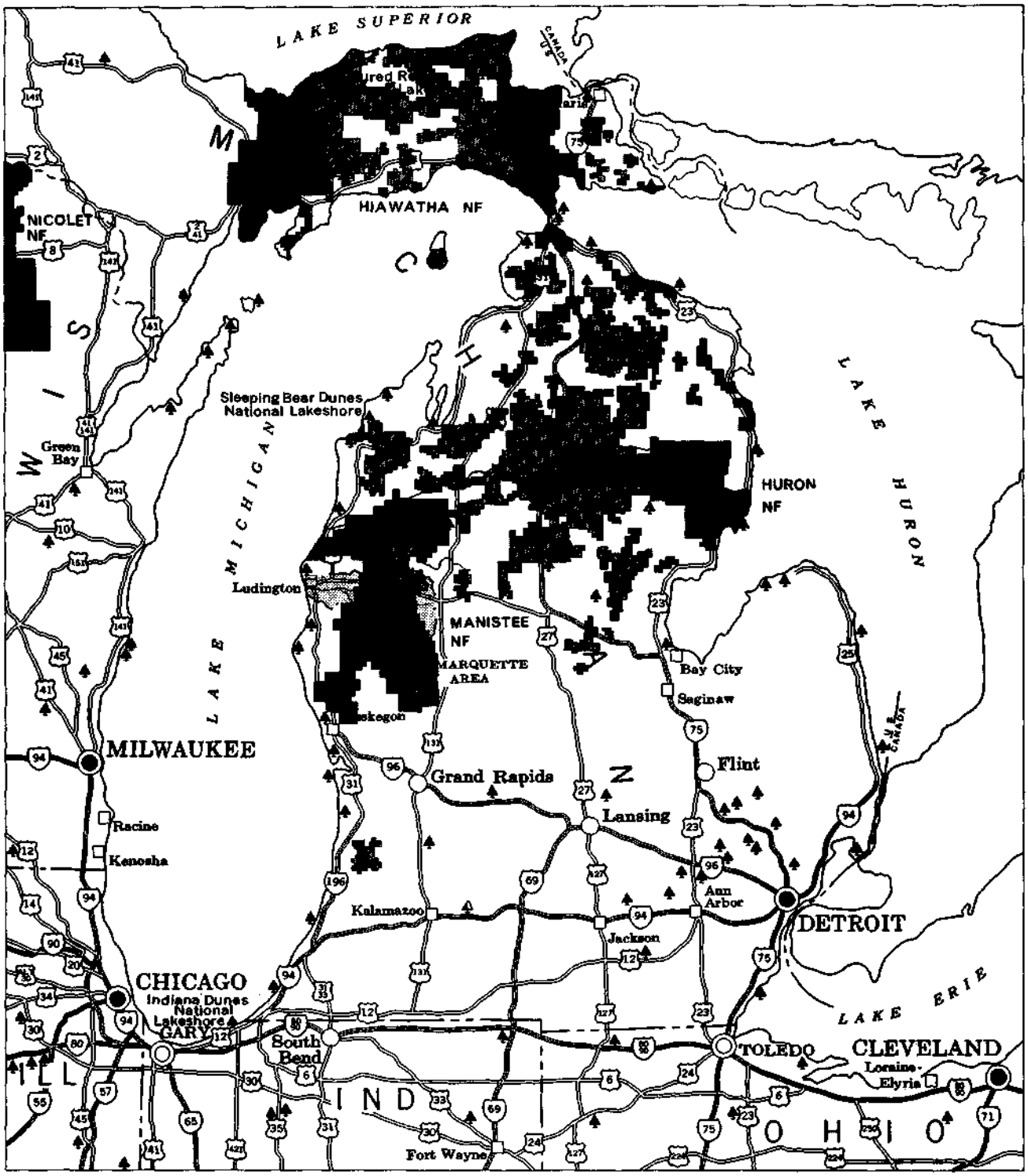
PERE MARQUETTE WILD AND SCENIC RIVER STUDY
MANISTEE NATIONAL FOREST
MICHIGAN
1971

Scale
0 50 100 150 200 Miles

POPULATION OF METROPOLITAN AREAS *

- 1,000,000 or more
- 500,000 to 1,000,000
- 250,000 to 500,000
- 100,000 to 250,000

*Data compiled from 1960 census



PERE MARQUETTE WILD AND SCENIC RIVER STUDY
MANISTEE NATIONAL FOREST
MICHIGAN
1978

Scale
0 50 100 150 200 Miles

PROXIMITY OF STATE AND NATIONAL RECREATION AREAS

National Forests

State Forests in Michigan

State Parks

Permanent population within the watershed is estimated to be approximately 8,500 persons. This number is expected to increase slowly in the future. Most persons live in the incorporated communities of Baldwin, Luther, Branch, Scottville, Custer and Ludington. Permanent populations of these communities are expected to increase while the rural area population will decline. A great increase is expected in seasonal residents. Lake and river frontage and wild land tracts are being subdivided at a rapid rate for recreational residences. The use season of these "summer" homes has been greatly extended by the increased popularity of snowmobiling, skiing and other winter activities in the area.

A. LANDS ADJOINING THE RIVER

The river area is heavily used for many types of recreation. Canoeing, fishing, hunting and camping are the primary activities. Other recreation pursuits such as photography, swimming and hiking are usually done in conjunction with the primary activities in the river area.

The river water is too cold for all but the heartiest to swim in for pure pleasure, but many canoeists become part time swimmers by accident. Boating with small boats and outboard motors is done on the lower river primarily in conjunction with fishing rather than pleasure boating. There are no roads closely paralleling the river to attract those who drive for pleasure and sightseeing. Hiking is not popular. The primary winter recreation use in the area is snowmobiling. Any unplowed road or trail in the area receives heavy use. Several Forest Service and private club trails are maintained in the area. A few trails cross at bridges, but none closely parallel the river.

Increased recreational use will bring an accompanying increase in administration and user problems. The canoeist-fisherman conflict in the upper portion of the main stem is felt by many to be the most critical problem. Many canoeists are skilled and courteous enough to avoid bothering all but the most sensitive fisherman. Occasionally wading fishermen are bowled over by canoes with a resultant loss of composure by both parties. On heavy canoe use days, it is nearly impossible for a fly fisherman to enjoy his sport in the middle of the day when a steady parade of canoes pass over "his" fish. Canoeists are often blamed for poor fisherman success; however, the knowledgeable fisherman plies his art in the early morning and evening when the canoes are absent and the wiley brown trout is more receptive to his offering.

The canoeist-private landowner is another conflict. Presently, there is no public land for long stretches of the river. Uninformed or inconsiderate canoeists trespass on private property to picnic, relieve themselves or just to rest and frolic. The

landowner is often faced with the task of cleaning up the litter left by this careless minority. As a result more land is being posted against public use which serves to compound the problem for other owners of unposted land.

The Michigan Department of Natural Resources has proposed River Use Rules to help regulate nonmotor watercraft use on the Pere Marquette, Pine, Manistee and AuSable Rivers. However, it is now known when they will go into effect, because of court action opposing them.

There is presently little camping done by canoeists who carry their gear along with them in the canoe. Bridges and access points are located close enough together that overnight trips are not necessary. There are no sites along the river or at the access points specifically developed for camping, except for the city park at Scottville. Unregulated camping is a problem on nearly all public land along the river with road access. Trailers and campers tend to locate as close to the river as possible. This detracts from the woodland environment of the river and destroys streambank vegetation. In some instances, campers block the developed canoe launch sites causing the canoeists to create their own makeshift launch sites.

There is presently good distribution of public access along the river. Problems exist from the fact that facility development has not kept pace with use.

Existing road access sites for canoe launching and fisherman access are well spaced. The concept of all uses--canoe launching, picnicking, camping, fishing--on each acre of each access site cannot be allowed and still adequately protect the resource values and recreation experiences of the user. Prohibiting certain uses at the sites will necessitate providing a suitable alternative site for that use somewhere in the vicinity.

Nearly every tract of private land along the upper main stem and the major tributaries has been developed to some degree. In most cases, the tracts are large and the buildings screened giving the area a primitive appearance. The present owners maintain the undeveloped land for environmental protection and privacy. High property taxes tend to eventually encourage sale of a portion of these lands. The sold portion is then developed and the cycle continues. Eventually, it is conceivable that nearly all the suitable land will become developed despite the present owners' desire to maintain an undeveloped buffer zone around their buildings. A zoning ordinance is in effect in

Pleasant Plains Township, Lake County (T17N, R13W) which restricts development along the banks of the Pere Marquette and its tributaries. This affects the lower 3.3 miles of the Middle Branch, 5.5 miles of the Baldwin River, and 7.9 miles of the Little South Branch and upper 8.0 miles of the main stream. The ordinance requires a 20-foot lot strip of native vegetation along the river bank, 20,000 square foot lot size, and 120 foot width, and prohibits commercial uses. Because it has only recently been enacted, the results of this ordinance cannot yet be measured effectively.

A copy of the applicable section of the ordinance is included in Appendix B. A similar ordinance has been formulated in Mason County which covers the lower 27.4 miles of the main stream and is also included in Appendix B. The remaining portions of the main stream are unrestricted. Enforcement of "Green Belt" zoning will do much to protect the scenic character of the shoreline.

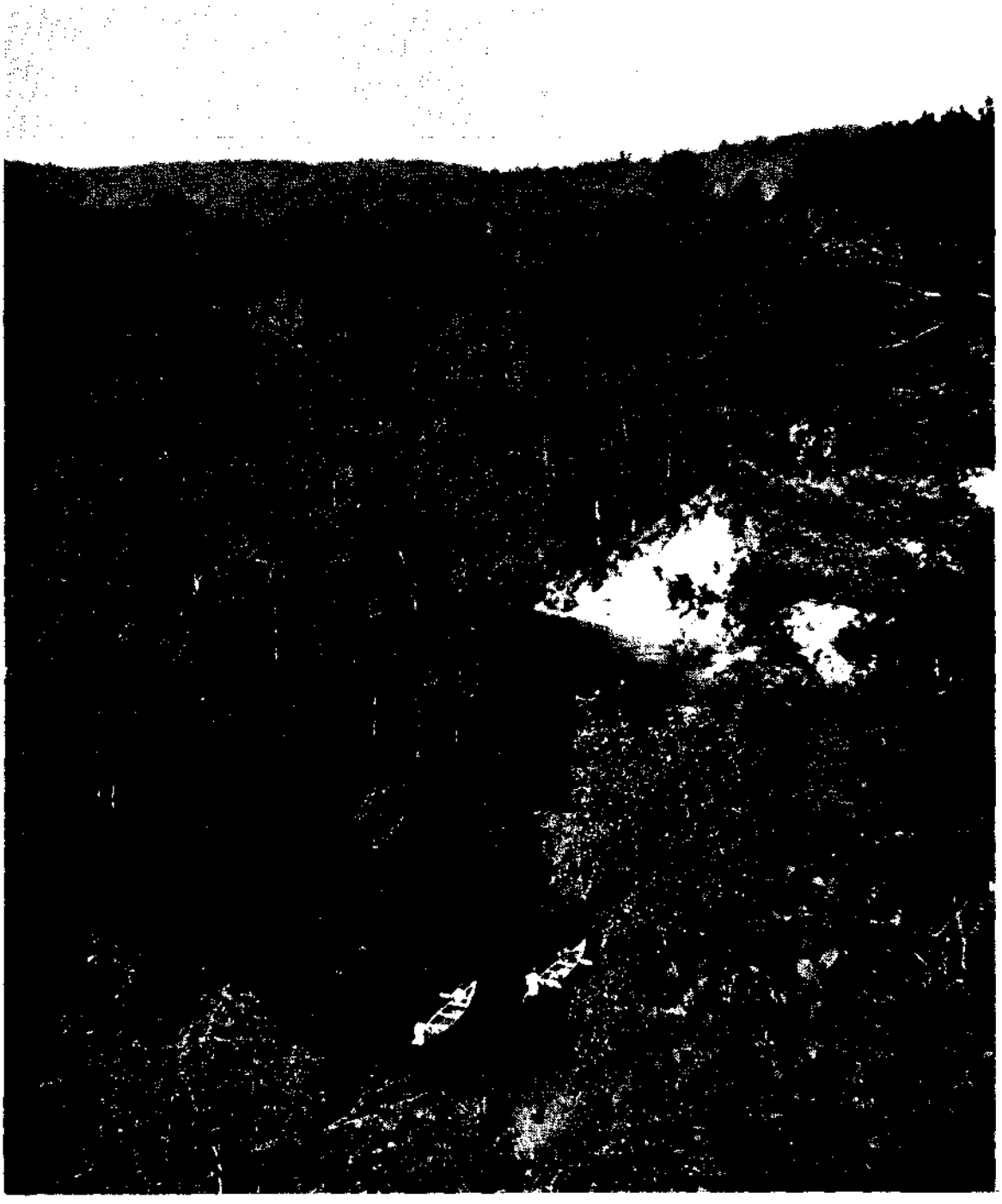
On the lower reaches of the main stream, tracts of several hundred acres exist with no development visible along the river. Some of these tracts are slated for future subdivision which would markedly change the character of the river. Much land in this area is in the flood plain which makes it uneconomical for intensive development at this time. However, as river-land values increase, it is conceivable that these lands will eventually be filled and subdivided. Filling of the flood plain would have a most detrimental effect on the natural appearance of the river and destroy valuable waterfowl habitat.

The view from the river is restricted by the natural vegetation, topography, and sinuosity of the stream. In most cases, the view is limited to less than 100 feet on either side of the banks and not more than 500 feet up and down the river valley. Exceptions to this general rule occur in the marsh areas and where the vegetation has been cleared for buildings, agriculture, roads and utility lines.

The most objectionable feature apparent from the river at some of the access sites is the presence of cars, trailers, tents and people. This will be corrected by prohibiting camping and parking within sight of the river and providing alternative sites in areas screened from view.

B. PHYSIOGRAPHY AND GEOLOGY

The topography of the basin is rolling to flat. Maximum elevation above sea level is approximately 1,300 feet in the extreme eastern portion and 580 feet at the shore of Lake Michigan. The eastern portion is comprised of rolling hills with a maximum relief of about 400 feet. In the western portion, large flat areas broken only by stream channels predominate.



A view from one of the River's many overlooks

The watershed, like all others in this area of Michigan, shows the effects of glacial action. It lies in an area once covered by the Michigan Lobe of the Pleistocene glacier and is characterized by glacial moraines and outwash plains. The basin is underlain by glacial drift up to several hundred feet deep with no outcroppings of bedrock material. Surficial geology of the watershed is shown in the map on the following page.

The morainal areas are hilly with bold detached ridges. Outwash areas are relatively flat undulating plains except where cut by stream channels. The ancient lake bed area west of Scottville is extremely flat and was covered during ancient glacial periods by the waters of Lake Michigan. Approximately 70 percent of the watershed is outwash, 20 percent is moraine, and 10 percent is till plain.

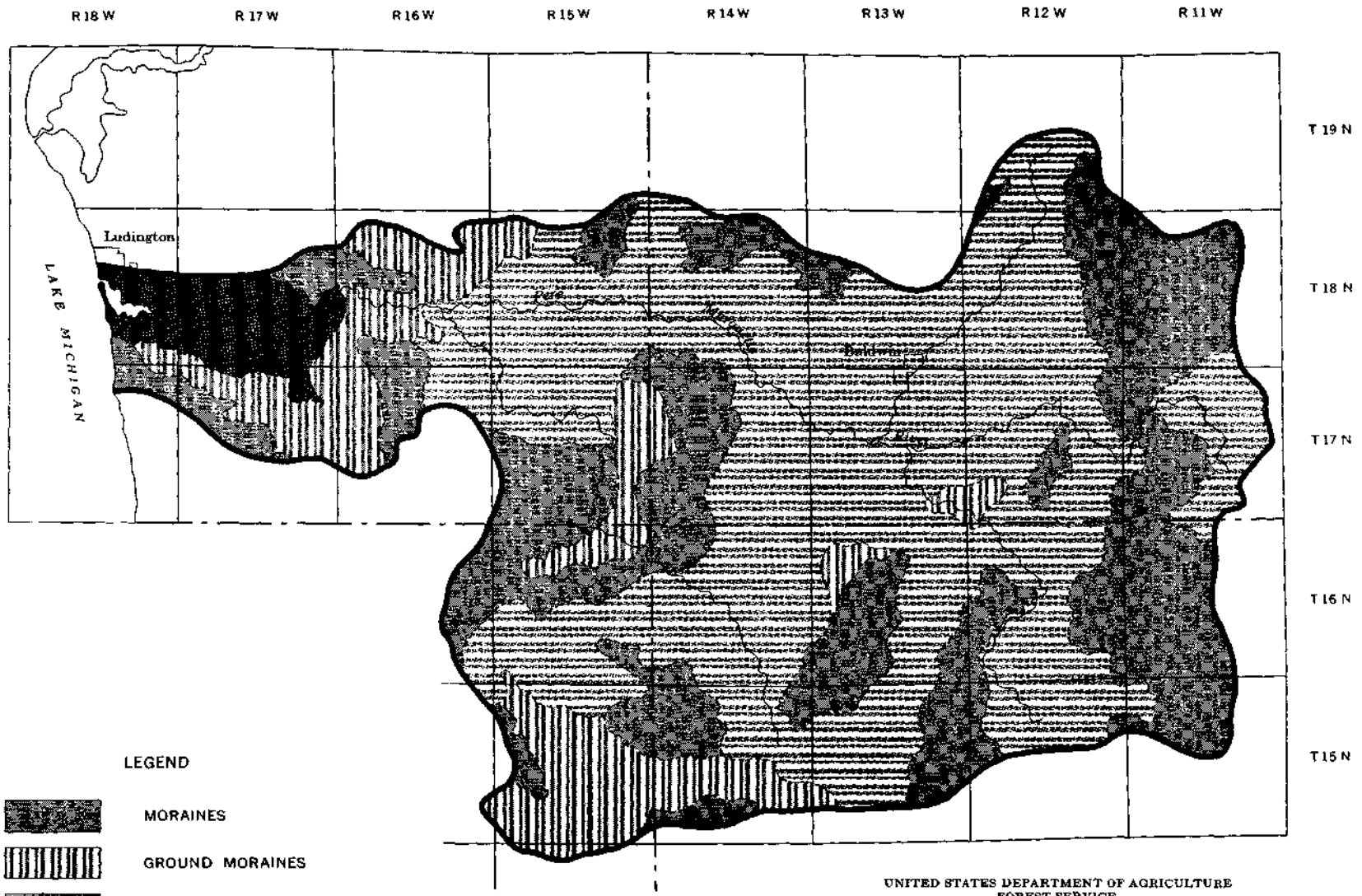
The streamflow and water temperature characteristics are strongly influenced by the geology of the basin. Permeable sand and gravel in the outwash areas contribute relatively large amounts of ground-water discharge to the river. This ground water maintains the flow during drought periods and cools the stream during the hot summer months. These areas also buffer sudden changes in river stage thus reducing the probability of flash flooding.

There are excellent examples of the effects of the ice, water and wind on the landscape. Kettle lakes, oxbow lakes, eskers, drumlins, kames, terraces, sandblows and deltas can be observed.

Sandstones, shales and small amounts of limestone directly underlie the unconsolidated glacial deposits. The shales, in some instances, are suitable for use in manufacturing brick and tile.

Relatively shallow oil and gas fields are scattered over much of the watershed. In addition to oil and gas, bromine, calcium chloride, and calcium magnesium chloride are either obtained directly from wells or produced from materials derived from the wells.

The general area including all the lands contained in the watershed is being subjected to a great amount of oil and gas lease activity and exploration. Geophysical work has been conducted over a large portion of the area. The present exploration activity is directed toward locating and testing coral reef developments in the older limestone formations. A few tests have been successful but the exploration activities in the deeper horizons are in a very early stage.



UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

MAP OF SURFICIAL GEOLOGY

PERE MARQUETTE WILD AND SCENIC RIVER STUDY

MICHIGAN

1971

SCALE
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Compiled and drafted at the Regional Office, Milwaukee, Wisconsin

Generally, reef developments are both porous and permeable; therefore the petroleum traps, when located, are expected to contain large reserves of oil.

The production of spacing regulations in the deeper zones requires 160 acres between wells. Provided connate water or other brine production is slight, no appreciable environmental problems are anticipated, but extreme care must be taken to control the escape of any material. In most of the area, the groundwater table is quite close to the surface and it may therefore be easily polluted.

Silurian oil production from present exploration activities may be important to the counties, State and Federal Governments. However, protection of the water quality and esthetics should take precedence over mineral exploitation. Any new wells for gas and oil or brine production will be done by directional drilling from outside the seen area.

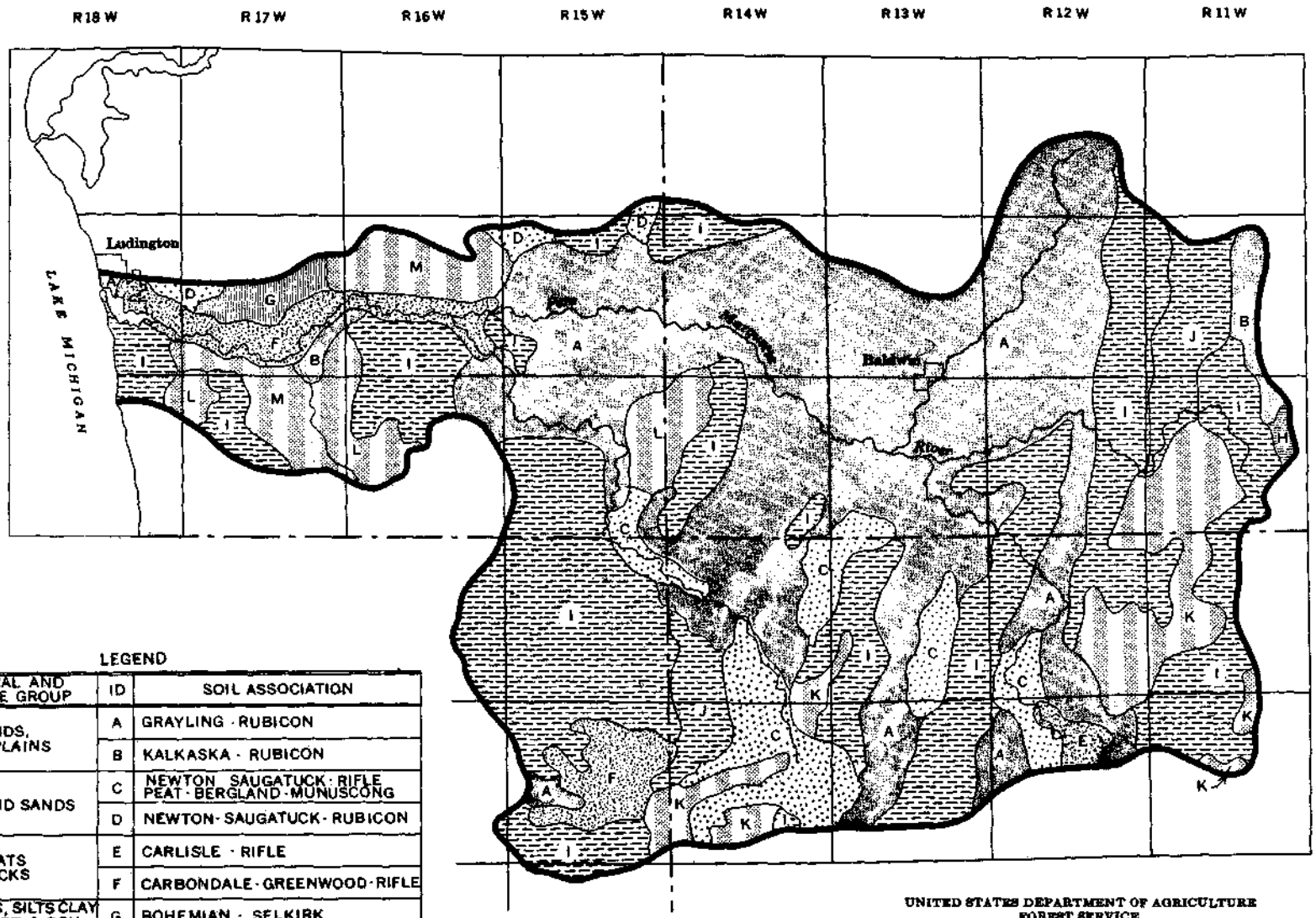
Other than sand and gravel deposits, oil and gas are considered the only mineral resources with significant value in this area.

C. SOILS

Soils of the watershed are generally classified as podzols. They are soils formed from fine to coarse textured materials on well drained sites and influenced by cool temperatures. The humus and iron oxide have been leached from the surface horizons and concentrated in the "B" horizon. Muck and peat soils are found along the streambeds and in depressed areas. Other soils are sands, sandy loams, and clay loams in their surface layer.

The map on the following page and the accompanying table show the location and characteristics of the major soil associations in the watershed. Associations are based on their texture and drainage characteristics.

Although 48 percent of the watershed has soils with agricultural capabilities, the problems and expense involved with drainage, limited markets, and necessary land clearing, greatly reduces this figure. Only about 24 percent of the watershed (112,000 acres) is currently considered suitable for farmland, and only about 9 percent (41,000 acres) is actually used for intensive agriculture. The major agricultural areas are near Scottville in the extreme west portion of the watershed, near Chase in the eastern portion, and in the south-central part of the drainage. Around Scottville, extensive areas have been drained and are now highly productive. Beans and small grains are the major crops. Approximately 70 percent of the watershed is forested with northern hardwoods or pines.



LEGEND

SYMBOL	TEXTURAL AND DRAINAGE GROUP	ID	SOIL ASSOCIATION
	SANDS, DRY PLAINS	A	GRAYLING - RUBICON
		B	KALKASKA - RUBICON
	WET LAND SANDS	C	NEWTON SAUGATUCK - RIFLE PEAT - BERGLAND - MUNUSCONG
		D	NEWTON - SAUGATUCK - RUBICON
	PEATS MUCKS	E	CARLISLE - RIFLE
		F	CARBONDALE - GREENWOOD - RIFLE
	FINE SANDS, SILTS CLAY PLAINS WET & DRY	G	BOHEMIAN - SELKIRK
	SANDY LOAMS, PLAINS SAND, SAND - GRAVEL	H	OGEMAW - RUBICON - NESTER
	SANDY LOAMS, PARENT DRIFT, SANDS	I	RUBICON - EMMET - GRAYCALM
		J	KALKASKA - EMMET - MONTCALM
	SANDS, SANDY LOAMS, HILLY LAND, CLAYS, WELL DRAINED AND INTERMEDIATE DRAINAGE	K	COLOMA - MONTCALM
		L	NESTER - IOSCO - EMMET
		M	SELKIRK - OGEMAW - BERGLAND

Compiled and drafted at the Regional Office, Milwaukee, Wisconsin

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

SOIL ASSOCIATION MAP

PERE MARQUETTE WILD AND SCENIC RIVER STUDY

MICHIGAN

1971

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Land use is generally consistent with soil capabilities. Marginal agricultural soils which were cleared and cultivated during early settlement of the area have reverted to the original forest types or have been planted to pine. Proper use of the land and Government aid programs to revegetate problem areas have done much to keep erosion in check and correct improper land management practices on private land.

The finer textured sandy soils in the area are subject to wind and water erosion if the vegetative cover is removed. Sand blowouts are evident in areas that have been overgrazed or misused and exposed to the wind. This is most prevalent in the droughty sand plains. The cutting action of streams against sand bluff streambanks has created the most obvious erosion problems along nearly all stream courses. Erosion control through streambank stabilization and proper land management is necessary to protect gravel fish spawning areas and preserve scenic values. There are no erosion problems so severe as to eliminate the Pere Marquette as a component of the Wild and Scenic Rivers System.

The majority of the watershed is dry sand plains and rolling sandy hills. These well drained soils are predominantly pine-scrub oak forest. Their droughty nature makes them generally unsuitable for agriculture. Poorly drained muck and peat soils are common along the lower reaches of the main stem and in the headwaters of the Big South Branch. Swamp hardwoods, marsh grasses and bog plants predominate. Between these soils in drainage characteristics are the wetter sands and drier heavy soils. Better fertility and moisture characteristics make these the better agricultural soils. Nearly all agricultural activity is on these soil associations.

All soil associations have use limitations depending on slope or the location of the ground water table. These limitations have management implications for both private and public recreation use. Most critical is the limitation on suitability for septic tank disposal fields as this creates a serious threat to water quality. Soils with the greatest limitations are the flood plain soils. Since the most desirable cottage locations are those closest to the river, this could if unchecked, create a serious problem in future protection of water quality.

Location of public recreation use facilities, while not contemplated in the flood plain, must also consider soil capabilities. The thin mat of shrubs and grasses on steep sand slopes quickly gives way under trampling and overuse. This is especially evident at heavily used access sites and popular fishing areas.

Detailed soil capability analysis is needed to determine the proper location for various land use activities to insure protection of the river's unique values.

D. VEGETATION

Over 70 percent of the watershed is forested. Major vegetative types are aspen, jack pine, scrub oak, northern hardwoods, pine plantations, and mixed swampland species. Original cover on the better drained sites was predominantly red and white pine and northern hardwoods which were virtually eliminated during the logging era. Nearly all stands are now in second and third growth cover.

Vegetation plays a key role in halting erosion of the fine textured soils, shading and cooling the water, and sustaining streamflows. The wooded streambanks provide screening of man's activities and the forest environment so desirable to the recreationist.

The river user can usually see only a short distance due to the dense streambank vegetation. Understory species include willow, dogwood, alder, high bush cranberry, wood vines, virburnum wild grape, grasses, and reeds. These shrubs add variety, color and life to the scenery--in the spring and summer with their flowers and in the fall with their multi-colored leaves and fruits.

For the user who stops and is aware of his surroundings, there are a multitude of lesser plants and flowers. Mosses, mushrooms, toadstools, lichens, and flowering plants grow in abundance along the river. For visitors who are less aware, poison ivy, poison oak, and stinging nettles are present. These plants do not cause serious problems to most, but can leave the victim with an uncomfortable souvenir of his trip.

Of the total 495,024 acres administered by the Manistee National Forest, approximately 450,000 acres are commercial forest lands. Within the proposed management zone on the Pere Marquette River, the Forest Service presently administers less than 800 acres of commercial forest land.

Within the proposed zone the State of Michigan owns approximately 1,500 acres of timberlands.

Private forest lands within the proposed management zone are held primarily for resale purposes or sites of recreational dwellings rather than commercial timber production.

Soil Association	Natural Vegetation	Land Use if Cleared	Septic Tank Disposal Fields	Cottages and Buildings
A	red, white, and jack pine; scrub oak	N/A	slight to moderate	slight to severe
B	red and white pine	N/A	slight to moderate	slight to severe
C	marshgrass, swamp hardwoods, northern hardwoods	N/A	severe	moderate to severe
D	marshgrass, northern hardwoods, red and white pine	some grain crops	slight to severe	slight to severe
E	mixed hardwood	some hay and pasture	very severe	very severe
F	mixed hardwoods, bog plants	N/A	very severe	very severe
G	northern hardwoods	hay and small grain when drained	moderate to severe	slight to severe
H	northern hardwoods, jack pine	some hay and grain	slight to severe	slight to severe
I	northern hardwoods, red and white pine	orchards and grain	moderate to severe	slight to severe
J	northern hardwoods, red and white pine	some orchards and grain	slight to severe	slight to severe
K	northern hardwoods	some orchards and grain	slight to severe	slight to severe
L	white pine, hardwoods	orchards, hay and small grain	moderate to severe	slight to severe
M	northern hardwoods	hay, grain and truck crops	moderate to severe	slight to severe
N	northern hardwoods	hay and small grain drained	severe to very severe	severe

SOIL ASSOCIATIONS

USE LIMITATIONS

Intensive Use Camp Sites	Picnic Areas	Paths and Trails	Factors Limiting Use	Percent of Watershed
moderate to severe	moderate to severe	moderate to severe	slope	35
moderate to severe	moderate to severe	moderate to severe	slope	2
moderate to severe	moderate to severe	moderate to severe	seasonal high water table	9
slight to severe	slight to severe	slight to severe	seasonal high water table	1
very severe	very severe	severe	seasonal high water table	1
very severe	very severe	severe	seasonal high water table	6
slight to severe	slight to severe	slight to severe	slope and seasonal high water table	1
moderate to severe	slight to severe	slight to severe	slope	1
slight to severe	slight to severe	slight to severe	slope and seasonal high water table	10
slight to severe	slight to severe	slight to severe	slope and seasonal high water table	17
slight to severe	slight to severe	slight to severe	slope and seasonal high water table	2
moderate severe	moderate to severe	moderate to severe	slope	7
slight to severe	slight to severe	slight to severe	slope and seasonal high water	4
moderate to severe	moderate to severe	moderate to severe	seasonal high water table	4

For the most part, timber within the river zone is of rather low commercial value. The nature of the terrain, ownership pattern, soils and existing access limits commercial harvest. Recently, a limited amount of timber has been harvested, but the reproduction has been rapid, and logging scars have soon healed.

American elm is common in the poorly drained sites along the lower river and Dutch elm disease has taken its toll. Skeletons of large elms cover extensive areas. When these trees fall into the river they create problems for the boater and canoeist, but also provide fine fish cover. Red maple and ash are replacing the dead and dying elm.

E. AGRICULTURE

Consumptive use of the river water is negligible. The known uses within the watershed for agricultural irrigation are shown in the table below:

SOURCES OF WATER FOR IRRIGATION

Crops Irrigated	Ground	Surface	Total System	Total Acres Irrigated	Total Acre Inches of Water Use/Yr.	Aver. Acre Inches of Water Use/Yr.
Flowers & Nurseries	2	1	3	19	95	5.0
Strawberries	3	2	5	17	146	8.6
Potatoes		1	1	20	168	8.4
Truck Crops	2	1	3	41	283	6.9
Field Crops		1	1	35	235	6.7
Cemeteries & Parks		1	1	10	80	8.0
Miscellaneous	1	4	5	110	1,749	15.9
Total	8	11	19	252	1,756	10.9

The total volume used is less than one ten-thousandth of the total annual precipitation within the watershed.

Only one user draws directly from the main stem of the river. That use is only 8.0 acre inches/year.

Agricultural acreage is slowly declining throughout the watershed. The remaining acres will be more intensively farmed, and water use will increase. This expected increase will not have any adverse effect on river flow or other river values.

The present type of agriculture practices within the management zone are compatible with the proposed river classification. The approximately 500 acres used for crop production and related agricultural businesses should not be affected.

F. WILDLIFE

The watershed contains an interesting variety of wildlife. Hunting for both large and small game and waterfowl are popular recreational activities as are nonconsumptive uses of wildlife such as photography and observation. Most participants in these activities come from the metropolitan areas to the south and provide a major source of revenue to the local economy. Trapping of fur bearers is popular with local residents.

In the big game category, white-tailed deer is the most important species. Deer benefited from plant succession following the logging and wildfire era in the late 1800's to the early 1900's. Carrying capacity of the range and subsequently deer populations rose dramatically about 1920. Populations exceeded the carrying capacity in the 1930's, leveled off in the 40's, declined again in the 50's and has now again leveled off. A controlled harvest has helped to balance the population with habitat conditions. Stream flood plains and adjacent uplands are used by deer as winter habitat. A list of 44 mammals found in the watershed is included in Appendix C.

The watershed is one of three areas in the State supporting a huntable population of turkeys. Hunting is controlled by a permit system. The birds are the result of an intensive management and stocking program by the Department of Natural Resources with the cooperation of the Forest Service. The presence of these magnificent birds adds much to the wildlife attraction of the area.

The river area is used extensively by waterfowl and shore birds for nesting and brood rearing during the spring and summer and by migrating waterfowl during the spring and fall. Mallards, black duck, wood duck, red breasted and American mergansers, coot, teal, bitterns, and herons nest in the flood plain marshes and woodlands. The diving-duck group: redheads, goldeneyes, blue bills, etc., use the river primarily during the spring and fall migration. A few ducks, primarily goldeneyes, overwinter in the open water areas of the river. Shore birds such as sora

rail, yellow rail, and Wilson's snipe are common the area. Dutch elm disease has killed large stands of American elm in the river flood plain. As a result, the associated ecological changes have been beneficial to certain species of dabbling ducks (Mallards, Teal, etc.).

Upland game birds found in the area are ruffed grouse, woodcock, turkey and in the farm areas, ring-necked pheasant. Ruffed grouse and woodcock provide the major upland shooting. Small game include among the mammals, cottontail rabbit, snowshoe hare, and fox and gray squirrels.

At least 70 species of nongame birds are known to nest in the watershed. A breeding bird survey route covering the southwest portion was run in June of 1968, 1969, and 1970. A list of the nesting bird species identified in this survey is included in the Appendix. In addition, many other species migrate through the area. A complete list of breeding and migrating birds would number well over 100 species.

Fur bearers which are open to trapping include beaver, muskrat, mink, otter, red fox, raccoon and skunk. Price of furs has declined so that trapping is more a sport in the area rather than a commercial enterprise.

RARE AND ENDANGERED SPECIES

The Bald Eagle once inhabited the area along the river. The last two nests noted in the area were on Danaher Creek, a tributary of the main stem near Baldwin, and at Whelan Lake near the mouth of the Big South Branch. The Danaher Creek nest was last active in 1962, but was unsuccessful. The nest disappeared in 1965. The Whelan Lake nest was last active in 1965 when one young was fledged. The nesting pair was not seen after that. and the nest was gone in 1970. With the great amount of human activity and the impaired reproduction of the Bald Eagle in Lower Michigan, it is doubtful that the eagle will ever again nest in the Pere Marquette drainage. If any are sighted, all possible protection will be given to encourage successful nesting and reproduction.

POISONOUS SNAKES, INSECTS AND PLANTS

The only poisonous snake found in the area is the Massessauga rattlesnake. This snake is not significantly hazardous to users of the area. It is nonaggressive in its behavior, its venom has a low degree of toxicity and it is relatively rare. There are no other animals in the area which are considered poisonous or dangerous to humans.

During the spring and early summer, gnats, mosquitoes and black flies are plentiful. Although they cause discomfort and annoyance, they are a part of the river users' experience. Wasps, bees and hornets are sometimes encountered.

Poison ivy, poison oak, poison sumac and stinging nettle are also found in the area. These are easily avoided by the knowledgeable river user.

No control measures are necessary to reduce populations of any of these animals or plants. Education of the user to be aware of these "hazards" will suffice. This will be incorporated in informational brochures and other programs.

OTHER ANIMALS

Many lesser creatures are indigenous to the area. In and along the river can be seen several species of nonpoisonous reptiles such as the blue racer, common water snake, hog nose snake, snapping turtles, painted turtle and soft shelled turtle. Various frogs, toads, lizards and salamanders are also commonly seen by river users.

G. LANDOWNERSHIP AND STATUS AS OF JULY 1, 1971

There are four classes of landownership within the watershed and within the river zone--Federal, State, Muncipal and Private. Ownerships are generally intermingled with few large blocks of consolidated public land. About 25 percent of the watershed is in public ownership.

Ownership of the river frontage is summarized below:

	U.S.		State		Township		Private		Total	
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%
Main Stream	11.2	8	21.6	17	2.4	2	97.6	73	132.8	100
Middle Branch	2.4	7	0.9	2	0	0	30.7	91	34.0	100
Little South Branch	1.0	4	0	0	0	0	25.0	96	26.0	100
Baldwin River	0	0	3.5	14.5	0	0	20.5	85.5	24.0	100
South Branch	23.5	28	2.5	3	0	0	57.0	69	83.0	100
Total	38.1	13.0	28.5	9.7	2.4	0.1	230.8	77.2	299.8	100

(Figures are for both banks of the river, or double the numbers of river miles.)

Landownership within the management zone is closely related to the percent of river front ownership on the main stream. Therefore, approximately 8 percent is Federal, 17 percent State, 2 percent township and 73 percent private.

The Bureau of Land Management has been requested by the State to correct an apparent error in the original survey of the area made in 1838-39. At that time, the flood plain between Scottville and Lake Michigan was surveyed as a lake. A left bank, right bank traverse was made leaving about 2,500 acres between the meander lines that was never disposed of under the public land laws. Most of this land has been occupied by adjoining owners who claim title under various authorities. Until such time as BLM makes their determination as to ownership, this area will be considered as private land for purposes of the study.

H. EXISTING AND POTENTIAL WATER DEVELOPMENT PROJECTS AND PLANS

A small watershed project (channel improvement) under PL 566 is underway on the Black Creek drainage near Custer. The project is located well outside the proposed river management zone and is sponsored by the Mason-Lake Soil Conservation District to eliminate flooding and drainage problems. This work will be under the control of the Mason County Drain Commission and is sponsored by local landowners. When completed, this project will eliminate pollution problems arising from inoperative septic tank disposal fields. No adverse effects are anticipated.

There are also numerous small projects proposed and under way under the Rural Environmental Assistance Program and Resource Conservation and Development programs. None of these projects are detrimental and most have beneficial effects on the river and river zone environment.

I. PUBLIC ACCOMMODATIONS

Wants and needs of recreationists are well served by existing commercial and public interests. Boat and canoe livery service is especially well developed. It is possible to obtain everything needed for a canoe trip at reasonable cost. This includes canoe, paddles, lunch, delivery to launch site and spotting of the user's vehicle at the take-out point. Cost for these services varies with the distance from the livery to the reach of the river involved. Guide service for fishing and hunting is also available as are specialized craft for fishing.

Overnight accommodations in motels, hotels and overnight cabins are available in the larger communities and along the major highways. Federal, State and private campgrounds are well distributed throughout the area.

J. DEVELOPMENT AND USES AFFECTING THE RIVER

1. Existing

The river is not closely paralleled by roads. The two most heavily used roads, M-37 and U.S. 31 are near the upper end of the main stream and near its mouth respectively. Other roads are secondary in nature, and their effects on sight and sound are limited to the immediate bridge areas. The Chesapeake and Ohio Railroad parallels the main stream to the north at a distance of 3 miles to one-fourth of a mile and crosses only once just downstream from the M-37 bridge. There is a municipal airport in Baldwin and Ludington has scheduled commercial air service.

Commercial canoe liveries provide excellent service to river users. Five liveries are located in the immediate river area, and several outside the area will provide service upon request. The three largest are located in Baldwin with two smaller liveries at Branch and near the U.S. 31 Bridges. The Baldwin liveries collectively own approximately 300 canoes, the other two about 50.

As seen from the river, the primary private land use is permanent and summer home residences with undeveloped land as a buffer for privacy. Agricultural activity seen from the river is limited to very minor areas in the lower river. Farming for row crops is prevalent below Custer, but is hidden from the river user. Commercial timber harvest has been carried out on some areas mostly along the lower river. The dense vegetation on the riverbanks effectively screens most other uses and activities. There are no industrial installations, mining or petroleum activities immediately adjacent to the river upstream from the U.S. 31 Bridges.

There are no hiking or horseback riding trails in the area, but nearly every woods road and trail that is not plowed receives use in the winter from snowmobiles. Use of off road recreation vehicles has increased within the last few years and is expected to place an even greater demand on the area.

Generally, the summer and permanent homes are attractive and well maintained. They do not, for the most part, markedly intrude upon or degrade the overall scenic qualities of the river. However, some boat docks, fishing platforms, bridges and cleared areas around buildings should be modified to better harmonize with the natural appearance of the rest of the river. Use of vegetation to screen open areas and natural material

and colors in structures would in most cases remedy the problem. Boat docks, piers and platforms that extend into the river and impede boating use should be removed or reduced in size.

2. Future

Three major projects are planned within the management zone which will have an effect on the environment of the lower river. Consumers Power Company, a Michigan utility, is constructing a 1,872,000 kV pumped storage hydroelectric power plant about four miles south of Ludington on the shore of Lake Michigan. The new transmission lines from this project must cross the Pere Marquette.

Consumers Power Company plans to construct a 345 kV transmission line which will cross the main stem of the river at approximately river mile 3.0. They have acquired a 330 foot right-of-way in fee for this line. All attempts will be made to screen this line from the river. If possible, enough line clearance will be obtained using topography and high towers so that no clearing of vegetation will be necessary on the riverbank.

U.S. 31 is scheduled for improvement to Interstate highway standards sometime in the future. The preliminary route corridor surveys indicate the best crossing location is about three miles upstream from the present U.S. 31 crossing which is the terminus of the recommended portion of the river.

The recommended highway crossing location is 1000-3000 feet west of the powerline crossing. Crossing at the existing U.S. 31 location would have an extremely disruptive effect on the ecology of the marshlands there. Crossing further west would involve routing through the highly developed areas in the City of Ludington. The proposed crossing will be separated from the powerline to facilitate screening with natural vegetation. Having the two projects in close, but separate corridors, will facilitate screening and minimize the total adverse impact on esthetics.

Both of these projects and their environmental impacts have been discussed and reviewed with the Bureau of Outdoor Recreation, Michigan Highway Department, Consumers Power Company and The Michigan Department of Natural Resources, all of whom are involved in these projects.

The nearest highway interchange will be at existing U.S. 10 over two miles north of the river. There are no road access sites, or other public facilities planned at the highway crossing.

The adverse effects of these projects will be primarily from auto noise and the presence of the structures. With the heavily vegetated nature of the surroundings, these will affect the river user for a very short distance.

The City of Ludington wastewater treatment plant is being improved to meet State water quality standards. The effluent outlet will be relocated from its present location in Pere Marquette Lake to the main stream of the river at approximately river mile 2.5. As planned, the outlet will be submerged in the river. Effluent will be at background levels for suspended solids and B.O.D., with facilities incorporated for the removal of phosphorus compounds. Effluent will receive about a 200:1 dilution ratio during the seven day, once in ten year, low river flow.

With proper operation and maintenance, this facility will have minimal effect on water quality and esthetics. Operation of the plant is scheduled to begin about April 1973.

K. NONCONFORMING AREAS AND USES

1. Present

There are few examples of nonconforming uses and practices which can be seen from the river. The most prevalent detrimental practice is private streambank stabilization projects where nonnatural materials have been used. Most noticeable of these is a plank and pole retaining wall on the main stream at river mile 58 which extends for approximately 300 feet along one shoreline with about two to three feet visible above the waterline. This wall has stablized the eroded bank and will eventually deteriorate. Its present adverse impact is in causing an artificial appearance to the streambank. In other instances, cottage owners have used various artificial materials as riprap. Most of these extend less than 20 feet and are a very minor disturbance to the esthetics. All of these can be readily replaced by natural materials.

A common practice of riparian owners is to construct wharves, fishing platforms and steps which extend into the river. These structures detract from the natural appearance of the area and in some cases restrict canoeing and boating. Most could be easily removed without further damage to the streambed or bank. The same is true of foot bridges built by landowners to facilitate stream crossings. There are four such bridges on the main stream and numerous others on the tributary streams.

Commercial enterprises within the immediate river zone consist of one motel, one museum, two resorts and some cottages which are rented during the summer.

The motel is located at the M-37 Bridge. The back of the building is visible from the river, but is well screened from the view of the unaware river user.

The museum is immediately upstream from the motel. It was the summer residence of a local artist and contains many of his works of sculpture made from native stumps and driftwood. The building is made of logs. Window frames and other portions of it were constructed by utilizing the natural shapes of native woods. From the river, the museum, known as "Shrine of the Pines", has the appearance of a large and artistically constructed private home.

Rental cottages are indistinguishable by the river user from the private cabins. They are not clustered in a group, neither are they all of the same plan or appearance.

The two resorts are part of the late history of the river. They exemplify the use of the river in the early 1900's when it was a mecca for many trout fishermen. The resorts catered to a wealthy clientele who reached the north woods by train and fished in the company of a river guide. The architecture and history of these buildings add rather than detract from the shoreline landscape.

2. Future

The most serious threat to the river environment is the increasing demand for riverfront recreation residence sites. In the 13 year period from 1957 to 1970, there has been a tremendous increase in building construction along the river and its major tributaries.

Along the main stream, the number of buildings increased by 44 percent; Middle Branch 86 percent; Little South Branch 102 percent; Baldwin River 59 percent; and Big South Branch by a staggering 149 percent. Nearly all of this increase is attributable to subdivisions.

Trends in Construction of Residences

	Before 1957	1957-1970	Total
Main Stream	85	37	122
Big South Branch	45	67	112
Middle Branch	21	18	39
Little South Branch	36	37	73
Baldwin River	34	24	58

Indications are that the current trends in development of riverfront lands will accelerate in the future. This will, if not restricted, cause a drastic change in the overall undeveloped character of the river with resultant loss of the unique qualities of the Pere Marquette.

V. THE RIVER SYSTEM

The Pere Marquette originates in an area of glacial moraines which supply an abundance of cold, clear groundwater. The general lack of small feeder streams indicate the predominantly subsurface flow in the 740 square mile watershed. The four major tributaries and main stream are different enough in character to warrant separate discussion. Profiles of these streams are shown in the chart on the following page.

A. DESCRIPTION

1. Middle Branch - 17 River Miles

The source of the Middle Branch is in the hilly moraine area south of Chase. Its watershed includes about 58 square miles making it the smallest of the major drainage areas. Land use is predominantly farming and timber production with numerous recreation and permanent residences along the riverbank in the lower reaches.

Although small in area, this watershed has a large ground-water discharge. The water is very cold and high in quality. About 60 percent of the streambed is gravel and the remainder a sand and gravel combination. The stream is pool and riffle condition throughout its length. This combination of factors makes it a primary spawning area for brown trout and steelhead.

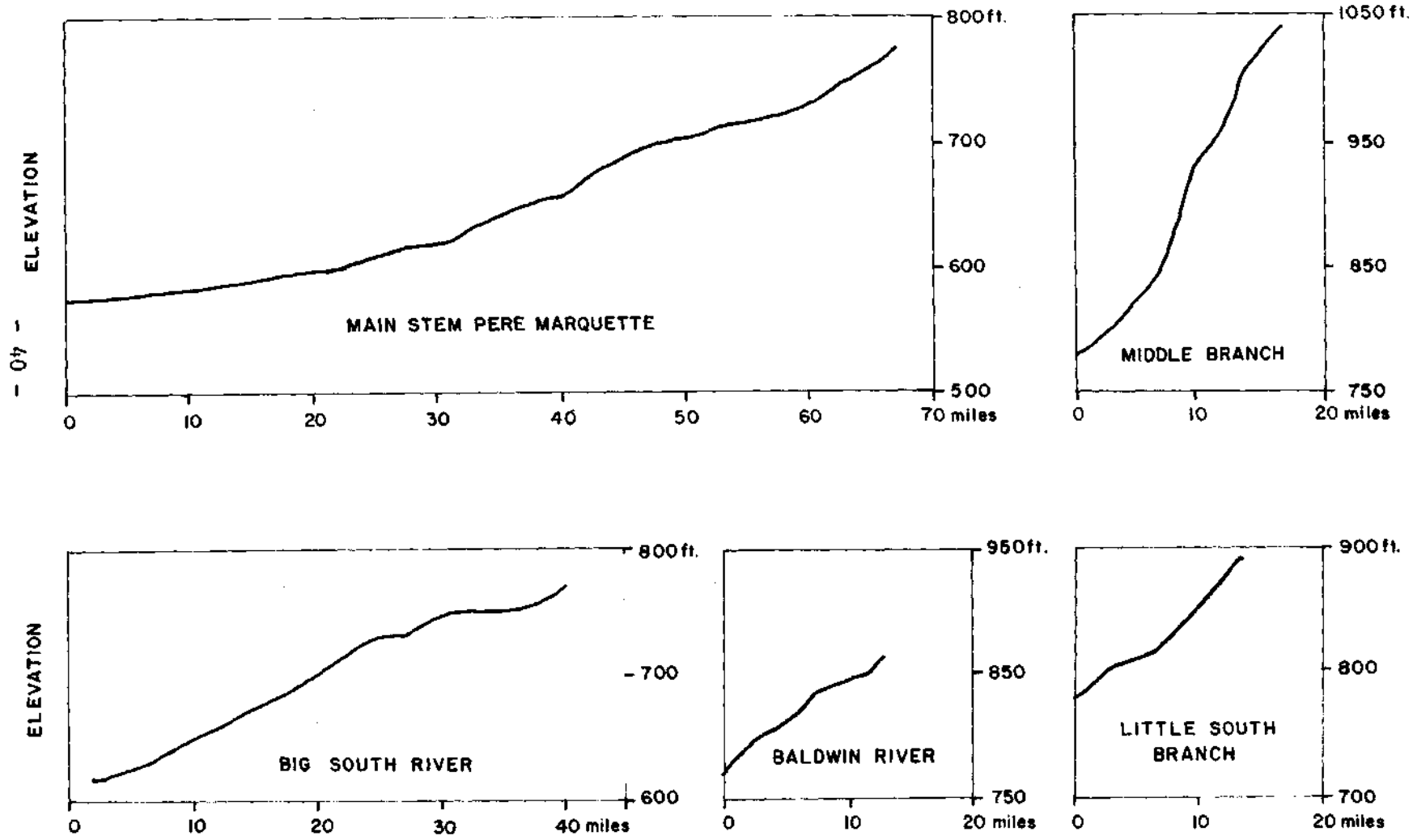
Fishing is the primary public use as the stream is too small for boating and canoeing. At its maximum, it is only about 30 feet wide. Except for the deeper pools, it is easily waded by fishermen.

The lower portion of the stream is heavily developed with riverfront cottages and homes. There are a total of 39 structures readily seen from the river. This, coupled with 8 road crossings many of which are overlarge culverts, give the stream a highly developed character. The shoreline is 91 percent private ownership, much of it in lot-size tracts.

2. Little South Branch - 13 River Miles

The Little South Branch drains an area of about 100 square miles. Although nearly double the size of the Middle Branch

STREAM PROFILES PERE MARQUETTE RIVER SYSTEM



in drainage area, its discharge is less. Bottom condition and recreation uses are similar although fisheries habitat qualities are far inferior to the Middle Branch. Summer water temperatures occasionally exceed the limits for trout and fish die-offs result. Development is very heavy with 73 private structures and seven road crossings. The shoreline is 96 percent private, much of it in lot sized-tracts.

A canoe access site near its mouth is heavily used by canoeists to gain access to the upper portion of the main stream. In low water periods, canoeing this stretch is difficult and is not recommended.

3. Baldwin River - 12 River Miles

Baldwin River drains an area of about 105 square miles and compares in discharge to the Middle Branch. The stream is wide and deep enough so some canoeing is done on the extreme lower reaches, but this is primarily to gain access to the main stream. Fishing is again the primary use. Two low impoundments at mile 5.0 are used to divert water through the Baldwin Fish Hatchery. The river flows through the Village of Baldwin and is heavily developed with 45 buildings between mile 0.0 and 6.0 and a total of 54 on the whole stream. Six bridges span the stream. Frontage is 85 percent private ownership.

Bottom conditions are gravel and a combination of sand and gravel making it and the Middle Branch the primary trout and steelhead spawning areas in the river system.

4. Big South Branch - 41 River Miles

The Big South drains an area of 259 square miles and is the largest of the tributaries. It originates in an area characterized by low swampy terrain and extensive agricultural drainage. These conditions cause the water temperatures to be somewhat higher than in the rest of the system and stain the water with dissolved organic material. Discharge is greatest of all the major tributaries.

Native trout populations are extremely low. The only area of gravel bottom suitable for spawning is in the vicinity of Ruby Creek (river mile 22-27). Most of the stream has a shifting sand and/or clay bottom. The Michigan Department of Natural Resources is considering an extensive planting program to reestablish brown trout in the stream. Although suitable in size and flow for canoeing, the river receives negligible

canoe use. The discolored water, swampy shoreline, numerous log jams and generally sluggish water discourage users.

Streambank development ranges from extremely high near Ruby Creek to undeveloped in the extreme upper and lower reaches. There are a total of 113 structures along the streambank with 93 of these concentrated between river mile 18 and 25. Most of these are attributable to three major land subdivisions developed in the past 10 years. Ten bridges cross the stream. The shoreline is 69 percent privately owned.

5. Main Stream Pere Marquette

The main stream begins at the confluence of the Middle and Little South Branches (The Forks) and 66.4 miles downstream empties into Pere Marquette Lake which connects with Lake Michigan. Its drainage area is 218 square miles. The main stream is different enough in character to warrant description by sections.

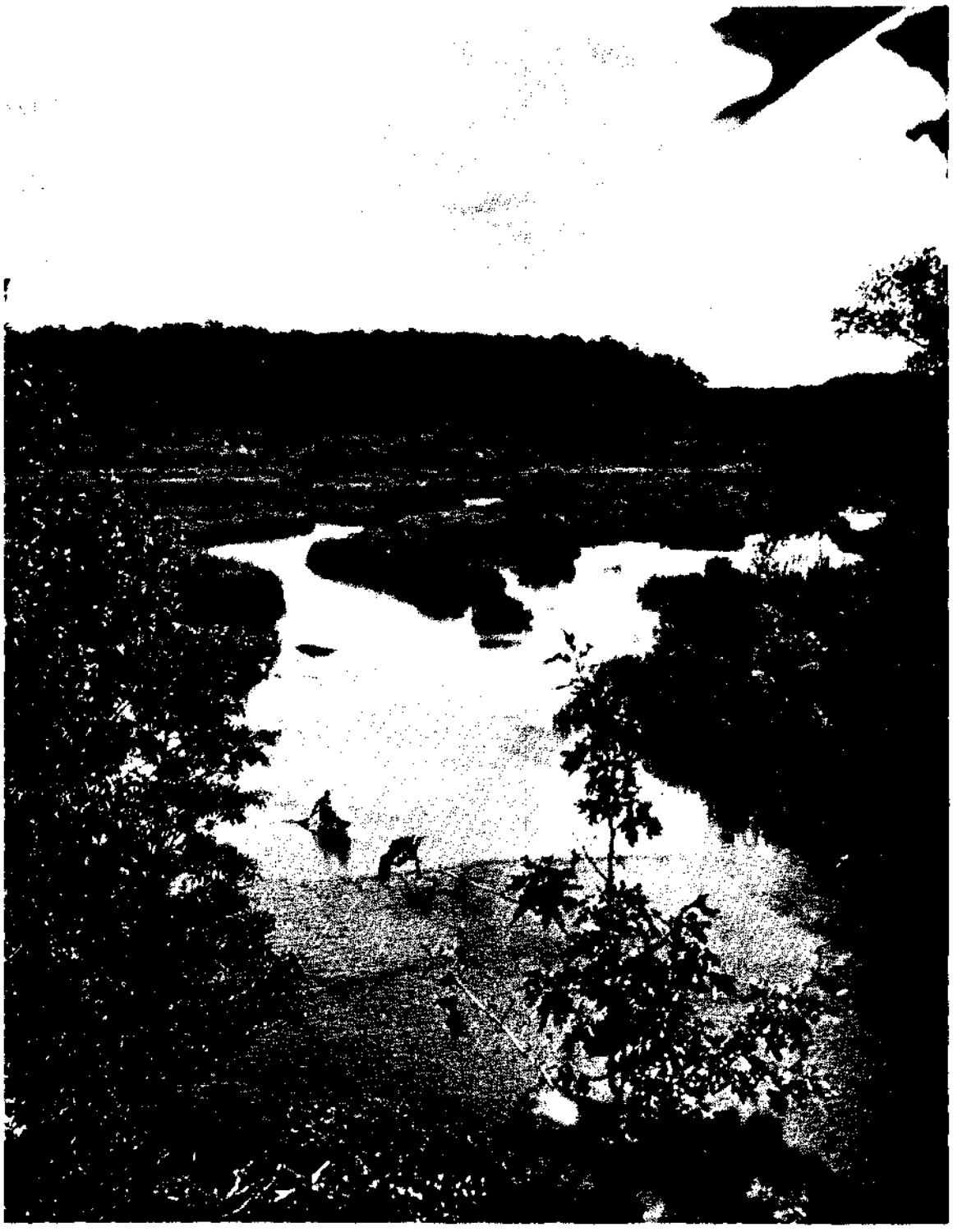
a. Mouth to U.S. Highway 31 Bridges

This segment is through Pere Marquette Lake. The north shore is competely developed by municipal and industrial complexes. The Chesapeake and Ohio Railroad docks, Dow Chemical Company, Harbeson-Walker Chemical Company and the City of Ludington ring the shoreline. On the east end of the lake, diked settling basins modify the natural configuration of the shoreline. The south and west shores are lined by private homes and Consumers' Power Company dock facilities. The Pere Marquette Memorial is located on a sand spit at the west end of the lake facing Lake Michigan. A large cross-topped stone monument marks the site of Marquette's death in 1675. During the 1860's and 70's, the lake was ringed with sawmills and was the terminus of log drives down the river.

b. U.S. Highway 31 Bridges to Indian Bridge - River Mile 0.0 to 20.5

Immediately upstream from the U.S. Highway 31 Bridges is a marsh island of about 75 acres lying between two channels of the river. This marsh is prime waterfowl and wildlife habitat and is listed as a State wildlife area, although no land has ever been acquired by the State in the marsh area.

With the exception of the development visible from the U.S. Highway 31 and Scottville Bridges, only two buildings



Leaving Nelan's Marsh

can be seen from the river. The river meanders through a wide swamp-hardwood flood plain which to date has precluded development due to the necessity for extensive filling before construction. The low, wet flood plain varies in width from a few feet to as much as one half mile and is excellent waterfowl habitat. Between mile 9.0 and 11.5, the river splits into many channels through hardwood swampland. The area is aptly known as "Snaggy Bend".

The river averages about 100 feet in width and from 2 to 10 feet in depth. The bottom is uniformly sandy. Banks are generally only 1 to 3 feet high except where the riverbank reaches the limits of the flood plain where steep sand bluffs from 10 to 100 feet high border the river.

Primary recreation use of the area is fishing; for northern pike, suckers and other resident warm water species in the summer months, for steelhead in the spring, and for salmon in the fall. The Big South Branch enters at river mile 19.1. Although occasional large brown trout are taken below this point, heaviest fishing pressure occurs during the spring sucker and steelhead, and the fall salmon runs. The reach is open to year-round fishing. Fishing from boats with motors is the most common fishing method, with bank fishing limited to the few areas with vehicular access.

c. Indian Bridge to Wahalla Bridge - River Mile 20.5 to 26.5

From river mile 21 to 24.5 is the area known as Nelan's Marsh. Here the river splits into myriad small channels varying from a few inches to several feet deep and up to 50 feet wide. The marsh is bounded on the north and south by steep bluffs, and its widest point is over one-half mile wide. A slow but readily apparent current flows in the channels and over the entire area. Reeds, cattails and grasses occupy most of the area with small alder and willow islands on the few dry hummocks.

The marsh is impassible by boats, and canoeists are forced to drag or carry their canoes over numerous sand bars. Apparent "main" channels often end in blind passages as the water disappears among the cattails.

The marsh is a prime nesting and resting area for waterfowl and attracts many duck hunters in the fall. It is also an important pike spawning area and well stocked with muskrats and other aquatic animal life.

The high bluffs bordering the marsh provide fine panoramic views of the area. These bluffs were also important campsites for prehistoric Indians. Preliminary archaeological surveys indicate aboriginal occupancy from 10,000 B.C. to the time of European contact about 1650. The marsh also provides an outstanding opportunity for ecological study of plant community succession and effects of glacial and water action on the topography.

Except in the marsh, the river is 50-80 feet wide and 3 to 6 feet deep. The bottom is uniformly sandy and the banks are generally less than three feet high. Only one small cluster of buildings is visible from the river, and much of the shoreline is publicly owned.

d. Wahalla Bridge to Upper Branch Bridge - River Mile 26.5 - 39.0

Wahalla marks the downstream limit of the popular canoeing water. The pool and riffle configuration of the stream and steeper gradient make the reach more attractive to the canoeist than areas downstream. It is still the least used reach in terms of the three "popular" canoe routes, getting only about 10 percent of the present canoe use. The area does not receive heavy fishing pressure due to relatively limited access and lower brown trout population.

Streambank development is moderate with 30 structures visible from the river. Seven of these are concentrated just downstream from Lower Branch Bridge which is located at river mile 35.4; the rest are well separated. All are well maintained and attractive.

The reach is characterized by high, steep banks ranging from 5 to 100 feet high. These help to screen the development from view and generally preclude structures being placed right at the water's edge. Stream bottom conditions are about half sand and half sand-gravel combination. The river is from 30 to 60 feet wide. Depths vary from 2 to 4 feet with pools and runs of over 6 feet. The relatively deep water and steep streambanks discourage the wading and bank fisherman.

e. Upper Branch Bridge to Bowman's Bridge - River Mile 39.0 - 53.8

This reach is second in canoeing and trout fishing use. About 25 percent of the canoe use is on this stretch. Although the primary access sites are at Upper Branch

and Bowman Bridge, people who prefer a shorter canoe trip will put in or take out at Rainbow Rapids access located at river mile 45.1.

Rainbow Rapids is not a "white water" rapids, but rather a long series of riffles with the steepest stream gradient on the river. Although tricky to negotiate, the "rapids" are not dangerous to the inexperienced canoeist and provide added interest to this reach of river.

Streambank development is moderate with 28 visible structures apparent to the river user. Eight of these are clustered near river mile 44.5; the rest are well dispersed. Of particular interest are two large lodges which, at the turn of the century, catered to wealthy fishermen who fished the river for trout and the few remaining grayling. These old, well cared for lodges with their attendant out-buildings are part of the later history of the river. Around 1900-1920, it was advertised as the finest trout stream in Michigan, and fishermen came by special train on the Pere Marquette Railroad.

Bank height at Bowman's Bridge is only from one to two feet, but gets progressively higher downstream. Bank heights range from 1 to 3, 3 to 20, and 20 to 100 feet and are about equally distributed. Bottom conditions are about 75 percent sand and gravel and 25 percent sand. The river is from 30 to 80 feet wide. Depth is from 1 to 4 feet except for the deeper holes, and much of the stream is wadable by fishermen. Fishing pressure and trout populations are increased by the more favorable stream conditions. The reach from Indian Bridge to Bowman's Bridge is covered by an extended fishing season. This permits fishing during the early spring steelhead run before the opening of the general trout season.

f. Bowman's Bridge to the Forks - River Mile 53.8 - 66.4

This reach receives the heaviest use from both fishermen and canoeists. About 65 percent of the canoe use is in this river segment. The segment from the M-37 Bridge (river mile 65.6) to Gleason's Landing (river mile 58.9) is classed by the State as "quality fishing water". Artificial flies only may be used during a year-round season. Heaviest fishing use for brown trout and steelhead occur on this stretch of the river.

Development between the Forks and the mouth of Danaher Creek is the greatest on the river system. Two bridges cross the river, M-37 and the C&O Railroad Bridge at river miles 65.6 and 64.9 respectively. Forty-seven private homes and summer cottages are visible from the river. These are generally quite well spaced, and due to the sinuosity of the stream, usually only one can be seen at a time by river users. All are well maintained and of attractive design.

The river ranges from 30 to 75 feet in width. Depths are from 1 to 3 feet except deeper in the pools. Bottom conditions are about 90 percent gravel and sand and 10 percent sand. The banks are low, generally 1 to 3 feet in the extreme upper and lower reaches with 10 to 100 foot banks in the middle portion. The generally low banks and easily wadable waters make this an excellent reach for bank and wading fishermen. Populations of legal size brown trout are very high, and gravel beds are heavily used by spawning steelhead in the spring. One factor contributing to the high brown trout population is the artificial log jams placed along the streambank by private landowners to provide needed fish cover.

Canoeists are attracted to the reach by the clear, fast moving water, and the proximity of the access sites to Baldwin and the major canoe liveries. The popularity of this segment both with fishermen and canoeists leads to conflicts in use. This is especially prevalent on weekends in the early part of the season.

B. WATER QUALITY

1. Quality

The Pere Marquette drains an area of 473,000 acres in northwestern Lower Michigan. This stream traverses the full width of the Manistee National Forest before draining into Lake Michigan at Ludington. It is one of the most southerly, high quality, cold water, fishing streams remaining in Michigan. The water quality, trout fishery, and lack of streamside development are undoubtedly the dominating characteristics that qualify this stream for inclusion under the Wild and Scenic Rivers Act.

To determine the past, present and future water quality of the Pere Marquette River, three procedural steps were carried to completion:

a. Careful scrutiny of published literature and agency files resulted in a history of the water quality of this watershed.

b. Coordination and oral agreements entered into between the Forest Service and the State of Michigan resulted in the establishment of a relatively complete joint water quality monitoring system that is continuing in nature.

c. A review of Interstate Water Quality Standards and Use Designation Areas for the State of Michigan and established by the Wild and Scenic Rivers Act to determine the level of protection afforded by these standards.

PAST WATER QUALITY

Records of existing water quality are for the most part unpublished, lacking, and/or the data are not applicable for a study of this nature due to sample location or questionable nature of the analysis. Tables and charts as in Appendix E, illustrate the condition of selected water quality parameters and their variation by location and time. From a review of this and other data, very few if any problem areas could be located. All parameters were within acceptable limits of the Water Quality Standards for the State of Michigan and those established by the Water Quality Criteria, April 1, 1968. Due to the incompleteness of the data, it was decided to formulate a water quality monitoring system to establish conditions as they existed at the time of the study and to lay a framework from which any future deviations from established values could be measured.

PRESENT WATER QUALITY

A task force meeting was held in May 1970, and responsibility for water quality determinations was delegated jointly to the Department of Natural Resources of the State of Michigan and the U.S. Forest Service. Because of the stream discharge stability generally found in the deep sand drift areas of glaciated terrain, a quarterly time interval, with supplemental samples at both high and low flow, was determined to be sufficient. A system of twelve sampling sites located throughout the river system was established. Trained technicians were used to collect and preserve samples, and they were then transmitted to the State's Lansing Laboratory for analysis. Summaries of the collected data are presented in Appendix E.

With the exception of total and fecal coliform samples (in three cases) all parameters were of higher quality than those recommended for scenic rivers. The fecal coliform counts illustrate three areas within this basin that exceeded the State of Michigan's standard of 100 organisms per 100 ml. for total body contact forms of recreation. The sites that exceeded these standards are Carr's Creek, Black Creek, and the Pere Marquette River at

Scottville. Waste water treatment facilities under construction will correct the problems at Scottville and Black Creek. The Carr's Creek situation was an agricultural problem and no longer exists.

The fecal coliform bacteria determination is used as an indicator of the presence of wastes from warm blooded animals which may contain human pathogens (disease carrying organisms). Total phosphate (as P) levels occasionally reached relatively high levels (0.08 to 0.1 mg/l). Concentration near this level has been reported as sufficient to stimulate algae blooms in quiescent waters. No noticeable algae blooms have occurred on the river, and it is felt that relatively high calcium and dissolved solid values result in phosphate being generally less available as a plant nutrient and therefore not quite as critical as in a less buffered aquatic environment. Dissolved oxygen and temperature levels always were within the allowable limits of not less than 6 mg./l. and maximum limit of 70°F. respectively at all sampling sites. These values are for cold-water species (trout and salmon) which is the most stringent classification. Percent of saturation of dissolved oxygen for all stations averaged 88.2.

The following table compares the water quality of the Pere Marquette River at its most downstream point to the Betsie, Boardman and Grand Rivers. The Betsie and Boardman are two of Michigan's highest quality streams which empty into Traverse Bay approximately 100 miles north of the Pere Marquette. The Grand River is a warm water stream that drains urban areas and farmlands and empties into Lake Michigan at Grand Haven 70 miles south of the Pere Marquette. As can be seen, the Pere Marquette compares quite favorably with the Boardman and Betsie and is of much better quality than the Grand.

The Pere Marquette's present high water quality is susceptible to change. The water quality monitoring system should be continued to give a better basis by which to detect possible changes. Correction of present problem areas and monitoring of potential problems will be necessary for protection of this delicate ecosystem. The Pere Marquette has undergone relatively rapid development in recent years. It can be anticipated that continued development, without restriction, may lead to a deterioration of water quality. Nutrient release from fertilization, farming and domestic use, compaction and soil deterioration from overuse, and contamination as a result of inadequate or misplaced sanitary systems are some of the anticipated problems. New State legislation has been introduced to give State controls regarding soil erosion and sedimentation. Control over the extent and rate of development is essential to maintaining the existing high quality of this stream and its environment.

CHEMICAL, PHYSICAL, AND BIOLOGICAL WATER ANALYSIS DATA

Item	Unit	Betsie River M 115	Boardman River US 131	Grand River 10th Ave.	Pere Marquette US 31
Time	EST				
Date		7/22/68	7/18/68	8/25-27/70	2/16/71
Discharge	cfs				
Temperature	°C				
Dissolved Oxygen	mg/l	7.8	6.3	11.1	7.8
Percent Dissolved Oxygen-Saturation	&	84	70	---	53
Biochemical Oxygen	mg/l	0.6	0.6	7.8	0.8
Coliform					
Total	/100 ml	900	1200	27008	1200
Fecal	/100 ml	40	177	3025	10
Total Solids	mg/l	181	170	485	216
Suspended Solids	mg/l	6	3	30	4
Total Dissolved Solids	mg/l	175	167	445	216
Suspended Volatile Solids	mg/l	---	---	19	---
Nitrate-nitrogen	mg/l	0.20	0.4	.30	.04
Ammonia-nitrogen	mg/l	0.0	0.1	.07	0.20
Total Phosphate as P	mg/l	0.03	0.02	.33	0.03
Soluble phosphate as P	mg/l	0.00	---	.11	0.02
Conductivity	unhos	---	---		350
Chloride	mg/l	0	0		15
pH	Log/H	8.0	7.9	8.6	7.9
Turbidity	JCU	---	---	10	---
Sulfate	mg/l	21	12	---	21

C. HYDROLOGY AND RATES OF FLOW

Due to the nature of the climate, surficial geology and topography of the watershed, discharge of the Pere Marquette System is relatively stable. The high percentage of groundwater contribution to the stream helps buffer large variations in discharge. The average monthly discharge for the period 1951-70 is shown on the following page. Data are from the U.S.G.S. gauging station at Scottville.

April is the month of highest average discharge, coinciding with the period of highest snowmelt. Discharge declines during the late spring and summer months and increases in the fall when colder weather retards the vegetation resulting in decreased evapotranspiration. Daily fluctuation in stage and discharge are slight. The charts in Appendix F indicate the high and low flow frequency rates.

Flows during the summer months are adequate for present recreational uses. Some new obstacles to boating and canoeing are exposed by extremely low water, but these are not limiting for present river use. The clearer water associated with the lower summer flows adds to the recreational experience and compensates for any loss of current and the added obstacles.

No structures for low flow augmentation are present or necessary in the watershed. Care must be taken, however, to preserve the existing flow in the tributary streams. Diversion or consumptive use here could severly damage trout spawning and nursery areas and adversely affect canoeing use in the extreme upper portion of the main stream.

D. OWNERSHIP OF THE BED - JURISDICTION OF THE RIVER SURFACE

The State of Michigan claims title to all navigable waters and controls use of their beds. The entire main stream of the Pere Marquette River is considered a navigable river in the legal sense based on its capability and past use in floating logs and watercraft. In navigable waters, the public has the right to boat on the waters and wade in the stream without hinderance from the riparian owners.

Riparian ownership rights as defined by the Michigan Supreme Court are:

1. The right to use the water for general purposes such as bathing, domestic use, etc.

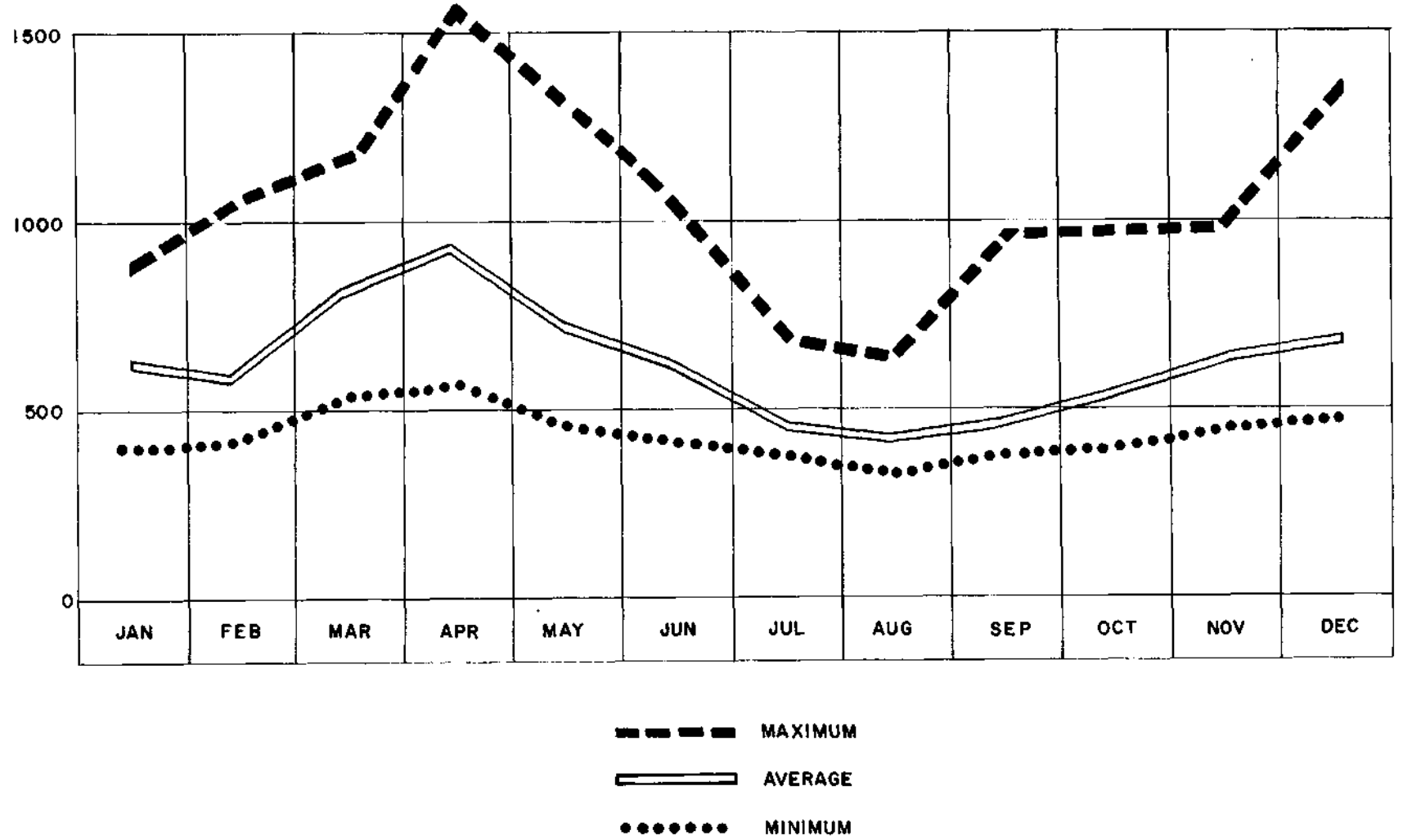
2. The right to wharf out to navigable waters.

3. The right of access to the navigable waters.

4. The right to accretions.

On navigable waters, rights of water use are shared with the public although the public may not trespass to gain access to the water. When

STREAMFLOW AT SCOTTVILLE 1951 – 1967



Michigan entered the Union, it acquired title to the submerged lands beneath all navigable waters plus an inalienable trust in the overlying waters. Later, title to the beds of inland lakes and streams was given to the riparians. However, these rights are not absolute and it was held that the State retained the public trust in the overlying waters which provide for navigation, fishery and other inherent rights of the public. The same applies to rights in submerged lands.

The Michigan Water Resources Commission is the agency charged with control of pollution, alteration of the water course, and flood plain development. Dredging stream bottoms is controlled by the Section of Submerged Lands Management. Permits issued by the State Department of Natural Resources are necessary for many actions taken by riparian owners. The overlying criteria for issuance of these permits is protection of the rights of the public and downstream owners. No activity is allowed which would damage the fisheries, is unduly consumptive of the water, or detrimental to navigation.

Development within the 50 year flood plain is also controlled by the State to prevent water pollution and other damage to the public trust. Land within the flood plain must be filled with suitable material so that septic systems are no less than four feet above the 50 year high water table to prevent water pollution.

Local governments have the power to control certain uses of navigable waters under the Marine Safety Act of 1967. This law includes such items of public safety as restricting use of boats with motors, boat speeds and other uses. Action is initiated at the local level to effect these controls which then may be adopted as State law. Enforcement is by the local sheriff, and cost is shared through use of State motor boat license fees.

New legislation extends the State's regulatory powers to all waters, navigable or not. This would provide added protection of small feeder streams from adverse use and development.

E. FISH AND BOTTOM FAUNA

The most sought after fish in the river system is the brown trout. This species was introduced in 1884 to replace the native Michigan grayling which became extinct during the logging era. By 1896, the Pere Marquette and AuSable Rivers were considered as two of the top trout streams in the country.

Brown trout are most plentiful in the reach between the Forks and Bowman Bridge. A survey conducted in August of 1970, on a quarter

mile stretch of the best portion of the river had the following results:

Brown Trout

Size (inches)	Estimated Population
4.1 - 7.0	207
7.1 - 10.0	572
10.1 +	402

A large number of fish smaller than four inches were captured, but no reliable estimate could be made of their numbers. The largest fish captured was 17.4 inches and 24 were larger than 14 inches. The legal size limit is 10 inches. The survey indicates there was one legal sized fish for every two yards of bank. This is a tremendous opportunity for fishermen success.

Steelhead (anadromous rainbow trout) are the fishermen's objective in the spring and fall. The tremendous increase in size of these runs in recent years is due mostly to the successful control of the sea lamprey in Lake Michigan. The August 1970 survey indicated a population of 233 rainbow trout in the 4.0 + inch class. Numerous smaller fish were captured but again no estimate could be made of their numbers. Immature rainbows migrate from the river before they reach their legal size so are not a factor in the summer trout fishing.

In the lower river, the spring sucker runs attract large numbers of fishermen. During the summer months, northern pike provide the major sport fishing, although brown trout, walleye, and bass are taken occasionally. The river is open to year-round fishing downstream from Indian Bridge. Winter runs of steelhead provide sport for the hearty cold weather fisherman. Thus the river has a year-long sport fishing attraction for the angler.

Salmon plantings have been discontinued in the Pere Marquette although stray coho and chinook salmon will continue to provide limited sport in the river. Plantings of Atlantic Salmon are currently being considered for the river. If established, they would make spawning runs from late spring through fall and some would overwinter in the river system.

The river contains good populations of minnows and other lesser fish, aquatic insects, crustaceans, amphibians, and reptiles. Their primary significance is providing food for fish and other wildlife.

Water temperature, bottom condition and overhead cover appear to be the critical factors for brown trout. Log jams, both natural and man-made, harbor astonishing numbers of legal sized browns in the upper river.

The combination of sand bottom and warmer water downstream from the mouth of the Big South Branch mark the limit of quality trout habitat. Gravel beds, critical for trout spawning, are plentiful in the upper river and virtually absent below the mouth of the Big South Branch. Rates of flow are so stable that they have little effect on the fisheries.

An opportunity exists to increase trout population in the upper river by increasing the availability of overhead cover. This can be done through building log jams anchored to the streambank and through using stumps for erosion control. This creates natural appearing structures which have proven very successful in the Pere Marquette system. Demonstration bank stabilization and fish cover structures were completed by the Forest Service and Michigan DNR in the early 1960's. Some of these now need maintenance to continue their effectiveness. In addition to the work done by public agencies, private clubs and individuals have also been active in providing better fish habitat and erosion control structures.

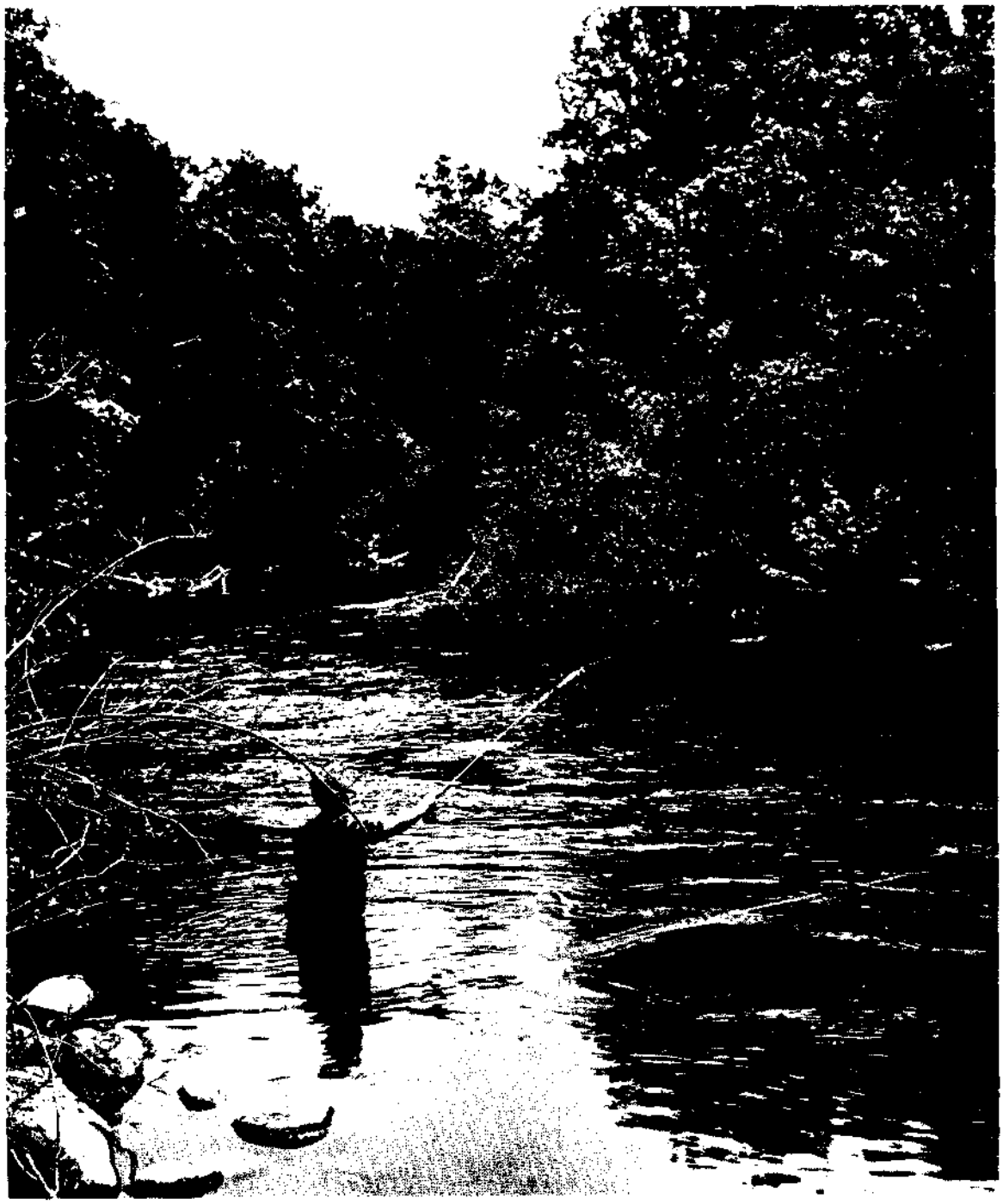
CONTROL WORK NECESSARY

Continued control of the sea lamprey (Petromyzon marinus) is necessary to maintain the steelhead fishery. The lamprey invaded the upper Great Lakes and had a severe impact on the commercial and sport fishery. Adult lamprey attach themselves to large fish and live as parasites usually causing the death of their host.

Adult lamprey migrate into rivers and streams in the spring to spawn in gravel riffles. Upon hatching, the larvae burrow into the bottom where they live for three to nine years. During this period, the young lamprey are known as ammocetes and feed nonparasitically on small bottom organisms. When they reach a length of five to seven inches the ammocetes transform into their parasitic state and begin migrating back to the Great Lakes. Adult lamprey soon grow to 18 inches in length and can destroy up to 40 pounds of fish during their life.

One method of controlling the lamprey is to kill the ammocetes in the stream. This program is under the direction of the Bureau of Sport Fisheries and Wildlife. A chemical, 3-trifluoromethyl - 4-nutrophenol, known as T.F.M. is an effective control. T.F.M. is introduced in the headwaters streams, and its concentration is buffered as it flows downstream. Concentrations are constantly monitored to insure it is toxic to the ammocetes but not to fish in the stream. After exposure to the chemical for about 2 hours, the ammocetes emerge from the bottom and die. Except in rare cases, little mortality of fish occurs. The rivers are treated on a cycle of about once every four years.

The T.F.M. method affects the stream for only a short time. The only apparent detrimental effects are a coloration of the water by a harmless



An early morning enthusiast
anxiously working his favorite site.

dye used in the process and a decrease in mayfly larvae which are also affected by T.F.M. The resultant benefits from lamprey control far outweigh any detrimental aspects.

F. ACCESS TO THE RIVER

There are publicly-owned sites along the river system which provide access for boat and canoe launching and fishing. Access can also be gained to the river at each road crossing by use of the public road right-of-way. In addition to the designated sites, there are undeveloped access points where private landowners grant permission to cross their private property.

G. OUTSTANDING FEATURES

The outstanding features of the river are the qualities that prompted its inclusion in the Wild and Scenic Rivers Act as a possible future addition to the system. In addition to the low degree of streambank development, high water quality and free-flowing condition which have been discussed earlier, the river has several unique qualities which set it apart from other rivers in the area and the Nation.

1. Recreation

The Pere Marquette River, while located within a day's drive of more than 50 million people, provides an overall undeveloped setting for many outdoor recreation activities. Management of both the natural resources and river users is necessary to maintain the high quality environment and recreation experience level found on the Pere Marquette.

a. Canoeing and Boating

Canoeing is the most popular activity in terms of number of participants. During the 1970 season, there were approximately 9,000 canoe trips on the river which provided 6,600 visitor days of canoeing use. About 85 percent of the users originate from the heavily populated areas in southern Michigan and northern Ohio, Illinois and Indiana.

Several factors characteristic of the present canoeist on the Pere Marquette must be considered in planning for future use of the river.

1) Over half of the use is by organized groups who tend to travel in parties.

2) Most use occurs on weekends, with Saturday being the most popular single day.

3) Use is concentrated on the upper portion of the main stream, with the reach from the Forks to Bowman Bridge receiving the heaviest use.

4) Few trips are for more than one day, with 4 to 6 hours the most popular trip length.

5) Most canoeists are inexperienced and many are "first-timers".

6) Use is concentrated during the period from 9:00 a.m. to 7:00 p.m.

7) Use season is from late May through October.

Demand for recreational canoeing on the river is expected to become even greater in the future. The participation rate for canoeing is expected to increase by two-thirds by the year 2000. Population of the areas from which the Pere Marquette draws the greatest use is expected to increase by 50 percent by the year 2000. These two factors alone--more people wanting to canoe more times--would cause a use increase on the order of one and one-third times the present use or a total of 21,000 trips by 2000. Changes in income level, leisure time, and improved transportation will tend to increase use even more.

Boating with motors is almost always in connection with fishing rather than for pleasure boating. Use is concentrated in the reach from Indian Bridge to the mouth of the main stream becoming heaviest during the spring and fall steelhead and salmon runs. During the summer months, pike fishing from boats is common in this reach. The swampy nature of the shoreline precludes vehicular or foot access, making boat fishing the only practical means of fishing the area.

The remainder of the river system is not well suited for the use of motors being generally too shallow, narrow and rocky.

b. Fishing

The Pere Marquette was noted as a top quality fishing stream long before it acquired its reputation for canoeing. Today the high populations of resident brown trout and spawning runs of steelhead and salmon make it one of the top trout streams in the Nation. The State of Michigan has recognized the unique fishery qualities of the river by adopting special fishing regulations.

The lower reaches from Indian Bridge (river mile 21.5) to the mouth is open to year-round fishing. This better utilizes the

early spring and late fall salmon and steelhead runs as well as the resident pike, suckers, and other warm water species. The reach downstream from Bowman's Bridge (river mile 53.8) is open earlier in the spring than the general trout season. This permits the angler to follow the steelhead migration upstream. The river reach from the M-37 Bridge (river mile 65.6) to Gleasons Landing (river mile 58.9) is covered by an "artificial flies only" regulation and a year-long season. The Big South Branch is also open to early spring and late fall fishing. The river thus provides a year-long attraction for anglers of varying tastes and fishing desires.

The Michigan Outdoor Recreation Demand Study, completed in 1966, concluded that there was a probable decrease in fishing use and demand. This was based partly on fishing license sales which declined from 1950-63. This decline was at least partly attributed to a general competition for the fishermen's interest by other outdoor recreational activities and conflicts between fishermen and other water users. The tremendous interest created by the introduction of salmon and the increased steelhead runs has at least temporarily reversed this trend. Trout Stamp Sales have increased by 50 percent since 1966. Interest in protecting and maintaining trout stream fishery resources is increasing.

The Pere Marquette is one of the few remaining, naturally productive, high quality trout streams left for the purist trout fishermen. Future management should be directed toward maintaining it for a truly high quality fishing experience.

c. Camping

There are presently only two fully developed camping facilities on the river system; Scottville City Park on the main stream at river mile 12.7 and Bray Creek State Forest Campground on the Baldwin River at river mile 8.0. However, unregulated camping takes place on nearly every public tract with road access.

Canoe-borne camping where all gear is carried in the canoe is not common. Access sites are so located that it is very easy to establish a base camp and return to it each night rather than camp out on the river. There are developed camping facilities for over 5,000 people at one time located within an hour's drive of the river.

It is not necessary or desirable to establish float campsites on the river. However, facilities should be provided near, but well screened from the river for those who wish to canoe camp.

d. Picnicking

There are no developed picnic sites although river access sites do receive some picnic use. Due to the length of the usual canoe trip, most canoeists stop for lunch along the river. There is a need to develop water-access-only picnic and rest stops at about the midpoint of the major canoe routes.

e. Hunting

Duck hunting is the only river-oriented hunting use. This is done either by floating and jump shooting or from blinds in the marsh areas or on the banks. Deer, turkey, and upland bird hunting is popular in the river area.

f. Other Uses

The river is generally too cold and shallow for swimming. There are no hiking or horseback riding trails along the streambank or in the immediate river area. Lake County is advertised as the "Snowmobile Capital of the World". There are numerous snowmobile trails in the area, but none closely parallel or cross the river. Motorcycling and trail bike riding are also popular. One trail crosses the main stream at Bowman's Bridge.

2. Archaeological Sites

There is archaeological evidence that man has permanently occupied the banks of the Pere Marquette since prior to 10,000 B.C. Following the northward retreat of the last glacier, prehistoric Indians first settled along the Pere Marquette. Artifacts that have been carbon dated and other remains indicate some village sites were continuously occupied by successive Indian cultures from the post-glacial period up through the time of contact with Europeans in the 15th Century A.D.

Six distinct Indian cultures developed along the river.

Palio Indian	10,000 B.C. - 7,000 B.C.
Early Archaic	7,000 B.C. - 3,000 B.C.
Late Archaic	3,000 B.C. - 1,000 B.C.
Early Woodland	1,000 B.C. - 300 B.C.
Middle Woodland	300 A.D. - 800 A.D.
Late Woodland	800 A.D. - 1,600 A.D.

These were supplemented about 500 A.D. by the Havana Culture which migrated up from Ohio and Illinois.

Through scientific excavation of these sites, it is possible to trace development of these ancient cultures through study of their tools, weapons and life styles. Here is the entire history of the Indian in the Great Lakes region from his coming after the glaciers to his demise by the treachery and diseases of the white man.

Many bloody battles were fought for control of the river in ancient times. Fierce tribal warfare was part of the later Indian's life style. After one such battle, the heads of the defeated warriors were placed on stakes at the mouth of the river as a warning to other tribes not to trespass. This gave rise to the old name for the river, "Not-a-pe-ka-gon", which meant "Head-on-Sticks". The village near the present site of Ludington was called "Nidebekatunning" or "Place of the Skulls".

These sites, some of which have not yet been scientifically studied, are significant in that they were continuously occupied and they have not yet been destroyed by later man's activities.

3. History

One of the first white men associated with the Pere Marquette River was probably the most famous--the Jesuit Priest, Father Jacques Marquette. Following his famous exploration of the Mississippi River with Joliet, Father Marquette was returning to his mission at St. Ignace, Michigan, when the party was forced to overwinter at what is now Chicago. There Marquette sickened. Wanting to reach the mission before he died, Marquette and his party set out by canoe from Chicago in the Spring of 1675 to follow the shoreline of Lake Michigan northward to St. Ignace. His condition worsened on the trip and not wanting to die on the Lake, Marquette requested they put ashore. A crude shelter was built for him on a sand spit at the mouth of the river now bearing his name. There he died on May 18, 1675 and was buried at the site. Two years later, members of his party exhumed the body and returned it for burial at St. Ignace, thus fulfilling Marquette's last wish. They erected a wooden cross to mark his original resting place. The site was known to the Indians as "the place of the Black Robe", their name for the Jesuits.

Since that time, the original wooden cross has been replaced several times. Today a plaque and cross-topped stone monument mark the site which has been designated as a State Historical Park.

It was not until the white pine logging boom that numbers of white settlers were attracted to the area. In 1847, only a few farmers and traders had settled in the watershed. The first mill at Ludington was built in 1859. It was small and served primarily local needs. In 1869 however, a general movement in the manufacture of pine lumber began. In 1870, it was estimated that the watershed contained over 3 billion board feet of virgin pine sawtimber. Hardwoods and other species were then of little consequence. Soon huge volumes of pine logs were floating down the river to feed the hungry saws at Ludington. Starting with a capacity of only 3 to 4 million board feet per year; by 1880 the eight Ludington mills were producing a combined total of 10 million board feet and with later improvements, 15 million feet per year.

The Pere Marquette Lumber and Boom Company was formed to drive the logs down the river to Ludington. This company supplied the mills with 200 million board feet per year. Logs from the various camps were stamped with the owner's brand and stacked on the riverbanks. When spring high water came the logs were tumbled into the current and driven down the river to Pere Marquette Lake. There in huge sorting enclosures, the logs were sorted as to ownership and towed by tug boats to the mills.

The seemingly inexhaustible supply of pine eventually was gone. From 1870 to 1896, 3-1/4 billion board feet of pine were driven down the river, cut into logs and shingled and shipped to markets throughout the Midwest. A large share of it was used to reconstruct Chicago after the disastrous fire. This volume of timber would, under present day standards, provide enough lumber to build 312,000 three bedroom houses--enough to house a new city with the population of Detroit.

With the pine gone, the lumber barons set their sights on the virgin forests farther west. Not all of the lumberjacks went west with them. Many of the Swedes, French, Poles, Danes, Dutch, Irish and English that had cleared the land now stayed to settle and farm it.

Some logging of the hardwoods, hemlock and other species spurned by the pine loggers continued into the 1900's. It never approached the frenzy or volume of earlier pine days. The Pere Marquette Railroad was built to carry those logs too heavy to float on the river to the Ludington mills. Hemlock bark was peeled to produce tannin for the leather industry. Loggers were now farmers during the summer months, and the days of the brawling, brawny, fast-spending lumberjack were gone.

The lumberjacks and timber barons had left their mark on the land. The names of many creeks, hills, lakes, roads, and bridges can be traced to people or happenings of the logging days. They also left their imprint on the land which was now desolate and bare of trees. The Michigan grayling was disappearing from the river. Eroded riverbanks marked the location of log rollways. Fires burned unchecked in the logging slash. Some of their legacy is still visible today if one knows how and where to look. Occasionally, one of the old logs buried nearly a century in the streambed will rise up to snag a fisherman's fly or dump the unwary canoeist. Rollways still have not healed and remain as raw eroded banks.

4. Interpretative Program Opportunities

There are no existing interpretive programs on the river other than the roadside historic markers and plaques at the Pere Marquette Monument. An excellent potential exists for an outstanding interpretive complex.

There is a complex of ancient village sites which date from 10,000 B.C. to the time of the European contact. Only one of these sites has been scientifically excavated and an interest has been expressed by Michigan State University to work these areas. After excavation, a self-guided interpretative trail could be constructed to connect the sites and tell the story of the lifestyles of these ancient cultures. The program would be especially significant since the entire evolution of the Great Lakes Indian culture could be traced over 12,000 years of development on a relatively small area. A loop hiking trail of approximately 3 miles could cover the Indian village complex.

A loop interpretative trail at Nelan's Marsh could tell the story of the glacial geology of the area coupled with the ecology of the marsh. There are several points along the bluffs surrounding the marsh with a commanding view of the valley which could add much to the enjoyment of the visitor.

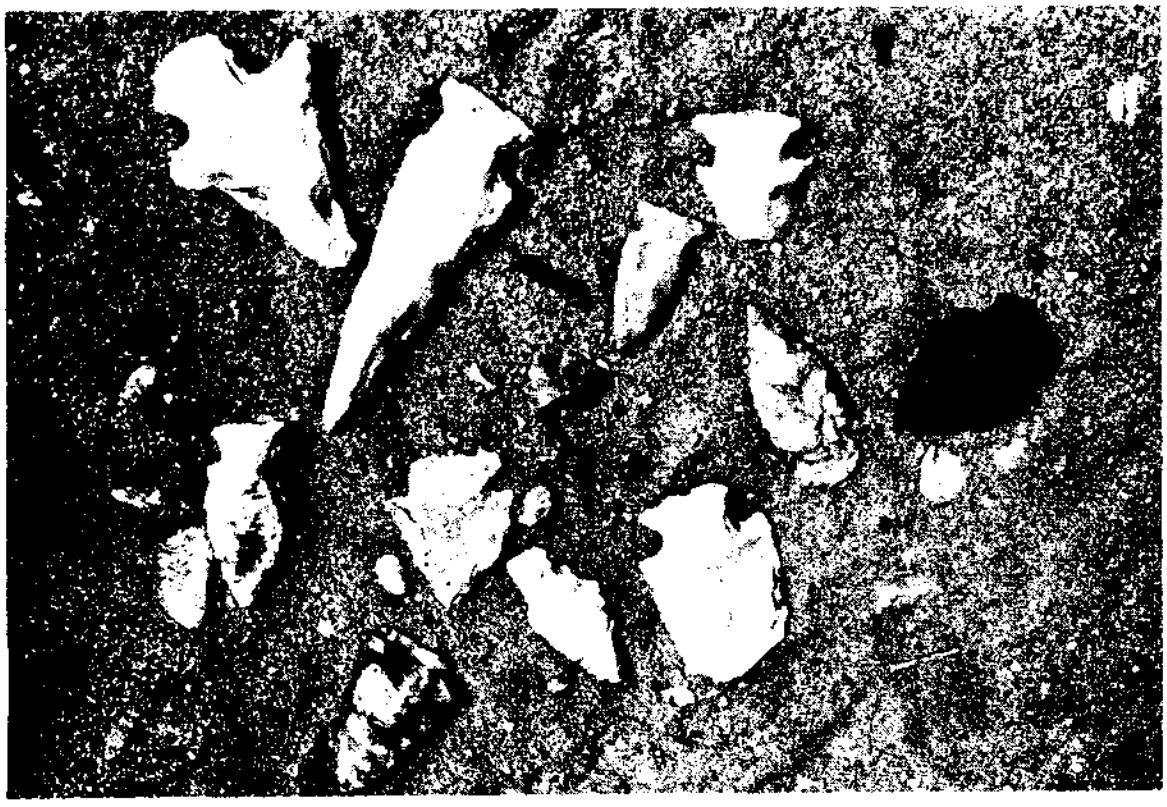
The most famous Indian "war" of the area centered around the village of Custer. The battle raged for several days up and down the river, but Custer was the scene of some of the fiercest fighting. A large burial mound here attests to the savagery of the battle. An estimated 3,000 warriors and noncombatants were killed in the fighting. This attests to the significance the river had to the early Indian's lifestyle.

The history of the logging era is prevalent to the entire length of the river system. The more important camp locations, rollways and sled trails could be made into an interpretative trail, or developed in connection with one of the other trails.

A major advantage of the programs outlined is that all are concentrated in the lower reaches of the river. Focusing attention toward the lower river would help relieve the pressure on the upstream areas where use is now concentrated.

A detailed map and informational brochure is needed for visitors to more fully appreciate and enjoy their experience. These should be provided at all canoe liveries and access sites.

A manned visitor information center at Baldwin would be an asset both to the local economy and the river program. This center could be eventually expanded to include a museum of locally gathered artifacts from the prehistory and logging days. There is also an opportunity for private development of this type of informational facility.



Evidence of man's early inhabitants

5. Unusually Scenic Areas or Features

There are no areas of spectacular waterfalls, vistas or other attractions of particular significance along the river. The attraction is provided by the river itself with its clear water and ever changing scenery. Each of the many bends in the river opens a new page to the canoeists; each rock, log, pool and eddy a new challenge to the fishermen.

The areas exhibiting significant differences in the river environment are Nelan's Marsh between Wahalla and Indian Bridges and the marsh at U.S. 31. In Nelan's Marsh the river splits into many channels flowing through a broad valley bounded by steep sand bluffs. Cattails cover the valley bottom with islands of willows scattered about. Broad deep bayous extend into and along the walls of the valleys opening new avenues for the canoeist to explore. In the still waters of the bayous, water lilies and other acquatic plants abound and flower. Ducks, herons, beaver, muskrats, and other aquatic birds and animals can be observed here.

The marsh at U.S. 31 is a living example of how man and nature can live together when each respects the others needs. Water oriented birds and mammals live and breed within sight and sound of heavy industry and automotive traffic. On three sides this marsh presents views of the forest and river; on the fourth rises the evidence of man, smoke stacks, steel and concrete. This area of dramatic contrast makes a fitting terminus to the **scenic river area.**

II. QUALIFICATIONS FOR INCLUSION UNDER P.L. 90-542

The present and future values and uses of the Pere Marquette River System were analyzed to determine the best use of the river and adjoining lands. These values were judged against the criteria in "Guidelines for Evaluating Wild, Scenic and Recreational Rivers proposed for Inclusion in the National Wild and Scenic Rivers System under Section 2, Public Law 90-542". A primary consideration in the analysis was the degree of "national significance" inherent in the river. Results of this analysis are summarized below:

1. Length - The entire river system includes over 150 river miles from Lake Michigan to the sources of the four major tributaries.

Main Stream Pere Marquette	- 69.4 miles
Big South Branch	- 41.8 miles
Baldwin River	- 12.0 miles
Middle Branch	- 17.0 miles
Little South Branch	- 13.0 miles

2. Free-Flowing - There are two impoundments on the study reach which are low diversion dams on the Baldwin River used in connection with the State Fish Hatchery. The Big South Branch

contains numerous log jams and is generally sluggish in flow. The Middle Branch has a pool and riffle condition throughout its entire length. The shoreline of Pere Marquette Lake is nearly all artificial due to dikes, retaining walls, and docks.

Riprapping of small areas with stone, stumps, logs and other materials is common along the river for erosion control. With the exception of one low, 200-foot, board retaining wall on the main stream and a similar small wall on the Big South Branch, these structures do not significantly detract from the natural appearance of the river.

3. Sufficient Water for Recreation Use - The entire system has sufficient year-round flow for some forms of recreation use.

Fishing

Entire river system

Canoeing

Main Pere Marquette	- 69.4 miles (entire river)
Big South Branch	- 15 of 41.5 miles usable (very little use due to log jams and sluggish waters)
Little South Branch	- 1 of 13 miles usable (at low water even this stretch is difficult)
Middle Branch	- 2 of 17 miles usable
Baldwin River	- 4 of 12 miles usable

Boating with small motors

Main Pere Marquette	- 21 miles

4. Water Quality

a. Fish, Acquatic Life, Wildlife - Entire system exceeds the standards established in FWPCA's Water Quality Criteria, 4-1-68. The main stream has nationwide recognition as an outstanding trout stream. The Big South Branch has a very low trout population due to higher water temperatures and large amounts of organic material in the water.

b. Primary Contact Recreation - The system is well within established water quality standards for "scenic" rivers with the exception of two localized areas on the main stream.

Action has been taken to correct the cause of these problem areas. The Big South Branch is not aesthetically pleasing as the waters are discolored and sluggish due to larger amounts

of dissolved organic materials. This is because the drainage area originates in low swampy terrain and has extensive agricultural drainage.

5. Degree of Development - With the exception of Pere Marquette Lake, the entire system meets or exceeds minimum standards for Scenic River Classification as established by the Secretaries of Agriculture and Interior. Development is heaviest on the upper portion of the main stream; entire Baldwin River, Middle and Little South Branches; and midportion of Big South Branch.

River	Length in Miles	Number of Structures	Number of Bridges	% of Private Ownership
Middle Branch	17	39	8	91
Little South Branch	13	73	7	96
Baldwin (flows through town)	12	54	6	85
Big South Branch	41	113	10	69
Main Pere Marquette	66.4	108	9	73

6. Outstandingly Remarkable Environment - The undeveloped areas retain the natural setting and scenic beauty found in few midwestern rivers. This is especially apparent on the main stream of the Pere Marquette.

7. Other Outstanding Factors - The lower portion of the Pere Marquette is rich in archaeological evidence. (See page 60, Archaeological Sites.)

8. National Significance - The main stream of the Pere Marquette from the junction of the Middle and Little South Branches to the U.S. 31 Highway Bridges has the best combination of desirable attributes warranting national recognition. The rest of the system is similar in most respects to other streams in the area--relatively small in size and highly developed.

9. Other Uses - The Pere Marquette has no great future value for generation of hydroelectric power. There are no planned or inventoried Federal Power Commission license areas on the river. Consumers Power Company and Detroit Edison Company, the major producers of electricity in the area, have begun construction of a 1,872,000 kV pumped storage facility a few miles south of the mouth of the river. The plant, completed in 1973, uses water pumped from Lake Michigan. In addition, several nuclear power plants are in operation or under construction along Lake Michigan.

There are no plans for any Federal flood control or other type impoundments or structures which would affect the free-flowing nature of the river.

CONCLUSION

BASED ON THIS ANALYSIS, THE 66.4 MILES OF THE MAIN STREAM FROM THE CONFLUENCE OF THE MIDDLE AND LITTLE SOUTH BRANCHES TO THE U.S. 31 HIGHWAY BRIDGES CLEARLY MEET THE REQUIREMENTS OF P.L. 90-542 FOR INCLUSION IN THE NATIONAL WILD AND SCENIC RIVERS SYSTEM.

VI. ANALYSIS OF ALTERNATIVES

There are various alternative management possibilities open for the Pere Marquette and its adjoining lands. As stated previously, the river has little potential for hydroelectric power generation and is not subject to flooding that should be controlled by impoundments. With the exception of localized minor modifications, it can be assumed the river will remain in essentially a free-flowing condition under any management alternative.

The relative merits and consequences of each river management alternative must be weighed in light of desired management objectives. Maximum protection of the river resource and cultural values must be given priority over the consequences of these actions. At the same time, ways to mitigate these consequences without weakening the degree of protection must also be considered.

A. NO DESIGNATION AS WILD AND SCENIC RIVER - STATUS QUO

The main stream west of Custer Bridge, river mile 17.8, is within the boundary of the Manistee National Forest and would be managed as part of the National Forest System. Responsibility for management of the river itself and water quality would be under the State of Michigan. The Forest Service may be able to exert some influence on local governments in zoning the river area, but this would be in an advisory capacity only. No special authority or control could be exerted on actions of other Federal Agencies or expenditure of Federal monies on projects affecting the river. It could be assumed that some degree of coordination between agencies that was established during the study period would continue at least for a time. No special Federal management and development funds could be expected for administration of the river.

The segment downstream from Custer Bridge, outside the National Forest boundary, would be completely under local governmental administration. Responsibility for the remainder of the river would be split between two counties, six townships, the State of Michigan and the Federal Government with no designated coordinating organization or agency.

Benefits

1. Increased private development of the streambank would increase local tax base.

2. Private residential development would stimulate the local economy to some degree during the period of development.

3. Private property taxes could decline assuming there would be no increase in services.

4. Speculation in real estate development would increase profits for certain landowners.

5. Little publicity would be given to attract new public recreation users.

6. Public land acquisition would not be limited.

Consequences

1. Increased streambank development would reduce scenic values of the river that would eventually preclude its inclusion in the National Wild and Scenic Rivers System.

2. Increased development would require expanded sewage treatment facilities to prevent pollution of the river from septic tanks.

3. Quality of the recreation experience for river users would decline.

4. Special interest areas such as archaeological sites and waterfowl habitat would be destroyed by private development.

5. Management by the several agencies now involved would result in higher total management costs to the public through duplication of effort and reduced efficiency.

6. There would be no specified coordination and control of overall management direction.

B. STATE FOREST OR PARK DESIGNATION

The State of Michigan has the legal authority to establish the river zone as a State Forest or State Park. The entire river zone would then be under a public agency's purchase authority. This action would also create a State management enclave within the Manistee National Forest from Custer upstream to the Forks.

Benefits

1. State purchase authority would extend over the entire river area.

2. The State could have overall management responsibility and authority.

3. The State has an administrative headquarters in Baldwin which could manage the area.

4. Federal and State land acquisition authorities would overlap on much of the area.

Consequences

1. State management would be aimed at serving primarily State generated use.

2. Management funds and activities would be subject to local political pressures and State program priorities.

3. An existing National Forest management unit would be split by State management enclave.

4. Duplication of State/Federal management activities would result in higher total administrative costs to the public.

C. QUASI-PUBLIC MANAGEMENT

Under State of Michigan law, watershed councils can be formed by interested citizens and governmental agencies. These watershed councils serve as advisory and educational bodies. They have been effective in making people aware of watershed problems and supporting and formulating legislation to protect rivers. A watershed council has been formed as a nonprofit corporation which deals with problems on the Pere Marquette. There is also a river front property owners' association covering the Lake County portion of the river, and a canoe livery owners' association has also been formed.

Benefits

1. Recommendations of citizen's groups would have better "peer group" support.

2. Recommendations would come from a democratic process through the membership.

3. Recommendations would be made to local units of government for needed actions.

Consequences

1. Quasi-Public organizations have no enforcement authority, can only recommend.

2. Organization could easily become single-interest oriented.

3. Management objectives and direction could easily be changed through changes in the membership.

4. Decisions could be made on personal feelings rather than scientific resource knowledge.

5. Continued existence of a quasi-public management organization is not assured.

D. MANAGEMENT AS A SPECIAL NATIONAL FOREST UNIT

The Forest Service, under existing authority, could designate the Pere Marquette River as a special management area under one of several Executive or Secretarial Orders. Special management and protection could then be afforded the river and its adjoining lands.

Benefits

1. Existing National Forest authorities would be used to protect most river values through acquisition.

2. No new administrative headquarters would be necessary.

3. Management costs would be shared by the people of the Nation.

4. Some degree of national priority would be afforded.

5. State and local Governments could assist and cooperate in management of the area.

6. Land acquisition under existing laws would not be limited in acreage.

Consequences

1. Only a small portion of the area included in the necessary National Forest Purchase Unit would qualify for National Forest purposes under the Weeks Act.

2. Purchase authority under the Land and Water Conservation Fund Act would be severly limited in the Purchase Unit because it would lose its national recognition. As a result of this, special funding would not be available.

3. No authority would exist for coordination of activities of other Federal Agencies on non-National Forest lands.

E. STATE NATURAL RIVER MANAGEMENT

The State of Michigan passed a companion bill to the Federal Wild and Scenic Rivers Act in 1970. The State Act calls for establishment of zoning by either local or State Government to protect the values of outstanding State rivers. Few rivers have yet been named for inclusion in the State Natural Rivers System. Development of a State Rivers System would provide alternative rivers for recreation users. The concept of the State program is the same as the Federal; namely, to preserve outstanding rivers in their natural state and provide for public recreation use.

Benefits

1. Zoning, although untested, would be an effective management tool in preserving certain river values.

2. The Pere Marquette could become part of the National System at a later date.

3. Land would not be subject to condemnation which could give the State Act better property owner acceptance.

Consequences

1. Local property tax base would be reduced by restrictive zoning.

2. Zoning may not correct existing improper land management practices and existing incompatible development.

3. Administrative and management costs would be only partially shared by the people of the Nation to protect an area of national significance.

4. The program has not yet been tested to prove its effectiveness.

F. DESIGNATION UNDER THE FEDERAL WILD AND SCENIC RIVERS ACT

The Pere Marquette River from the Forks to U.S. 31 clearly meets the requirements for inclusion in the National Wild and Scenic Rivers System. Because the Wild and Scenic Rivers Act was enacted specifically to protect the unique values of free-flowing rivers, it provides a greater degree of protection than the other management alternatives.

Benefits

1. Greatest protection would be afforded the river's unique resource values.

2. Costs would be shared by the people of the Nation for protection of an area of national significance.

3. Protection and enhancement of river values would be insured through the Congress of the United States.

4. The U.S. Forest Service has an administrative headquarters conveniently located to handle administration of the river.

5. Three-quarters of the river is inside the present Manistee National Forest.

6. Increased recreation demand would stimulate local private enterprise to provide recreational goods and services.

7. Land acquisition funds under the Land and Water Conservation Fund Act would receive greater priority.

Consequences

1. Acquisition of land and scenic easements to provide recreation facilities and protect river values would reduce the local tax base.

2. National status for the river would increase recreation demand on the resources.

3. Land speculation for private riverfront development would be reduced.

4. Certain recreational uses of the river would be curtailed or eliminated.

5. Federal and federally assisted programs which are not in keeping with river management objectives would need to be modified or deleted.

DISCUSSION

A primary concern of local governments is the loss of present and potential tax base inherent in all proposals to regulate and restrict private land use and development. In the short run, maximum development of riverfront lands for residences and commercial use would provide the greatest return from property taxes. In the long run, these immediate returns would be at least partially offset by the future need for expanded services by local governments. Maintenance and construction of roads, sewage treatment facilities, schools, law enforcement, etc., would all tend to decrease direct property tax gains. Increased streambank development will also reduce the attraction to recreationists and river oriented revenue could well decline.

National Forest fee owned land returns revenue to the county in lieu of property taxes. Payments are based on 25 percent of total forest receipts. In most cases, this is substantially less than comparable private land tax on a per acre basis. Forest Service also provides needed fire protection, road maintenance, resource management, and outdoor recreation opportunities.

State lands also return money to local governments on a per acre basis. State payments are higher per acre than those from the National Forest. Public land ownership has value to local governments in other, but less tangible ways. Presence of public lands for all forms of outdoor recreation attract tourists who contribute substantially to local economies. The State and National Forest lands do not create the same degree of demand for services generated by developed private land.

Zoned land and land covered by scenic easements do not return payments in lieu of taxes to local Governments. Their value is in protecting and perpetuating the scenic attraction.

Public acceptance and support of a program is important, but must be viewed in light of the motives of different segments of the "public". Landowner opposition for self interest reasons is different from opposition of a more objective party not directly affected by the program.

Effectiveness and efficiency of management is important in spending of public funds. A single agency management system is more economical and efficient than multiple agency management even if all have the same objectives. Single agency management provides for better priority setting, avoidance of duplicated efforts, and program coordination.

The ability to correct past improper land use is critical if resource values are to be enhanced as well as protected in their present state. In some cases, this can only be done through public acquisition from an unwilling seller and removal of the nonconforming use or practice.

The level of government participation in a program should be dependent on the program objectives and degree of resource value significance. The cost of administering a river of national significance should logically be shared equally by the people of the Nation.

VII. RECOMMENDATIONS

A. QUALIFYING REACH OF RIVER

The 66.4 river miles of the main stream from its beginning at the junction of the Middle and Little South Branches downstream to the U.S. 31 Highway Bridges should be included in the National Wild and Scenic Rivers System.

Within this reach are found the outstanding combination of scenic, recreational, geologic, fish and wildlife, historic, cultural and other similar values of a free-flowing river which is the intent of Congress to preserve for present and future generations. The analysis of these criteria is found in Section V-H of this report.

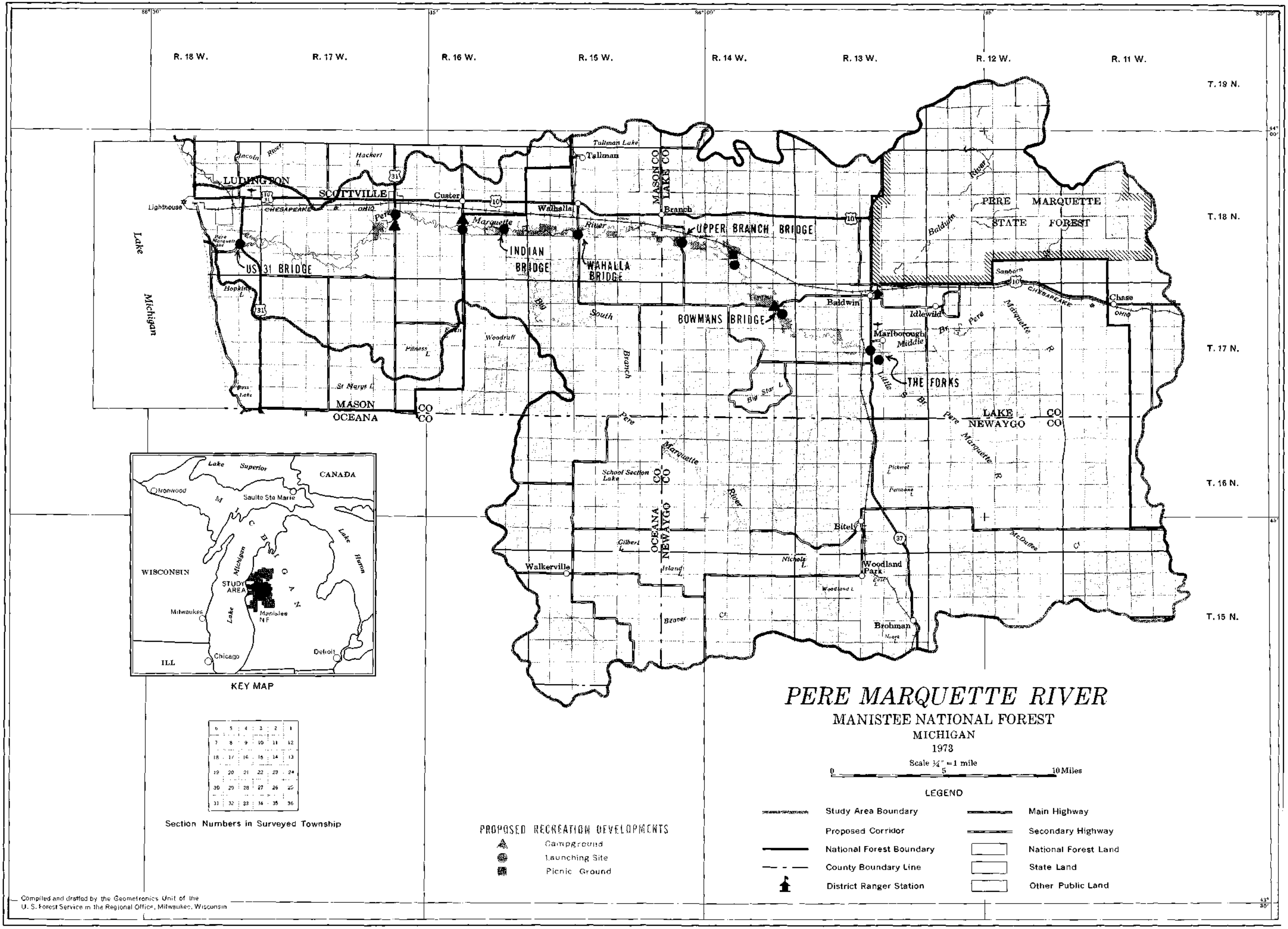
B. CLASSIFICATION

The entire 66.4 miles of river should be classified as a "Scenic River."

The entire main stream fits the classification criteria for "Scenic River" as defined in Section 2(b)(2) of P.L. 90-542. A description of the main stream and its degree of development is found in section V-A, paragraphs 5b through 5f.

C. BOUNDARY OF RIVER MANAGEMENT ZONE

Because of topography, the meandering nature of the river, present land use, and vegetative cover, a river zone boundary to include not more than 13,000 acres is recommended for protection and management of this unique resource.


PERE MARQUETTE RIVER
MANISTEE NATIONAL FOREST
MICHIGAN
1973
Scale ¼" = 1 mile
0
5
10 Miles
LEGEND
Study Area Boundary
Proposed Corridor
National Forest Boundary
County Boundary Line
District Ranger Station
Main Highway
Secondary Highway
National Forest Land
State Land
Other Public Land
PROPOSED RECREATION DEVELOPMENTS
Campground
Launching Site
Picnic Ground
KEY MAP
Section Numbers in Surveyed Township
Compiled and drafted by the Geometronics Unit of the
U. S. Forest Service in the Regional Office, Milwaukee, Wisconsin
R. 18 W.
R. 17 W.
R. 16 W.
R. 15 W.
R. 14 W.
R. 13 W.
R. 12 W.
R. 11 W.
T. 19 N.
T. 18 N.
T. 17 N.
T. 16 N.
T. 15 N.
Lake Michigan
LUDINGTON
SCOTTVILLE
Custer
Walhalla
Branch
Baldwin
Idlewild
Marlborough
Chase
Sanborn
Bitely
Woodland Park
Brohman
Walkerville
Tallman
Tallman Lake
Lighthouse
US 31 BRIDGE
INDIAN BRIDGE
WAHALLA BRIDGE
UPPER BRANCH BRIDGE
BOWMANS BRIDGE
THE FORKS
PERE MARQUETTE STATE FOREST
MASON CO
LAKE CO
MASON
OCEANA
CO
CO
LAKE
NEWAYGO
OCEANA
NEWAYGO
CHESAPEAKE & OHIO
Big South Branch
Pere Marquette River
Middle Br. Pere Marquette R.
Little S. Br. Pere Marquette R.
Baldwin River
Lincoln River
School Section Lake
Big Star L.
St Marys L.
Pliness L.
Woodruff L.
Hackert L.
Hopkins L.
Bass Lake
Gilbert L.
Island L.
Nichols L.
Woodland L.
Pickerel L.
McDuffee Cr.
Beaver Cr.
Lake Superior
CANADA
Ironwood
Saulte Ste Marie
MICHIGAN
Lake Huron
WISCONSIN
STUDY AREA
Manistee NF
Milwaukee
Chicago
Detroit
ILL

VIII. MANAGEMENT UNDER P.L. 90-542

Inclusion of the recommended portion of the Pere Marquette in the National Wild and Scenic Rivers System will require that immediate action be taken to insure protection of the river and its unique resource qualities. Of primary importance is the prevention and/or correction of land uses that are not compatible with the objectives of the wild and scenic rivers program.

A. LAND ACQUISITION

The area encompassed by the proposed boundary is 13,000 acres; total public ownership comprises 27 percent, or 3,510 acres. The remainder is in private ownership.

Priority of fee title and partial interest acquisition within the river management zone would be as follows:

1. To acquire the necessary land and interests in land to permit development of necessary public use facilities and access, prevent or correct incompatible land and resource use and preserve areas of special significance.

2. To acquire those lands or interests therein to insure protection of the unique qualities of the river area and provide for effective and efficient resource management.

The ultimate objective of the acquisition program would be to have the entire river management zone protected from degradation through fee public ownership, scenic easements, and local zoning.

Local governments have been reluctant to enact and enforce zoning codes that would meet the objectives of the program. Unless this situation changes, it must be assumed that public acquisition in fee or of scenic easements will be necessary within the river management zone boundary.

B. MANAGEMENT POLICY

The guiding principles for management of the Pere Marquette River and its adjoining lands come from Section 1(b) of the National Wild and Scenic Rivers Act: "certain selected rivers of the nation which with their immediate environments possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values shall be preserved in their free-flowing condition and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations."

The following guidelines will provide the basic framework around which the specific management practices will be developed.

1. Administration

   a. Overall responsibility for management of the river management zone will be under the Forest Supervisor, Huron-Manistee National Forests in close cooperation with other governmental agencies.

   b. The State of Michigan will retain its responsibilities for enforcement of State laws and regulations.

2. Boating

   a. Controls will be instituted on the numbers, timing and/or location of boating use to prevent damage to the resources and preserve the quality of the users recreation experience.

   b. Use of motorized vessels will be prohibited upstream from Indian Bridge.

   c. Water access rest stops will be provided near the midpoint of the major canoe routes.

   d. A limited number of boat launching sites with road access will be selected from existing launching sites to disperse use over the entire river.

   e. Parking lots and related facilities will be located so they are well screened from the river.

   f. Capacity of sites will be consistent with protection of the river resources and a high quality recreation experience.

3. Fishing and Hunting

   a. Special emphasis will be given to maintaining and improving high quality fish and wildlife habitat.

   b. Fishing and hunting will continue under State laws and regulations.

   c. Rare or endangered species will be protected according to approved management plans. Special programs will be instituted where necessary.

4. Camping

   a. Auto access camping facilities will be located outside the area seen from the river. An exception to this will be the Scottville City Park.

b. Facilities for float camping will be provided to a limited degree.

c. Camping will be permitted only at designated camping areas.

5. Public Access

a. No new vehicular access sites will be provided.

b. Some existing vehicular access sites will be modified to permit foot access only.

c. Foot trail access for fishermen will be provided where needed and will be consistent with fisheries management and other programs.

d. Commercial access sites will be prohibited.

6. Motor Vehicles and Horses

a. Because of their potential to damage the resource, motor vehicles and horses will be prohibited in the river management zone except:

1. On developed public roads and on road portions of developed facilities;

2. For owner and user access to private land;

3. In conjunction with resource management and protection activities, agriculture, and emergency use.

b. Cross county travel by off-road vehicles (ORV's) and horses will be prohibited within the river management zone and on or in the river except on public roads or designated trails.

7. Vegetation

a. Objectives of vegetative management programs will be to protect and enhance the river's unique values through production of healthy vigorous stands of species native to the area.

b. Where feasible, a screen of native vegetation will be maintained within 100 feet of the riverbank. Efforts

will be made to encourage residents to screen existing structures. Existing agricultural land will be an exception to this policy.

c. Use of pesticides or other chemicals will be prohibited within the seen area except in conjunction with agricultural practices or when authorized by the Forest Service.

d. Timber cutting will be permitted to allow removal of dead and diseased trees, remove safety hazards and to correct needed resource management activities.

8. Structures

a. No new structures will be permitted within the seen area other than those associated with existing structures. Additions that are permitted will be controlled to preserve the natural appearance of the area and preserve and enhance existing natural resource quality.

b. New construction of residences and other buildings will be permitted outside the seen area only.

c. Every attempt will be made to encourage owners, on a voluntary basis, to screen existing structures through use of natural vegetation and colors which blend with their surroundings during the summer months.

d. Natural materials such as logs, stones, stumps, etc., will be used where possible in streambank stabilization, fisheries habitat, public access sites and other construction. Use of other materials will be made only when the need to protect the resources dictates the need for such measures.

e. Advertising signs will not be permitted within the area seen from the river.

f. New gas, utility and powerlines of less than 35 kV, will be placed underground.

g. Only those signs necessary for (1) direction, (2) interpretation of special interest areas, (3) safety and (4) regulation of use will be utilized where needed.

h. No new bridges will be permitted except for the proposed U.S. 31 relocation.

9. Water

a. Water quality monitoring will be continued in cooperation with the State of Michigan.

b. State of Michigan standards for Total Body Contact Recreation and Cold Water Fisheries will be maintained.

c. The State of Michigan will maintain jurisdiction over enforcement of water quality standards, water use and submerged lands regulations.

d. Proposals for water and related land use and development projects which would have an adverse effect on the river's unique qualities may not be authorized or assisted by any State or Federal Agency.

10. Minerals

No new facilities for production of oil, gas, salt brine, sand and gravel or other minerals, except groundwater will be permitted within the river management zone. Generally, extraction of oil and gas would be permitted by directional drilling from outside the zone.

11. Visitor Information and Interpretative Programs

a. Special emphasis will be given to scientific study and interpretation of geological, archaeological historical and ecological areas of special significance.

b. Maps and brochures containing information and use regulations will be provided.

c. Interpretative programs will be instituted for areas of special significance.

12. Zoning by Local Governments

Local governments will be encouraged to enact and administer zoning regulations which will protect scenic and other resource values of the river zone.

13. Fire Protection

Designation as a national scenic river will attract increased use and corresponding increased fire risk.

Special emphasis will be given to prevention and suppression of wildfire within the river management zone. Past records indicate that 37 fires have occurred from 1962 through 1972. Of these, 19 fires have been an A classification (0.25 acres or less), and the remaining 18 fires were Class B (0.26 acres to 9.9 acres).

C. DEVELOPMENT OF RECREATION FACILITIES

Only minimal public recreation facility construction and development is planned within the river zone. This is in keeping with the objective of maintaining the natural undeveloped appearance of the shoreline landscape.

1. Canoe Rest Stops

Rest stops for canoeists and other river users will be provided at about the midpoint of each major canoe route. These areas will include toilet facilities. Development will be of a primitive nature, well screened from the river. Primary public access will be from the river.

2. Camping Areas

Camping areas in general will be provided to serve both auto-borne and canoe camping use at the same facility. Where possible, these areas will be located in the vicinity of existing highway crossings and vessel launching areas to minimize total impact on the river environment. Development will be outside the seen area or well screened from view by vegetation. Camping areas which are accessible exclusively by river trail may be provided to a limited extent.

3. Vessel Launching Sites

No new launching sites are needed. Some modification of existing sites is necessary to lessen their impact on the shoreline landscape. Parking facilities will be provided that are screened from view from the river, adequate toilet and trash collection provided, and actual launch sites modified to prevent erosion and facilitate use. Below Indian Bridge, sites will be designed for launching motor vessels from trailers; above Indian Bridge for nonmotor vessels use only.

4. Fishermen Access Sites

Foot trail access is necessary in some areas of the river to distribute fishermen use and provide better utilization of the fishery resource. These sites will include an access road, parking area screened from the river, and foot trail access from the parking area to the riverbank.

5. Interpretative Programs

Scientific study of the special archaeological, geological and ecological areas will provide the basis for the development of an interpretative program.

D. ACTIVITIES OUTSIDE THE RIVER MANAGEMENT ZONE

Protecting and enhancing the water quality of tributary streams will be critical to maintenance of high water quality in the main stream of the river. Existing and proposed State of Michigan water quality laws will have to be strictly enforced on the tributaries. Since the majority of the watershed is within either National or State Forest boundaries, existing land and partial interest acquisition authorities can also be utilized to correct improper land management practices which would be detrimental to water quality. Local zoning of waterfront areas could do much to protect tributary streams from adverse development.

The tributary streams serve as prime spawning and nursery areas for fish in the main stream. They also provide fishing and other recreational opportunity that can relieve pressures on the main stream. Habitat and fish populations must be maintained and protected on the tributaries as well as on the main stream.

E. ESTIMATED PROGRAM COSTS FIRST FIVE YEARS

First Year

LAND AND EASEMENT ACQUISITION	$2,425,000
DEVELOPMENT COSTS	
Prepare Recreation Site Development Plans	12,000
Modify Public Use Access Sites	44,000
Construct Fisherman Access Trails	4,000
Erosion Control and Bank Stabilization	5,000
TOTAL DEVELOPMENT COSTS	65,000
Operation and Maintenance	48,000
FIRST YEAR TOTAL	$2,538,000

Second Year

LAND AND EASEMENT ACQUISITION	$1,575,000
DEVELOPMENT COSTS	
Construct 35 Unit Campground	91,000
Construct Canoeist Rest Stop Area (1)	11,000
Construct Fisherman Access Trails (2)	4,000
Close and Revegetate Trail Roads	8,000
Archaelogical Site Examination	24,000
TOTAL DEVELOPMENT COSTS	138,000
Operation and Maintenance	73,000
SECOND YEAR TOTAL	$1,786,000

Third Year

LAND AND EASEMENT ACQUISITION	$1,375,000
DEVELOPMENT COSTS	
Revise and Update Plans	12,000
Archaeological Site Interpretations	8,000
Construct Canoeist Rest Stop Areas (2)	22,000
Construct Fisherman Access Trails (2)	4,000
Bank Stabilization and Erosion Control	15,000
TOTAL DEVELOPMENT COSTS	61,000
Operation and Maintenance	79,000
THIRD YEAR TOTAL	$1,515,000

Fourth Year

LAND AND EASEMENT ACQUISITION	$1,375,000
DEVELOPMENT COSTS	
Prepare Interpretative Program Plan	28,000
Prepare Archaeological Area Site Plan	12,000
Construct Fisherman Access Trails (2)	4,000
Fisheries Habitat Improvement	11,000
Bank Stabilization	15,000
TOTAL DEVELOPMENT COSTS	70,000
Operation and Maintenance	85,000
FOURTH YEAR TOTAL	$1,530,000

Fifth Year

LAND AND EASEMENT ACQUISITION	$1,375,000
DEVELOPMENT COSTS	
Construct Interpretative Trail Complex	61,000
Construct Fisherman Access Trails	4,000
Fisheries Habitat Maintenance/Improvement	7,000
Bank Stabilization and Erosion Control	15,000
Prepare Recreation User Plan	8,000
TOTAL DEVELOPMENT COSTS	95,000
Operation and Maintenance	91,000
FIFTH YEAR TOTAL	$1,561,000

FIRST FIVE YEAR SUMMARY

Year	1	2	3	4	5	TOTAL
Acquisition	2,425,000	1,575,000	1,375,000	1,375,000	1,375,000	8,125,000
Development Costs	64,000	138,000	61,000	50,000	94,000	407,000
Operation/ Maintenance	48,000	73,000	79,000	85,000	91,000	376,000
TOTAL	2,537,000	1,786,000	1,515,000	1,510,000	1,560,000	8,908,000

IX. ADDENDUM -- Application of Principles and Standards Procedure No. 1 for Planning Water and Related Land Resources

The following material is submitted in accordance with the requirements of Procedure No. 1 for Planning Water and Related Land Resources, promulgated by the Water Resources Council and effective on July 24, 1974.

1. Study Name: Pere Marquette (Michigan) Wild and Scenic River Study.

2. Summary of Recommendations

That 66.4 miles of the Pere Marquette River be included in the National Wild and Scenic Rivers System; that this segment be classified as "scenic," that the segment be administered by the Secretary of Agriculture (Forest Service); that a detailed management plan be developed upon inclusion in the National System; and that management and development place primary emphasis on the water quality, aesthetic, scenic, historic, fish and wildlife, and geologic features of the river, with all recreation facility development being consistent with protection of the river environment.

3. Recreation Benefit Values and Costs

a. Recreation use has been considered as a beneficial effect which would be displayed in the environmental quality and social well-being accounts in the display account system of the Principles and Standards. The value of the recreation experience to the user is directly related to the protection and maintenance of the wild and scenic river features of the area studied, but recreation use is considered as incidental to the environmental quality objective. The proposal will, however, assist in meeting identified recreation needs,[1/] and an estimated recreation use benefit value based on the recreational capacity of the river may be derived as follows:

Estimated Use and Visitor Day Benefit
Pere Marquette River Management Zone

Recreation Activity	Visitor Day Use 1974	Visitor Day Use 1985	Visitor Day Benefit Value	Visitor Day Benefit 1974	Visitor Day Benefit 1985
Canoeing	16,500	21,360	@ $10.65	$176,000	$227,000
Fishing	12,500	15,860	@ $13.50	$169,000	$169,000
Hunting	36,500	45,380	@ $16.90	$617,000	$767,000
Camping (Dispersed & Developed)	58,000	66,000	@ $4.80	$281,000	$317,000
TOTAL	96,000	120,000		$1,243,000	$1,480,000

1/Michigan Recreation Plan, 1974

User capacity has been estimated, and is subject to change as it is further evaluated in the management plan. The estimated recreation user capacity (1985) was calculated by using the 1974 estimated recreation use for canoeing, camping, fishing, and hunting within the river mangagement zone as a base. Since recreation use has been increasing on an average of 2 percent per year, a 2 percent increase compounded annually was applied to the base 1974 use to obtain the 1985 estimated recreation use of 120,000 recreation visitor days. This is consistent with the capacity limits for a level 3 recreation experience, the desired recreation environment proposed for the river management zone. (See Exhibit A, attached, for recreation experience levels definitions.)

The estimate of user capacity was derived from user sampling of the river and professional judgment. During the development of the management plan and subsequent monitoring of use and the impacts of that use, the capacity could be found to be greater or less than what has been estimated, and management practices would be altered accordingly.

A selection of visitor day benefit values for the recreation activities were made, based on proxy prices for "specialized recreation" established by the Water Resources Council. The methodology for measuring these beneifts in visitor day units by recreation activity was derived from Dyrland's Resource Capability System (RCS-Part VI).

The visitor day benefit value is taken to represent "willingness to pay" for the recreation experience. Since the proposal involves national designation and controls on development and usage to preserve a superior quality environment, these visitor day benefit values appear reasonable. These figures comprise onsite expenditures but not the cost of getting to and from the recreation resources. They are consistent with the concept of the values of the "Principles and Standards" which represent the amount a consumer would be willing to pay to enjoy a day of specialized recreation opportunities through entry fee, cost of food and beverage, and other onsite payments.

The estimate of annual onsite visitor's expenditures may be taken to represent estimated gross annual recreation benefits in the national economic development account. Derivation of net recreation benefits (or costs) has not been attempted and cannot be done at this stage because: (1) facility development and operation and maintenance costs include expenditures both to protect environmental quality and to provide recreation opportunities, and these costs cannot be allocated to the separate functions prior to detailed management site planning; (2) the facility development and operation and maintenance costs which would be incurred if no new action were taken are unknown, and the incremental increase or decrease in these costs cannot be evaluated. These factors make it impossible to derive an estimate of net recreation benefits or costs at this time.

On the basis of professional judgment, it appears there are not beneficial effects attributable to recreation-related expenditures, but the development and operation and maintenance costs are greater than would have been necessary to provide only the quantity of recreation opportunity offered by the proposal. The added costs are incurred to protect the aesthetic, historic, fish and wildlife, and geologic features of the river corridor. The environmental quality benefits more than compensates for the increase in national economic development costs.

b. Acquisition. Estimates of land and easement acquisition were made in F.Y. 1974 and updated to reflect F.Y. 1976 costs. (Section VIII-E)

c. Development costs were estimated in F.Y. 1974 and updated to reflect F.Y. 1976 costs. (Section VIII-E)

d. Annual operation and maintenance costs were estimated in F.Y. 1974 and updated to reflect F.Y. 76 costs. (Section VIII-E)

e. Approximately 8,300 acres of timber amounting to 6,400M board ft. and 96,300 cords of wood are within the 13,000 acre management zone, valued at $225,000.

f. Oil and gas explorations have taken place near the management zone. Should it become necessary for resource extraction from within the zone, existing State mining laws and scenic easement controls will be used to protect other resources and visual quality.

g. Off-road vehicles and horses will not be permitted except on designated trails and public roads; and motorized vessels will not be permitted upstream from Indian Bridge. These controls are to assure protection of natural resources within the management zone.

4. Environmental Quality Plan

The proposal represents an optimum environmental quality plan for the resource under analysis, and the alternatives discussed in the report represent alternative environmental quality plans. Potential water and land resource development projects were evaluated to determine the extent and significance of conflicts between national economic development and environmental quality objectives as discussed in the "Principles and Standards." There are no known resource development projects which would be precluded by the scenic river proposal. This is taken to mean there are no significant conflicts between the national economic development and environmental quality objectives; and formulation of alternative environmental quality plans, as done, is in compliance with the "Principles and Standards."

5. Regional Development and Social Well-Being

Following are impacts of the proposal in terms of regional development and social well-being. No attempt has been made to quantify the extent of most regional development effects due to the lack of techniques and data to measure input-output relationships, origin and destination of recreationists, multipliers, and similar factors necessary to differentiate regional and national impacts.

a. Regional Development Benefits

(1) Increased recreation opportunities through improved boat access points and recreation facilities.

(2) Increased tourist expenditures for recreation oriented goods and services.

(3) Increased expenditures by the Forest Service for development, operation and maintenance of recreation facilities with associated multiplier effect (probably low).

(4) Potential increases in employment by recreation and services sector, and in tax receipts from sales of recreation goods and services and tourism services (low).

(5) Increased income from sale of property and sale of easements, with associated multiplier effect (probably small).

(6) Increased revenue of about $9,000 per annum to Lake County for maintenance and operation of schools per Section 2 of P.L. 81-874.

(7) Increased revenue of about $300 per annum to Mason County and about $150 per annum to Lake County as the result of 25 percent of the National Forest Fund Receipts.

b. Regional Developments Costs

Reduction of tax base and property tax receipts, estimated at $14,000 per year for Lake County and $9,000 per year for Mason County.

c. Social Well-Being Benefits

(1) Assurance of availability of quality of recreation experience opportunities as a free-flowing river for present and future public use.

(2) Protection of sites associated with Indian settlements and areas of archeological and historical significance.

(3) Protection of resources with special emphasis on the management of water quality, fisheries, and natural beauty.

d. Social Well-Being Costs

(1) Potential loss of complete freedom to recreate in manner one chooses.

(2) Potential limits on use and development of private lands.

(3) Possible fear by residents that influx of visitors from other areas will decrease individual privacy.

(4) Initial emotional distress of some landowners who object to Federal controls, scenic easements, and fee-title acquisition. acquisition.

6. Need for Reformulation due to Environmental Problems

As indicated earlier, the proposal represents an optimum environmental quality plan for the area and the resources studied. Sixty-six and four-tenths miles of the Pere Marquette River clearly qualify for inclusion in the National Wild and Scenic Rivers System, and the proposal provides the most effective and efficient means of administering the river reaches as a component of that system. There are no known unresolved environmental problems, and there are no anticipated environmental conflicts. Type, scope, and location of recreation developments, and costs and impacts associated with developments will be determined as the management plan for the river corridor is prepared. Any new environmental problems which arise will be addressed at that stage.

EXHIBIT A

RECREATION EXPERIENCE LEVELS

LEVEL	DESCRIPTION 
PRIMITIVE	Recreation opportunities to satisfy basic-needs to the maximum degree. A maximum degree of outdoor skills required. Unmodified natural environment and an absence of man-made developments and comfort or convenience facilities dominates. Feelings of adventure, challenge, and physical achievement, in the absence of obvious controls, important to the user.
1	Recreation opportunities to satisfy basic-needs to a near maximum degree. High degree of outdoor skills involved. Little modified natural environment is dominant consideration. Modifications for comfort and convenience are minimal. Feeling of physical achievement at reaching opportunities without mechanized access is important to the user. Adventure and challenge afforded through minimum controls.
2	Recreation opportunities to satisfy basic-needs to near maximum degree except as tempered by motorized access. Little modified natural environment is dominate consideration. Modifications for comfort and convenience are few. Some feeling of achievement for reaching the opportunity through challenging motorized access is important. Minimum controls evident to the user.
3	Recreation opportunities to satisfy basic-needs to an intermediate degree. Moderate degrees of outdoor skills are involved. Natural environment dominates but some modifications for comfort and convenience are also important to the user. Controls and regimentation afford sense of security although some taste of adventure is still important to the user.
4	Recreation opportunities to satisfy basic-needs to only a moderate degree. Moderate degree of activity skills suffice. Natural environment important but modifications for comfort and convenience are more important. Sense of security afforded the user. Regimentation and fairly obvious controls important to the user.
5	Recreation opportunities to satisfy basic-needs to a modest degree. Skills required for outdoor activities are minimal. Natural environment is important but dominated by man-made modifications. Feeling of security is very important to the user. Learning or beginning skills suffice when supplemented by administrative controls.

1/ Degrees of outdoor recreation activities satisfying basic-needs of people including needs: to find isolation; to socialize; to achieve self-fulfillment; for identity; for compensating experiences; for agression outlets and others.

appendix

APPENDIX A

CHRONOLOGY AND SYNOPSIS OF PUBLIC INVOLVEMENT

1969

November	Meeting of interested agencies and formation of study task force (11/25).

1970

February	Letter contact with all task force members.
	News release on purpose and objectives of study.
	Brochure printed explaining study - 2,000 distributed.
	Form letter to keyman list explaining study (2/25).
March	Meeting of SCS, ASCS, Extension Agents and County ASCS Committees (3/18).
	Letter and brochure explaining study mailed to all property owners.
	Meeting with Pere Marquette Watershed Council Board of Directors.
April	Appearance on Grand Rapids T.V. to explain study.
	Meeting with Mason County Historical Society Board of Directors.
May	Task force meeting to review findings to date, classification criteria, and canoe trip on upper river.
	Meeting with Baldwin canoe livery owners.
June	Meeting with Pere Marquette Watershed Council Board of Directors.
	Meeting with Mason County Historical Society Board of Directors.
July	Meeting with Lake County Riverfront Property Owners Association (5/18 - attendance 47).

August	Series of public meetings held at Baldwin High School (8/7, 14 & 21 - attendance 150).
	Form letter progress report to key men, property owners (8/12).
	Press release stating portion of Pere Marquette could qualify.
September	Meeting with Pere Marquette Rod and Gun Club Board of Directors.
	Press release progress report.
October	Meeting with Lake County Property Owners Association Board of Directors (10/10).
	Task force meeting to discuss qualifying portion of river and classification, canoe trip on lower river (10/12 & 13).
	Public meeting at Scottville Community College (10/22).
	Meeting with Pere Marquette Watershed Council Board of Directors.
December	Meeting with Mason County Board of Commissioners (12/9).
	Meeting with Lake County Board of Commissioners (12/14).
	Form letter stating qualifying portion of river and initial management recommendations with a question and answer sheet requesting comments sent to key men and property owners 12/4 & 1/29/71).
	Presentation of study to date to Baldwin Rotary Club (12/30).
	Press release on qualifying portion of the river.
	Brochure showing qualifying portion prepared and 2,500 distributed.
	Question and answer sheet printed in Lake County Star.
1971	
February	Presentation of study material to Cadillac Lions Club.

Special request for comments to national and local conservation groups.

Request for comments on management recommendations from N.W. Michigan Canoe Livery Owners Association.

March — Meeting with Mr. Albert Stern at Cadillac. Primary topics were congressional intent of the Act, F.S. land management authorities and initial study findings and recommendations (3/1).

Ludington JC's at Ludington - General information meeting on wild and scenic rivers program and its application to the Pere Marquette. Attendance was 47. Desire expressed for more recreation development on river (3/2).

Pere Marquette Watershed Council Directors and Advisors at Baldwin. Question and answers about study findings and progress to date (3/6).

Dr. Von Frowine-Merle Nolph at Baldwin. Discussion centered on study methods and findings. Concern was expressed on objectivity of study (3/11).

Scottville Rotary Club at Scottville--general information meeting. Good support for program; attendance was 45 (3/15).

Lake County Planning Commission at Baldwin. General informational meeting. Concern expressed about loss of tax base. Wait-and-see attitude on management proposals. Want another meeting when proposals are more definite (3/24).

Dr. Frowine-Merle Nolph-Fred Dostal followup on March 11 meeting. Good support for program (3/25).

Sierra Club Conservation Committee chairman at M.S.U., Lansing. General information meeting. Discussion points were size of management zone, exercise of control and management policies and programs. Support appears assured from Sierra Club (3/25).

April — Baldwin Chamber of Commerce at Baldwin. General information meeting. Discussion points were degree of recreation development and effect on local tax base. Generally support program concepts (4/13).

Pere Marquette Watershed Council Board of Directors and Advisors, Baldwin. Presentation of management proposals and policy objectives. Discussion involved. Comparison of State and Federal Rivers Act, Condemnation provisions and congressional intent. One director, Al Stern, opposes Federal designation because of condemnation provisions. Few council directors have strong feelings about Federal Government taking over regulation of private and local "rights." Most directors privately support Federal Act, but are taking a wait-and-see position now (4/16).

Traverse City Rotary at Traverse City. General information meeting. Some questions on regulation of use. More concerned over "Sleeping Bear Dunes" situation and some confusion existed over relation of these programs. General support for concept of program. Attendance was 147 (4/20).

Meeting at Cadillac with George Taack (DNR) and Mr. and Mrs. Otto Listing (property owners) on BLM survey of lower Pere Marquette for omitted land. Cleared up circumstances of BLM survey (4/27).

Meeting at Baldwin with John Riley, Lake County Treasurer, on impact of program on Lake County finances. He feels strongly that the program will have a very adverse effect on local tax base and is not in the best interest of Lake County. He feels loss would be mitigated by a large public campground somewhere in Lake County. Suggested site on U.S. 10 near Nirvana (4/28).

Meeting at Scottville with property owners and township supervisors on BLM survey and Pere Marquette program. Much hostility at first on BLM survey. All but a few agreed it will be best in the long run to clear up omitted land situation. Discussion of Pere Marquette program centered on effects on river property owners. Many are willing now to sell frontage in fee or as a scenic easement. No real opposition expressed. Township supervisors requested a separate meeting to detail effects on their township, but see no problem on tax base. Attendance was 52 (4/28).

Task force meeting to finalize management recommendations and river classification (4/29).

May — Baldwin Women's Club--general information meeting, support concept of program especially limiting development and maintaining scenic character of the river. Attendance 19 (5/5).

M.A.C.E. panel discussion of State and Federal Wild Rivers Programs general informational meeting, some question on how to prevent overuse and limit canoes (5/7).

Met with Alex Lapenis property owner on lower river to see his property and discuss program concepts (5/11).

Baldwin canoe liveries, discussed their thoughts on how river should be managed (5/11).

Met with Otto Listing, took boat trip with him through Packing Material's dredging project (5/13).

Lake County Riverfront Property Owners' Association Board of Directors discussion of management proposals and zone boundaries, concept of "scenic" and "recreational" classification (5/15).

Pere Marquette Rod and Gun Club discussed Forest Service desire to purchase portion of club lands north of the river (5/15).

L.E.A.D., group of 25 students and 4 professors from M.S.U., general informational meeting and canoe trip (5/21).

Pere Marquette Watershed Council, explanation of State and Federal Acts; Al Stern made strong protest against Federal Act based on condemnation provisions (5/28).

June — Letter to key men and property owners announcing dates and locations of public meetings (6/8).

News release on dates and location of public meetings (6/22).

Letter to key men and property owners with initial management program requesting their comments (6/23).

Meeting with representative from Michigan State University; presentation of program to Cadillac Rotary Club (6/29).

July — Public meetings and listening sessions on total program proposal (7/9, 10 & 17).

In addition to the documented meetings and contacts, there were numerous personal contacts with interested persons, property owners and river users. Many requests for information were answered by telephone or

mail. A complete correspondence file has been maintained at the Supervisor's Office, Huron-Manistee National Forests in Cadillac, Michigan.

The mailing list for study material numbers in excess of 400 names. It includes all property owners in the proposed river management zone, local, State, and Federal officials, conservation organizations and special groups interested in the Pere Marquette River.

APPENDIX B

MASON COUNTY ZONING ORDINANCE

Section I.2 Compliance with County Sanitary Code

Every structure or device hereinafter erected or moved upon any premises and used, designed or intended for human habitation must conform to the requirements of the Mason County Sanitary Code. No use permit shall be issued by the Administrator for such use until requirements of said Sanitary Code have been met.

Section II-4 Recreation-Residential District (R-R)

This district is designed for the orderly development of areas bordering on or adjacent to the inland lakes of Mason County, whose primary value is for recreation or for residential use, but may also have a need for certain retail or service enterprises. It will also be applied to other areas where the land use is of a similar nature, recognizing the peculiar needs of such areas for uses which would not be compatible with a completely residential area.

A. Permitted uses:

1. Single family dwellings.
2. Multifamily dwellings.
3. Gardening and farming, but not to include the raising of animals except as household pets, unless approved by the Zoning Commission.
4. Office or studio of a professional or service person residing on the premises.
5. Home occupations.
6. One boat dock per dwelling for private use.
7. Any other structure or use which is clearly accessory to a permitted use.

B. Uses by special permit as provided by Section III-9

1. Motels and hotels.
2. Boat liveries, marinas and launching ramps.
3. Camps and clubs for recreational use.
4. Retail establishments.
5. Establishments for serving food and/or beverages.
6. Golf courses and country clubs.
7. Mobile homes, subject to Section III-4.
8. Mobile home parks and trailer coach parks.
9. Trailer coaches, subject to Section III-3.
10. Parks and playgrounds.
11. Any structure or use clearly accessory to any of the above uses when permitted.

C. Minimum lot size: 15,000 square feet for single family dwellings
10,000 square feet per dwelling unit for multifamily dwellings.
15,000 square feet for any use in "B" above.

D. Minimum street frontage: 100 feet for one or two family dwellings.
150 feet for structures having more than two dwelling units.
100 feet for any use in "B" above.

E. Minimum yard depth for any structure:
Front: 25 feet.
Rear: 25 feet.
Side: There shall be two side yards with a combined width of not less than 35 feet, with no side less than 10 feet.

F. Minimum floor area: Minimum floor area of dwellings shall be 600 square feet per dwelling unit.

G. On waterfront lots, no part of any structure other than a boat dock may be within 40 feet of the high water line, except that boat houses may be constructed by special permit in any location approved by the Zoning Commission.

MASON COUNTY ZONING ORDINANCE

SECTION II-5 GREEN BELT DISTRICT (G-1)

This district is designed to protect the shoreline and the land bordering on the main watercourses of Mason County from unwise use and from erosion, to maintain them as far as is practical in their native or natural state, to preserve the ecological balance, and to allow the maximum use and enjoyment of land and water in conformity with these objectives.

District G-1 is described as follows: All that land in an area between the shoreline of the below designated waters and a line three hundred feet from and parallel to the shoreline of said waters, except as being designated in some other district, or in an area not under the jurisdiction of this ordinance.

1. Pere Marquette River in its entirety, both the main stream and the South Branch.
2. The Little Manistee River in Meade Township.
3. The Big Sauble River in Grant, Freesoil, Meade and Sheridan Townships.
4. The Lincoln River in Hamlin, Pere Marquette, Amber and Victory Townships.
5. The North branch of the Lincoln River in Victory Township and Sections 8, 9, and 18 of Sherman Township.
6. The South branch of the Lincoln River in Victory Township and in Sections 28, 29 and 30 of Sherman Township.

A. Permitted Uses.

   1. Single family dwellings.
   2. Gardening and farming.
   3. Office or studio of a professional or service person residing on the premises.
   4. Home occupations.
   5. Harvesting of wild crops such as trees, hay, marsh grasses, ferns, moss, berries and other resources, the harvest of which is not contrary to law and is not in conflict with Section II-4 "G" below.
   6. One boat dock per dwelling, provided it shall not interfere with normal traffic on the stream, and that in no case shall it extend more than five feet out into the stream from the normal shoreline.
   7. Any other structure or use clearly accessory to a permitted use.

B. Uses by special permit as provided by Section III-9.

1. Camps and clubs for recreational use.
2. Retail stores and shops.
3. Boat liveries, marinas and launching ramps.
4. Golf courses and country clubs.
5. Motels and hotels.
6. Mobile homes, as regulated in Section III-4.
7. Trailer coaches, as regulated in Section III-3.
8. Multi-family dwellings.
9. Parks and playgrounds.

C. Minimum lot size: 20,000 square feet.

D. Minimum frontage at water: 100 feet.

E. Minimum yard depths:

1. No building shall be constructed closer than 50 feet from the water's edge, except that for every foot of ground elevation above the minimum grade level (which level shall be four feet above high ground water) five feet may be subtracted from the minimum setback. However, no structure may be closer than thirty feet from the waters edge, measured horizontally.

2. No building or structure shall be closer than twenty-five feet from the rear lot line or road right of way at the rear of the lot.

3. Minimum side yard shall be twenty five feet.

F. Minimum floor space of any principal structure: 600 square feet.

G. Native vegetation strip:

A strip fifty feet wide bordering on each bank of the stream or other designated body of water in this District shall be maintained in trees of shrubs or in its natural state. Trees or shrubs in a space no more than 50 feet in width may be trimmed or pruned for a view of the water or for a dock. There shall be no more than one such trimmed or pruned area per principal use.

H. Flood areas and grade level:

No dwelling or principal structure shall be constructed on lands which are subject to flooding, (within the 50 year flood plain) or on land where a minimum of four feet between finished grade level and high ground water level cannot be met. Land may be filled to meet these requirements only under the following conditions:

1. A special permit is obtained from the Zoning Commission.
2. The 50 foot native protection strip is maintained.
3. No fill material is allowed to enter the water either by erosion or by mechanical means.
4. Fill material is a pervious material such as sand or gravel.
5. No refuse, garbage, rubbish or waste material shall be used as fill material.
6. All regulations of the Michigan Department of Natural Resources are observed.

I. Sanitary waste and subsoil drainage systems:

1. Disposal field and septic tanks shall be no closer than 100 feet from the water's edge.
2. No septic tank disposal field shall be nearer than 40 feet from any subsoil drainage system or footing drain emptying directly into the lake or stream.
3. Further regulation is provided by the Mason County Sanitarian.

Section III-3 Trailer Coaches

No person shall locate, use or permit the use of any trailer coach as a residence on any site, lot, field or tract of land not specifically licensed as a trailer coach park for more than a total of thirty days in any calendar year except as hereinafter provided:

1. The use of a trailer coach as a residence is permitted in that zoning district.
2. A special renewable permit may be obtained from the Administrator, subject to approval of the Zoning Commission.
3. The location of the trailer coach shall conform to all lot and yard regulations governing a single family dwelling in the district in which it is to be located.
4. A trailer coach may be used as a temporary dwelling as per Section III-11.

Section III-4 Mobile Homes

No person shall use or permit the use of any mobile home as a residence on any site, lot, field or tract of land not specifically licensed as a mobile home park except as hereinafter provided:

1. The use of a mobile home as a residence is permitted in the District.

2. The location of the mobile home shall conform to all lot and yard restrictions governing a single family dwelling in the district in which it is to be located.

3. Mobile homes with a minimum floor area of 600 square feet shall be regulated as a conventional single family dwelling in the district in which it is to be located. No additions may be made to the basic structure to meet floor area requirements unless approved by the Administrator.

4. Mobile homes having a floor area of less than 600 square feet may be permitted by special renewable permit from the Administrator.

5. All mobile homes will be enclosed at the base with a skirt consisting of metal, masonry, wood or other material acceptable to the Administrator, which must effectively enclose the base on all four sides. The materials used for enclosing the base must be maintained at all times. No straw, rolled felt paper, tar paper or material of this type or nature will be permitted on any mobile home or accessory building.

6. If any mobile home is allowed to deteriorate to the extent that it no longer promotes the health, safety or general welfare of the inhabitants of Mason County the Administrator may deny a renewal of the permit and order the removal of the mobile home.

Section III-9 Special Use Permits

A. Purpose:

In setting land use districts, the Zoning Commission recognizes that it is necessary to provide controllable and reasonable flexibility in requirements for certain uses that, while allowing practicable latitude for the investor, will at the same time maintain adequate provisions for the security of the health, safety, convenience and general welfare of the county's inhabitants.

In order to accomplish such a dual objective, provision is made in this ordinance for a more detailed consideration of each of certain specified activities as it may relate to proposed conditions of location, design, size, operation, intensity of use, generation of traffic and traffic movements, concentration of population, amount and kind of public services required together with many other possible factors.

The County Zoning Commission shall determine the types and kinds of land and structures which will come under this article of the county zoning ordinance. In issuing a special permit, the commission shall attach such conditions as may be deemed necessary for the protection of the public welfare.

B. Procedure for making application:

Any application for a special use permit for any land or structure use permitted under this article of the ordinance shall be submitted in accordance with the following procedures:

1. An application shall be submitted through the Zoning Administrator to the County Zoning Commission. Each application shall be accompanied by the payment of a fee set annually by the Board of Commissioners to cover the cost of processing the application. No part of the fee shall be returned to the applicant.

2. Every application shall be accompanied by the following information and data:

    a. Site plan, plat plan or development plan drawn to a minimum scale of 200 to 1, showing location of all abutting roads and streets, the location of all existing and proposed structures, the types of buildings and the use to which such structures are now used and or proposed use.

b. Preliminary plans and outline specifications of the proposed development and for all construction.

c. Statement with supporting evidence regarding the required finding as listed in Section III-9 "Basis of Determination".

3. The County Zoning Commission shall review the proposed development as presented on the submitted plans and specifications in the terms of the established standards as set forth in this Section.

C. Basis of determination:

Before issuing a special use permit, the Zoning Commission shall review the particular circumstances and facts of each proposed use in terms of the following standards and shall find adequate evidence showing that such standards have been met.

1. The use, location and size of use, and the nature and intensity of operations shall not be such as to disrupt the orderly and proper development of the district as a whole, or be in conflict with, or discourage the principal permitted uses of adjacent or neighboring lands and buildings.

2. The use shall not diminish the value of land, buildings or structures in the neighborhood, or increase hazards from fire or other dangers to either the property or adjacent properties.

3. The use shall not increase traffic hazard or cause congestion on the public highways or streets of the area. Adequate access to the use shall be furnished by either existing roads or highways or proposed roads or highways.

4. Commercial, industrial and business uses on state trunklines or county primary roads shall be located in commercial or industrial zones, excepting farm produce stands located on the farm where the major portion of the produce is grown.

5. The water supply and sewage disposal system shall be adequate for the proposed use.

6. Uses by special permit shall not be more objectionable to nearby properties by reason of traffic, noise, vibrations, dust, fumes, smoke, glare, flashing lights, or disposal of waste than the operation of any principal permitted use.

7. The use shall not impair the purpose or intent of this Ordinance.

Section III-11 Temporary Dwelling Structures

A. A garage home, basement home, trailer coach, or mobile home may be utilized as a dwelling by the owner of a premises during the period when a dwelling conforming to the provisions of the Ordinance is in the process of erection and completion on the same lot, subject to the following provisions:

1. Compliance with Section I-2 of this Ordinance shall precede occupancy of any such temporary dwelling.

2. The location of the temporary dwelling shall conform to all yard and setback limitations of the district.

3. The use of the dwelling and premises shall not be inimical to health safety or the public welfare.

4. The use of the temporary dwelling structure shall be limited to twelve months, beginning with the issuance of the permit therefor, and the permit may be renewed yearly for two more years, at the discretion of the Zoning Commission.

5. Application for the erection or use of such a temporary dwelling structure shall be made in writing to the Zoning Commission.

PLEASANT PLAINS TOWNSHIP ZONING ORDINANCE

ARTICLE XIII GB-1 GREEN BELT DISTRICT

SECTION 13.1 Description and Purposes: An area designed to provide a highly desirable residential area and to preserve the high quality of the Pere Marquette River systems and to prevent further deterioration of the same. The Green Belt Area is a stip of land measuring 400 feet from the river's edge on both sides of the Pere Marquette River and all its tributaries which are directly connected with the river in the following described locations, W 1/2 Section 10, S 1/2 Section 13, Sections 14, 15, 16, 17, 18, 22, 23, 26, 27, 35, and 36, Pleasant Plains Township.

SECTION 13.2 Permitted Uses:

1. Single family dwellings.

2. Two-family dwellings.

3. Recreation parks and playgrounds.

4. Recreation clubs, fishing and hunting clubs.

5. Guest houses are permitted as follows:

   a. On lots containing 30,000 square feet or more, with 150 feet frontage on river located to the rear of principal building.

   b. On lots containing 50,000 square feet or more, with 300 feet frontage, the guesthouse may front on river providing the regulations of Section 13.4 are met.

6. Detached accessory buildings, not more than 12 feet in height, are subject to the following conditions:

   a. Said accessory building shall not be located closer to lot line than provided in Section 13.4.

   b. A detached accessory building may not serve as living area.

SECTION 13.3 Height Regulations: No residential building shall exceed thirty-five (35) feet or two and a half (2-1/2) stories in height, whichever is lesser.

SECTION 13.4 Lot Requirements: No building or structure nor the enlargement of any building or structure shall hereafter be erected unless the following yard and lot area requirements are provided:

1. Yard - Setback of not less than 40 feet from the right-of-way line of any public roadway.

2. Side-yards - Total side yard of 40 feet provided that no side yard shall be less than 15 feet. For accessory buildings, there shall be a minimum side yard of 30 feet.

3. Rear Yard - Rear yard of not less than 50 feet.

4. Lot Area - The minimum lot area for use in this zone shall be 20,000 square feet with the minimum lot width or 120 feet.

5. Front Yard - No building shall be constructed closer than 30 feet from the water's edge. Pump houses will be permitted of no more than 9 square feet of floor area and not more than 3 feet in height. Docks may be constructed not to exceed 8 feet in width with no more than 5 feet of the dock extending into the water. Steps on the river bank shall not exceed 6 feet in width. Front yard shall be considered as that part of any lot nearest the river.

SECTION 13.5 Minimum Floor Space:

1. Single dwelling unit in this area shall have a minimum first floor area of 720 square feet.

2. Two family dwelling shall have a minimum of 780 square feet per unit.

SECTION 13.6 Native Protection Strip: A strip of 20 feet wide bordering banks of the river in the Green Belt Area shall be left in trees and shrubs or in its natural state. Trees and shrubs, in a space fifty (50) feet in width, may be trimmed and pruned for a view of the river and dock.

SECTION 13.7 Flood Areas and Grade Level: Dwellings shall not be constructed on lands which are subject to flooding, or on land where the minimum of four (4) feet between finished grade level and high groundwater cannot be met. Land may be filled to meet the minimum requirement of four (4) feet between finished grade level and high groundwater only under the following conditions:

1. The 20 foot native protection strip is maintained.

2. No material is allowed to enter the stream either by erosion or mechanical means.

3. Fill material is of a previous material such as gravel or sand.

APPENDIX C

Mammals found in the Pere Marquette Drainage

1. Opossum
2. Star nose mole
3. Masked shrew
4. Short-tailed shrew
5. Little brown bat
6. Keen bat
7. Silver-haired bat
8. Big brown bat
9. Red bat
10. Hoary bat
11. Black bear
12. Raccoon
13. Long-tailed weasel
14. Least weasel
15. Mink
16. River otter
17. Skunk
18. Badger
19. Red Fox
20. Gray Fox
21. Coyote
22. Bobcat
23. Woodchuck
24. Striped ground squirrel
25. Eastern chipmunk
26. Red squirrel
27. Grey (black) squirrel
28. Fox squirrel
29. Northern flying squirrel
30. Southern flying squirrel
31. Beaver
32. Prarie deer mouse
33. Woodland deer mouse
34. White footed mouse
35. Bog lemming
36. Meadow vole
37. Pine vole
38. Muskrat
39. Meadow jumping mouse
40. Woodland jumping mouse
41. Porcupine
42. Snowshoe hare
43. Cottontail rabbit
44. White-tailed deer

APPENDIX D

List of breeding birds found during surveys in June 1968, 1969, and 1970 of Route 018 (Custer to Volney).

1. Great Blue Heron
2. Goshawk
3. Sparrow Hawk
4. Turkey Vulture
5. Ring-necked Pheasant
6. Ruffed Grouse
7. Eastern Wild Turkey
8. Killdeer
9. Rock Dove
10. Mourning Dove
11. Yellow-billed Cuckoo
12. Black-billed Cuckoo
13. Common Night Hawk
14. Belted Kingfisher
15. Yellow-shafted Flicker
16. Pileated Woodpecker
17. Red-headed Woodpecker
18. Hairy Woodpecker
19. Downy Woodpecker
20. Yellow-bellied Sapsucker
21. Eastern Kingbird
22. Great Crested Flycatcher
23. Eastern Phoebe
24. Least Flycatcher
25. Eastern Wood Pewee
26. Tree Swallow
27. House Sparrow
28. Bobolink
29. Eastern Meadowlark
30. Red-winged Blackbird
31. Baltimore Oriole
32. Common Grackle
33. Brown-headed Cowbird
34. Cardinal
35. Rose-breasted Grosbeak
36. Barn Swallow
37. Blue Jay
38. Common Crow
39. Black-capped Chickadee
40. Red-breasted Nuthatch
41. White-breasted Nuthatch
42. Catbird
43. Brown Thrasher
44. Robin
45. Wood Thrush
46. Hermit Thrush
47. Veery
48. Eastern Bluebird
49. Golden-crowned Kinglet
50. Cedar Waxwing
51. Starling
52. Red-eyed Viero
53. Warbling Viero
54. Black & White Warbler
55. Golden-winged Warbler
56. Parula Warbler
57. Yellow Warbler
58. Myrtle Warbler
59. Blackburnian Warbler
60. Ovenbird
61. Yellowthroat
62. Indigo Bunting
63. American Goldfinch
64. Rufous-sided Towhee
65. Savannah Sparrow
66. Grasshopper Sparrow
67. Vesper Sparrow
68. Chipping Sparrow
69. Field Sparrow
70. Song Sparrow

PARAMETERS / WATER USES	1 COLIFORM GROUP (Organisms/100 ml. or MPN)	2 DISSOLVED OXYGEN (mg/l)	3 SUSPENDED, COLLOIDAL & SETTLEABLE MATERIALS	4 RESIDUES (Debris and material of unnatural origin and oils)	5 TOXIC & DELETERIOUS SUBSTANCES
A WATER SUPPLY **(1) DOMESTIC** Such as drinking, culinary and food processing.	The monthly geometric average shall not exceed 5000 nor shall 20% of the samples examined exceed 5000, nor exceed 20,000 in more than 5% of the samples.	Present at all times in sufficient quantities to prevent nuisance.	No objectionable unnatural turbidity, color or deposits in quantities sufficient to interfere with the designated use.	Floating solids: None of unnatural origin. Residues: No evidence of such material except of natural origin. No visible film of oil, gasoline or related materials. No globules of grease.	Conform to current USPHS Drinking Water Standards except: Cyanide: Normally not detectable with a maximum upper limit of 0.2 mg/l. Chromium^{6}: Normally not detectable with a maximum upper limit of 0.05 mg/l. Phenol: Limitations as defined under A-8.
(2) INDUSTRIAL Such as cooling and manufacturing process.	The geometric average of any series of 10 consecutive samples shall not exceed 5000 nor shall 20% of the samples examined exceed 10,000. The fecal coliform geometric average for the same 10 consecutive samples shall not exceed 1000.	Present at all times in sufficient quantities to prevent nuisance.	No objectionable unnatural turbidity, color, or deposits in quantities sufficient to interfere with the designated use.	Floating solids: None of unnatural origin. Residues: No evidence of such material except of natural origin. No visible film of oil, gasoline or related materials. No globules of grease.	Limited to concentrations less than those which are or may become injurious to the designated use.
B RECREATION **(1) TOTAL BODY CONTACT** Such as swimming, water-skiing and skin-diving.	The geometric average of any series of 10 consecutive samples shall not exceed 1000 nor shall 20% of the samples examined exceed 5000. The fecal coliform geometric average for the same 10 consecutive samples shall not exceed 100.	Present at all times in sufficient quantities to prevent nuisance.	No objectionable unnatural turbidity, color, or deposits in quantities sufficient to interfere with the designated use.	Floating solids: None of unnatural origin. Residues: No evidence of such material except of natural origin. No visible film of oil, gasoline or related materials. No globules of grease.	Limited to concentrations less than those which are or may become injurious to the designated use.
(2) PARTIAL BODY CONTACT Such as fishing, hunting, trapping, and boating.	The geometric average of any series of 10 consecutive samples shall not exceed 5000 nor shall 20% of the samples examined exceed 10,000. The fecal coliform geometric average for the same 10 consecutive samples shall not exceed 1000.	Present at all times in sufficient quantities to prevent nuisance.	No objectionable unnatural turbidity, color, or deposits in quantities sufficient to interfere with the designated use.	Floating solids: None of unnatural origin. Residues: No evidence of such material except of natural origin. No visible film of oil, gasoline or related materials. No globules of grease.	Limited to concentrations less than those which are or may become injurious to the designated use.
C FISH, WILDLIFE AND OTHER AQUATIC LIFE Such as growth and propagation.	The geometric average of any series of 10 consecutive samples shall not exceed 5000 nor shall 20% of the samples examined exceed 10,000. The fecal coliform geometric average for the same 10 consecutive samples shall not exceed 1000.	At the average low flow of 7-day duration expected to occur once in 10 years the following DO values shall be maintained in rivers capable of supporting: Intolerant fish, cold-water species (trout, salmon) - Not less than 6 at any time; Intolerant fish, warm-water species (bass, pike, panfish) - Average daily DO not less than 5, nor shall any single value be less than 4; Tolerant fish (carp, bullheads) - Average daily DO not less than 4, nor shall any single value be less than 3; Principal anadromous fish migrations in warm-water rivers - Not less than 5 during migrations. - - - - - - - - - - - - - - - At greater flows the DO shall be in excess of these values.	No objectionable unnatural turbidity, color, or deposits in quantities sufficient to interfere with the designated use.	Floating solids: None of unnatural origin. Residues: No evidence of such material except of natural origin. No visible film of oil, gasoline or related materials. No globules of grease.	Not to exceed 1/10 of the 96-hour median tolerance limit obtained from continuous flow bio-assays where the dilution water and toxicant are continuously renewed except that other application factors may be used in specific cases when justified on the basis of available evidence and approved by the appropriate agency.
D AGRICULTURAL Such as livestock watering, irrigation and spraying.	The geometric average of any series of 10 consecutive samples shall not exceed 5000 nor shall 20% of the samples examined exceed 10,000. The fecal coliform geometric average for the same 10 consecutive samples shall not exceed 1000.	Not less than 3 at any time.	No objectionable unnatural turbidity, color, or deposits in quantities sufficient to interfere with the designated use.	Floating solids: None of unnatural origin. Residues: No evidence of such material except of natural origin. No visible film of oil, gasoline or related materials. No globules of grease.	Conform to current USPHS Drinking Water Standards as related to toxicants. Toxic and deleterious substances shall be less than those which are or may become injurious to the designated use.
E COMMERCIAL AND OTHER Such as navigation, hydroelectric and steam generated electric power and uses not included elsewhere in standards.	The geometric average of any series of 10 consecutive samples shall not exceed 5000 nor shall 20% of the samples examined exceed 10,000. The fecal coliform geometric average for the same 10 consecutive samples shall not exceed 1000.	Average daily not less than 2.5, nor any single value less than 2.	No objectionable unnatural turbidity, color, or deposits in quantities sufficient to interfere with the designated use.	Floating solids: None of unnatural origin. Residues: No evidence of such material except of natural origin. No visible film of oil, gasoline or related materials. No globules of grease.	Limited to concentrations less than those which are or may become injurious to the designated use.

QUALITY STANDARDS

6 TOTAL DISSOLVED SOLIDS (mg/l)	7 NUTRIENTS Phosphorus, ammonia, nitrates, and sugars	8 TASTE & ODOR PRODUCING SUBSTANCES	9 TEMPERATURE (°F)	10 HYDROGEN ION (ph)	11 RADIOACTIVE MATERIALS
Total dissolved solids shall not exceed 500 as a monthly average, nor exceed 750 at any time. Chlorides. The monthly average shall not exceed 75, nor shall any single value exceed 125.	Nutrients originating from industrial, municipal, or domestic animal sources shall be limited to the extent necessary to prevent nuisance effects or water treatment problems or the stimulation of growths of algae, weeds and slimes which are or may become injurious to the designated use.	Concentrations of substances of unnatural origin shall be less than those which are or may become injurious to the designated use. Maximum phenol concentration less than 0.002 mg/l. Maximum concentration limited to 0.005 mg/l for a single sample.	The maximum natural water temperature shall not be increased by more than 10°F.	pH shall not have an induced variation of more than 0.5 unit as a result of unnatural sources.	An upper limit of 1000 picocuries/liter of gross beta activity (in absence of a alpha-emitters and Strontium-90). If this limit is exceeded the specific radionuclides present must be identified by complete analysis in order to establish the fact that the concentration of nuclides will not produce exposures above the recommended limits established by the Federal Radiation Council.
Total Dissolved Solids: Shall not exceed 500 as a monthly average nor exceed 750 at any time. Chlorides. The monthly average shall not exceed 125.	Nutrients originating from industrial, municipal, or domestic animal sources shall be limited to the extent necessary to prevent the stimulation of growths of algae, weeds and slimes which are or may become injurious to the designated use.	Concentrations of substances of unnatural origin shall be less than those which are or may become injurious to the designated use.	The maximum natural water temperature shall not be increased by more than 10°F.	Maintained within the range 6.5-8.8 with a maximum induced variation of 0.5 unit within this range.	Standards to be established when information becomes available on deleterious effects.
Limited to concentrations less than those which are or may become injurious to the designated use.	Nutrients originating from industrial, municipal, or domestic animal sources shall be limited to the extent necessary to prevent the stimulation of growths of algae, weeds and slimes which are or may become injurious to the designated use.	Concentrations of substances of unnatural origin shall be less than those which are or may become injurious to the designated use.	90°F maximum	Maintained within the range 6.5-8.8 with a maximum induced variation of 0.5 unit within this range.	Standards to be established when information becomes available on deleterious effects.
Limited to concentrations less than those which are or may become injurious to the designated use.	Nutrients originating from industrial, municipal, or domestic animal sources shall be limited to the extent necessary to prevent the stimulation of growths of algae, weeds and slimes which are or may become injurious to the designated use.	Concentrations of substances of unnatural origin shall be less than those which are or may become injurious to the designated use.	90°F maximum	Maintained within the range 6.5-8.8 with a maximum induced variation of 0.5 unit within this range.	Standards to be established when information becomes available on deleterious effects.
Standards to be established when information becomes available on deleterious effects.	Nutrients originating from industrial, municipal, or domestic animal sources shall be limited to the extent necessary to prevent the stimulation of growths of algae, weeds and slimes which are or may become injurious to the designated use.	Concentrations of substances of unnatural origin shall be less than those which are causing or may cause taint in the flesh of fish or game.	In rivers capable of supporting: Ambient nat. / Allowable increase / Maximum limit Intolerant fish, cold-water species (trout): 32° to max. / 10° / 70° Intolerant fish, warm-water species (bass): 32° to 35° / 15°; 36° to nat. max. / 10° / 85° Tolerant fish, warm-water species (carp): 32° to 59° / 15°; 60° to nat. max. / 10° / 87°	Maintained between 6.5 and 8.8 with a maximum artificially induced variation of 1.0 unit within this range. Changes in the pH of natural waters outside these values must be toward neutrality (7.0).	Standards to be established when information becomes available on deleterious effects.
Less than 700 dissolved minerals. Maximum percentage of sodium 40% as determined by the formula $\frac{(Na \times 100)}{(Na+Ca+Mg+K)}$ when the bases are expressed as milliequivalents per liter.	Nutrients originating from industrial, municipal, or domestic animal sources shall be limited to the extent necessary to prevent the stimulation of growths of algae, weeds and slimes which are or may become injurious to the designated use. NO_3 concentrations shall conform to USPHS Drinking Water Standards.	Concentrations of substances of unnatural origin shall be less than those which are or may become injurious to the designated use.	Not applicable	pH shall not have an induced variation of more than 0.5 unit as a result of unnatural sources.	An upper limit of 1000 picocuries/liter of gross beta activity (in absence of a alpha-emitters and Strontium-90). If this limit is exceeded the specific radionuclides present must be identified by complete analysis in order to establish the fact that the concentration of nuclides will not produce exposures above the recommended limits established by the Federal Radiation Council.
Limited to concentrations less than those which are or may become injurious to the designated use.	Nutrients originating from industrial, municipal, or domestic animal sources shall be limited to the extent necessary to prevent the stimulation of growths of algae, weeds and slimes which are or may become injurious to the designated use.	Concentrations of substances of unnatural origin shall be less than those which are or may become injurious to the designated use.	The maximum natural water temperature shall not be increased by more than 10°F.	Maintained within the range 6.5-8.8 with a maximum induced variation of 0.5 unit within this range.	Standards to be established when information becomes available on deleterious effects.

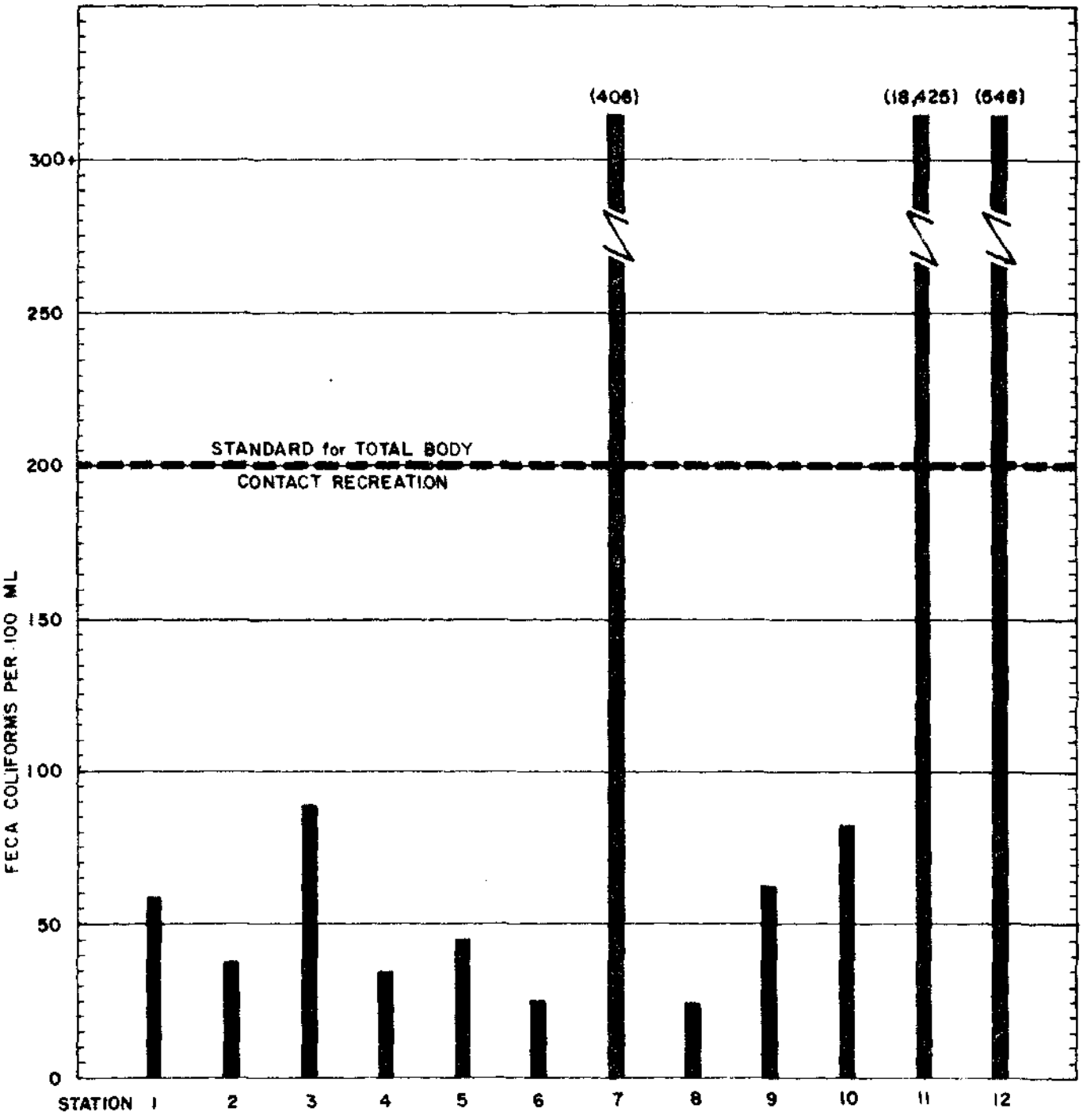
RESULTS OF WATER QUALITY MONITORING FOR FECAL COLIFORM LEVELS

Station	6/23/70	7/7/70	7/23/70	7/28/70	8/17/70	8/23/70	6/22/71	7/6/71	7/13/71	7/20/71	Arith. Mean
1. Big South at Nichols Lake Road	70	35	40	55	0	205	75	20	55	25	58
2. Little South at Kennedy Bridge	10	15	125	55	0	0	120	10	30	25	38
3. Pere Marquette at M-37	10	270	5	105	0	0	60	0	430	10	89
4. Baldwin at M-37	60	20	95	25	5	15	40	85	0	5	35
5. Baldwin at U.S. 10	10	10	15	235	65	0	65	5	40	5	45
6. Pere Marquette at Bowman Bridge	20	15	55	50	10	0	100	5	0	5	26
7. Carr Creek at Hawley Road	600	5	560	1,160	350	405	815	0	165	10	406
8. Big South at Hawley Road	10	15	15	85	0	5	30	20	25	60	26

RESULTS OF BACTERIAL WATER QUALITY MONITORING FOR FECAL COLIFORM LEVELS (CONTINUED)

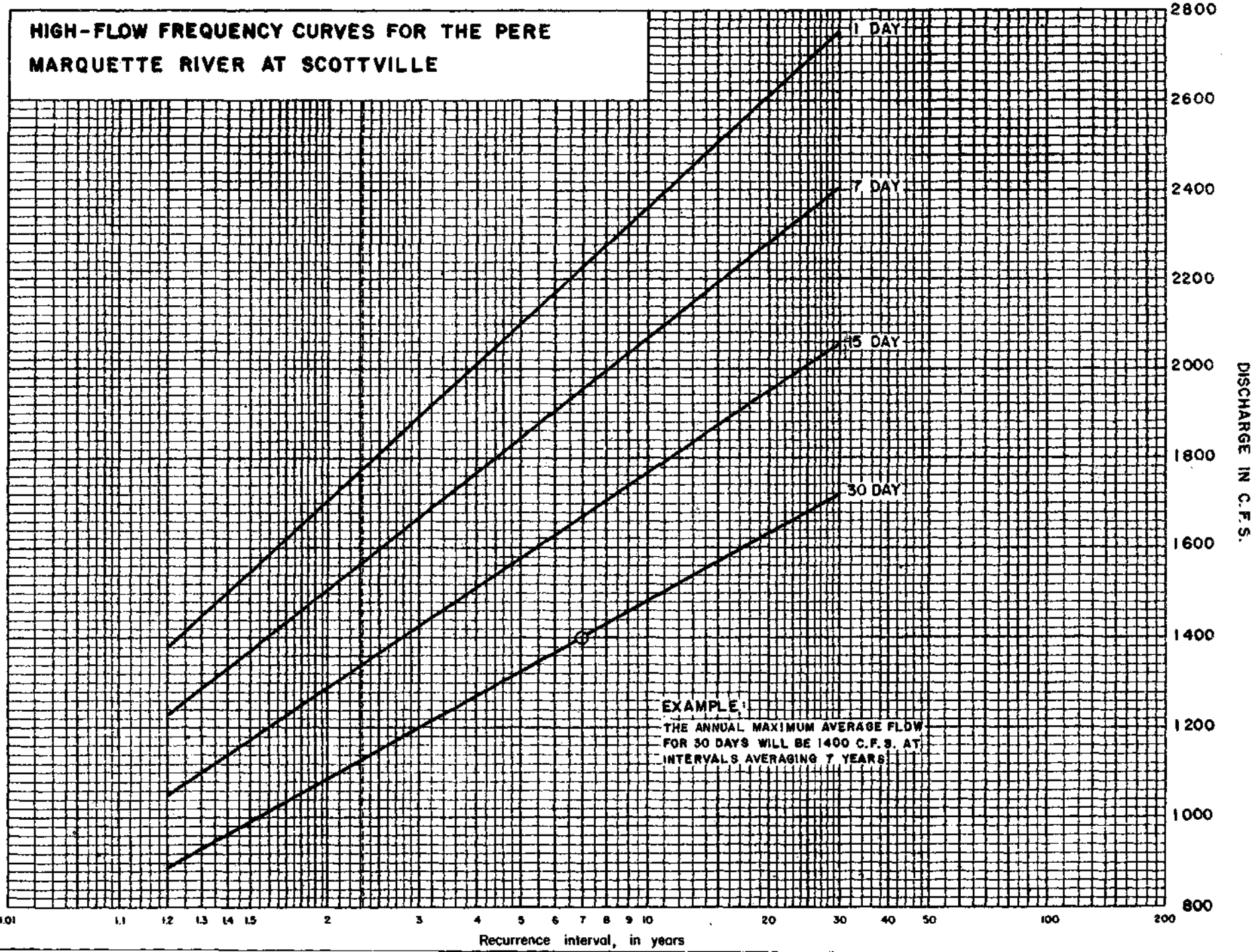
Station	6/23/70	7/7/70	7/23/70	7/28/70	8/17/70	8/23/70	6/22/71	7/6/71	7/13/71	7/20/71	Arith. Mean
9. Big South at Riverside School	40	140	40	80	15	25	95	5	170	15	63
10. Pere Marquette at Indian Bridge	10	500	5	130	0	45	20	15	35	10	82
11. Black Creek at First Street	12,000	11,800	11,650	10,755	8,620	200	2,250	4,520	120,000	2,460	18,425
12. Pere Marquette at Scottville Bridge	10	840	520	2,630	505	120	150	210	360	95	548

ARITHMETIC MEANS OF 10 INDEPENDENT BACTERIAL SAMPLES

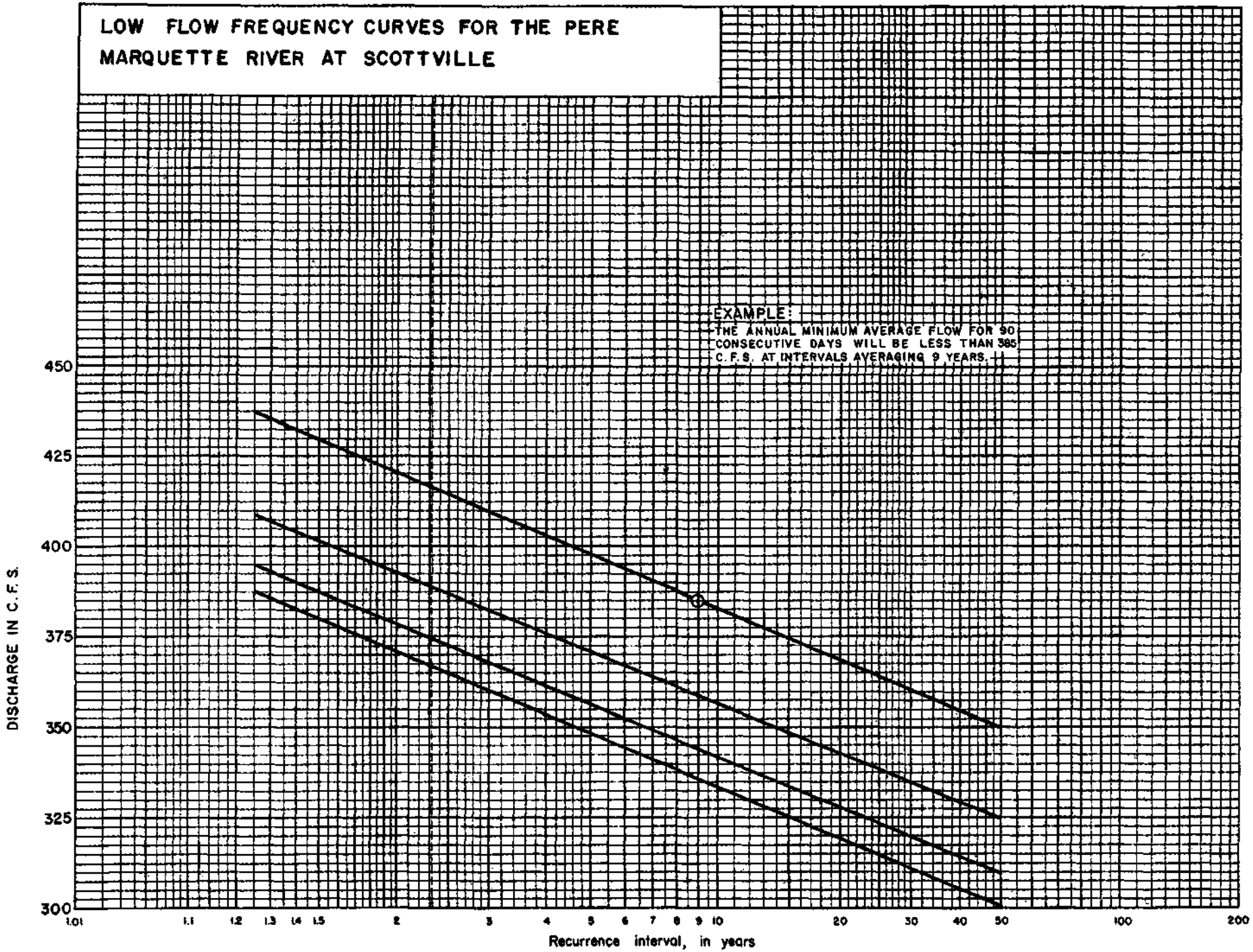


STATION LOCATION

1- BIG SOUTH at NICHOLS LAKE RD. BRIDGE
2- LITTLE SOUTH at KENNEDY BRIDGE
3- P.M. at M-37 BRIDGE
4- BALDWIN R. at M-37 BRIDGE
5- BALDWIN R. at US 10 BRIDGE
6- P.M. at BOWMAN'S BRIDGE
7- CARR CREEK at HAWLEY ROAD BRIDGE
8- BIG SOUTH at HAWLEY ROAD BRIDGE
9- BIG SOUTH at RIVERSIDE SCHOOL BRIDGE
10- P.M. at INDIAN BRIDGE
11- BLACK CREEK at FIRST STREET BRIDGE
12- P.M. at SCOTTVILLE ROAD BRIDGE


HIGH-FLOW FREQUENCY CURVES FOR THE PERE MARQUETTE RIVER AT SCOTTVILLE
1 DAY
7 DAY
15 DAY
30 DAY
EXAMPLE:
THE ANNUAL MAXIMUM AVERAGE FLOW FOR 30 DAYS WILL BE 1400 C.F.S. AT INTERVALS AVERAGING 7 YEARS
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
DISCHARGE IN C.F.S.
1.01
1.1
1.2
1.3
1.4
1.5
2
3
4
5
6
7
8
9
10
20
30
40
50
100
200
Recurrence interval, in years

LOW FLOW FREQUENCY CURVES FOR THE PERE MARQUETTE RIVER AT SCOTTVILLE



APPENDIX G

A REVIEW OF MICHIGAN STATE UNIVERSITY'S
ARCHAEOLOGICAL INVESTIGATIONS OF

THE NOT-A-PE-KA-GON SITE

Pere Marquette River, Manistee National Forest
Region 9
By
Don Miller, Archaeologist, U.S. Forest Service

INTRODUCTION: The following review examines the results of Michigan State University's (MSU) archaeological examination of the so-called, Not-a-pe-ka-gon site which is described in their report entitled, THE CUSTER-WAHALLA SURVEY OF THE PERE MARQUETTE RIVER - September-October 1971 (pp. 12-18; p. 38).

REVIEW: MSU archaeologists indicate that the Not-a-pe-ka-gon site is important for the following reasons:

1. The site is relatively undisturbed.

2. The cultural and associated remains are well preserved.

3. The site appears to have been intensively occupied.

4. The site's integrity is threatened by erosion.

5. The site is a unique example of an early historic site.

IMPLICATIONS TO THE LAND MANAGER: The following discussion will follow the five catagories listed above.

1. As the report suggests, relatively undisturbed sites are rare along the river. To some extent the management practices of the Forest Service have been responsible for some of the damage that has occurred to this site. Yet, the Not-a-pe-ka-gon site offers an unusual opportunity to examine a site that has had little disturbance and, thus, is more accurately representative of prehistoric and early historic human activities in the area than a less intact site.

2. The fact that all indications of MSU's test excavations suggest that the artifactual associations are intact is of the utmost importance for scientific and other interpretive interests. This relates to (1) above. What is suggested is that the total record is there.

3. A site that was intensively occupied will offer a greater variety of interpretive data in the archaeologists' goal of explaining the lifestyles of the past inhabitants.

4. The circumstances referenced in (1) and (2) above are being threatened by erosion.

5. The fact that the site exhibits culture contact materials, e.g., Indian and French, is crucial for scientific problems about the nature of culture contact and change. In terms of educational and information programs for the general public, we have found that many segments of the general public can better "idenfify" with the Indian if the information is presented in the context of European contacts. In fact, a site with evidence of culture contact offers many examples of cultural behavior that are particularly suited for VIS and other public information-education programs.

CONCLUSION

I have reviewed the existing archaeological data from the Not-a-pe-ka-gon site and believe it provides information that would warrant the following suggestions:

1. Nominate the site to the National Register of Historic Places.

2. Consider data from the site (interpretive/explanatory as well as artifactual) for use in Forest Service I&E programs. I would recommend that such programs not be designed on the site, but be considered for presentation at other locations; such as the Cadillac SO, District Ranger Stations, or public slide lectures.

3. Suggest that a major part of MSU's future interests at the site include a suggested design for: (a) further protection to the site, (b) public information and education use of data from the site, and (c) further clarification of data necessary for entering the site to the National Register of Historic Places.

4. I recommend that Region 9 support MSU's proposal to continue research at the Not-a-pe-ka-gon site.

APPENDIX H

RECONNAISSANCE OF THE PERE MARQUETTE RIVER, A COLD WATER RIVER IN THE CENTRAL PART OF MICHIGAN'S SOUTHERN PENINSULA

In 1971 the U.S.G.S. published a report in cooperation with the Michigan Geological Survey entitled "Reconnaissance of the Pere Marquette River, a Cold Water River in the Central Part of Michigan's Southern Peninsula." The report was coauthored by G.E. Hendrickson and C.D. Doonan.

The character of the channel, bed, and banks of the Pere Marquette River and the effects on recreational uses are summarized in the following pages which are excerpts from the above referenced report.

Recreational Use	Relation of physical and hydrologic characteristics to recreational use (Prepared by Michigan Department of Natural Resources)	Characteristics of Pere Marquette River
Trout fishing	Broad open water makes fly casting easier, but tends to warm water. Warm water can have adverse effects on trout propagation and population.	Too narrow for easy fly casting in upper reaches. Broad enough downstream from junction with Little Branch near Baldwin. Broad reaches downstream from Custer contribute to warmer water temperatures.
	Variability in depth, usually related to variability in velocity, affects wading. Predominantly shallow depth makes wading easier.	Varied depths most of river length above Custer. Too deep for easy wading at mid-channel many places below Baldwin. Some holes more than 10 ft. deep.
	Gravel beds provide spawning opportunity and produce fish food. Sand fills deeper holes; buries escape cover, food organisms, and gravel beds.	Sand and gravel beds alternate most of river length. Mostly sand downstream from Wahalla.
	Overhanging banks, logs, fallen trees, and boulders provide trout cover.	Fair to good cover most of river length.
	Streamside trees and shrubs shade water and keep water temperature low. This shade may reduce food production, and the plants may intercept part of ground-water discharge to stream.	River is well-shaded most of river length. Downstream from Custer the greater width of river opens larger surface area to sunlight.

	Clay banks and bottoms produce turbidity, reducing photosynthesis and hence food production. Turbidity also interferes with sight feeding by trout. Sand, gravel, and muck banks more desirable in this respect.	Clay banks and bottoms very rare in entire length of river.
	Banks devegetated by erosion, undercutting, cattle crossing, and boat landing traffic may add undesirable quantities of sand, silt, and clay to the water.	Most of riverbanks are in good shape. A few eroded areas near campsites, bridges, and other access points.
	Variability in gradient is related to variability in velocity and affects wading.	Stream gradient varies in different reaches of river. Wading is difficult to impossible in some fast reaches.
	Bottom vegetation adequate to contribute to food production is desirable, but when excessive it chokes stream and produces extreme daily fluctuations in dissolved oxygen and temperature.	Bottom vegetation is sparse to moderate most of river length. Fairly heavy for a few miles downstream from Baldwin. Dissolved oxygen is within acceptable limits for trout propagation and population.
Boating	Boatability increases as width and depth increase.	Easily boatable for canoes and other light boats downstream from mouth of Little South Branch. Between Custer and Scottville, river can be travelled by larger boats with outboard motors. Downstream from Scottville, narrow branching channels and fallen trees discourage boating with the larger boats.

On smaller streams, sweepers and log jams decrease boatability. Obstructions, shallows, boulders objected to by some canoeists, welcomed by others. If present in excessive amounts, may eliminate boating.	Obstructions make boating difficult in upper reaches and below Scottville. River is generally clear of obstructions from confluence of Little South Branch to Scottville.
A meandering stream is more attractive and interesting than a straight stream.	Pere Marquette is a meandering stream all of its boatable length.
Variety of streamside vegetation adds to interest.	Streamside vegetation mostly hardwood swamp and hardwood upland. Some coniferous swamp in upper reaches.
Alternating high and low banks add to interest.	Banks are mostly low in upper reaches and downstream from Wahalla. Alternating high and low banks in middle reaches.
Undeveloped riverbanks add to enjoyment of most canoeists.	Streamside cabins are abundant near Baldwin, sparse elsewhere.
Frequency and suitability of boat launching and takeout points, as determined by bank characteristics and vegetation, influence useability.	Low sandy banks and clearings provide easy launching and take-out points at most public access sites and at several bridges. High, steep banks, swampy areas, and heavy vegetation discourage boat launching and take-out in most intermediate areas.

Camping and Cabin living	Characteristics favorable to fishing and boating generally also desirable for camping and cabin living.	See descriptions above.
	Moderately high sandy slopes provide good drainage and easy access to river.	High sandy banks with good drainage provide good camping and cabin sites along most of river between Idlewild and Wahalla. In upper reaches, and below Wahalla banks are mostly low and swampy.

Public Law 90-542
90th Congress, S. 119
October 2, 1968

An Act

To provide for a National Wild and Scenic Rivers System, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) this Act may be cited as the "Wild and Scenic Rivers Act". Wild and Scenic Rivers Act.

(b) It is hereby declared 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.

(c) The purpose of this Act is to implement this policy by instituting a national wild and scenic rivers system, by designating the initial components of that system, and by prescribing the methods by which and standards according to which additional components may be added to the system from time to time.

SEC. 2. (a) The national wild and scenic rivers system shall comprise rivers (i) that are authorized for inclusion therein by Act of Congress, or (ii) that are designated as wild, scenic or recreational rivers by or pursuant to an act of the legislature of the State or States through which they flow, that are to be permanently administered as wild, scenic or recreational rivers by an agency or political subdivision of the State or States concerned without expense to the United States, that are found by the Secretary of the Interior, upon application of the Governor of the State or the Governors of the States concerned, or a person or persons thereunto duly appointed by him or them, to meet the criteria established in this Act and such criteria supplementary thereto as he may prescribe, and that are approved by him for inclusion in the system, including, upon application of the Governor of the State concerned, the Allagash Wilderness Waterway, Maine, and that segment of the Wolf River, Wisconsin, which flows through Langlade County. National wild and scenic rivers system. 82 STAT. 906 82 STAT. 907

(b) A wild, scenic or recreational river area eligible to be included in the system is a free-flowing stream and the related adjacent land area that possesses one or more of the values referred to in section 1, subsection (b) of this Act. Every wild, scenic or recreational river in its free-flowing condition, or upon restoration to this condition, shall be considered eligible for inclusion in the national wild and scenic rivers system and, if included, shall be classified, designated, and administered as one of the following: Eligibility for inclusion.

(1) Wild river areas—Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

(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.

(3) Recreational river areas—Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some

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development along their shorelines, and that may have undergone some impoundment or diversion in the past.

National wild and scenic rivers.

SEC. 3 (a) The following rivers and the land adjacent thereto are hereby designated as components of the national wild and scenic rivers system:

(1) CLEARWATER, MIDDLE FORK, IDAHO.—The Middle Fork from the town of Kooskia upstream to the town of Lowell; the Lochsa River from its junction with the Selway at Lowell forming the Middle Fork, upstream to the Powell Ranger Station; and the Selway River from Lowell upstream to its origin; to be administered by the Secretary of Agriculture.

(2) ELEVEN POINT, MISSOURI.—The segment of the river extending downstream from Thomasville to State Highway 142; to be administered by the Secretary of Agriculture.

(3) FEATHER, CALIFORNIA.—The entire Middle Fork; to be administered by the Secretary of Agriculture.

(4) RIO GRANDE, NEW MEXICO.—The segment extending from the Colorado State line downstream to the State Highway 96 crossing, and the lower four miles of the Red River; to be administered by the Secretary of the Interior.

(5) ROGUE, OREGON.—The segment of the river extending from the mouth of the Applegate River downstream to the Lobster Creek Bridge; to be administered by agencies of the Departments of the Interior or Agriculture as agreed upon by the Secretaries of said Departments or as directed by the President.

82 STAT. 907

82 STAT. 908.

(6) SAINT CROIX, MINNESOTA AND WISCONSIN.—The segment between the dam near Taylors Falls, Minnesota, and the dam near Gordon, Wisconsin, and its tributary, the Namekagon, from Lake Namekagon downstream to its confluence with the Saint Croix; to be administered by the Secretary of the Interior: *Provided*, That except as may be required in connection with items (a) and (b) of this paragraph, no funds available to carry out the provisions of this Act may be expended for the acquisition or development of lands in connection with, or for administration under this Act of, that portion of the Saint Croix River between the dam near Taylors Falls, Minnesota, and the upstream end of Big Island in Wisconsin, until sixty days after the date on which the Secretary has transmitted to the President of the Senate and Speaker of the House of Representatives a proposed cooperative agreement between the Northern States Power Company and the United States (a) whereby the company agrees to convey to the United States, without charge, appropriate interests in certain of its lands between the dam near Taylors Falls, Minnesota, and the upstream end of Big Island in Wisconsin, including the company's right, title, and interest to approximately one hundred acres per mile, and (b) providing for the use and development of other lands and interests in land retained by the company between said points adjacent to the river in a manner which shall complement and not be inconsistent with the purposes for which the lands and interests in land donated by the company are administered under this Act. Said agreement may also include provision for State or local governmental participation as authorized under subsection (e) of section 10 of this Act.

(7) SALMON, MIDDLE FORK, IDAHO.—From its origin to its confluence with the main Salmon River; to be administered by the Secretary of Agriculture.

(8) WOLF, WISCONSIN.—From the Langlade-Menominee County line downstream to Keshena Falls; to be administered by the Secretary of the Interior.

(b) The agency charged with the administration of each component of the national wild and scenic rivers system designated by subsection

(a) of this section shall, within one year from the date of this Act, establish detailed boundaries therefor (which boundaries shall include an average of not more than three hundred and twenty acres per mile on both sides of the river); determine which of the classes outlined in section 2, subsection (b), of this Act best fit the river or its various segments; and prepare a plan for necessary developments in connection with its administration in accordance with such classification. Said boundaries, classification, and development plans shall be published in the Federal Register and shall not become effective until ninety days after they have been forwarded to the President of the Senate and the Speaker of the House of Representatives.

Publication in Federal Register.

82 STAT. 908

82 STAT. 909

Sec. 4. (a) The Secretary of the Interior or, where national forest lands are involved, the Secretary of Agriculture or, in appropriate cases, the two Secretaries jointly shall study and from time to time submit to the President and the Congress proposals for the addition to the national wild and scenic rivers system of rivers which are designated herein or hereafter by the Congress as potential additions to such system; which, in his or their judgment, fall within one or more of the classes set out in section 2, subsection (b), of this Act; and which are proposed to be administered, wholly or partially, by an agency of the United States. Every such study and plan shall be coordinated with any water resources planning involving the same river which is being conducted pursuant to the Water Resources Planning Act (79 Stat. 244; 42 U.S.C. 1962 et seq.).

Each proposal shall be accompanied by a report, including maps and illustrations, showing among other things the area included within the proposal; the characteristics which make the area a worthy addition to the system; the current status of landownership and use in the area; the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the national wild and scenic rivers system; the Federal agency (which in the case of a river which is wholly or substantially within a national forest, shall be the Department of Agriculture) by which it is proposed the area be administered; the extent to which it is proposed that administration, including the costs thereof, be shared by State and local agencies; and the estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area as a component of the system. Each such report shall be printed as a Senate or House document.

Report, maps, etc.

Printing as Senate or House document.

(b) Before submitting any such report to the President and the Congress, copies of the proposed report shall, unless it was prepared jointly by the Secretary of the Interior and the Secretary of Agriculture, be submitted by the Secretary of the Interior to the Secretary of Agriculture or by the Secretary of Agriculture to the Secretary of the Interior, as the case may be, and to the Secretary of the Army, the Chairman of the Federal Power Commission, the head of any other affected Federal department or agency and, unless the lands proposed to be included in the area are already owned by the United States or have already been authorized for acquisition by Act of Congress, the Governor of the State or States in which they are located or an officer designated by the Governor to receive the same. Any recommendations or comments on the proposal which the said officials furnish the Secretary or Secretaries who prepared the report within ninety days of the date on which the report is submitted to them, together with the Secretary's or Secretaries' comments thereon, shall be included with the transmittal to the President and the Congress. No river or portion of any river shall be added to the national wild and scenic rivers system subsequent to enactment of this Act until the close of the next full session of the State legislature, or legislatures in case more than one

State is involved, which begins following the submission of any recommendation to the President with respect to such addition as herein provided.

(c) Before approving or disapproving for inclusion in the national wild and scenic rivers system any river designated as a wild, scenic or recreational river by or pursuant to an act of a State legislature, the Secretary of the Interior shall submit the proposal to the Secretary of Agriculture, the Secretary of the Army, the Chairman of the Federal Power Commission, and the head of any other affected Federal department or agency and shall evaluate and give due weight to any recommendations or comments which the said officials furnish him within ninety days of the date on which it is submitted to them. If he approves the proposed inclusion, he shall publish notice thereof in the Federal Register.

Publication in Federal Register.

Potential additions. Designation.

SEC. 5. (a) The following rivers are hereby designated for potential addition to the national wild and scenic rivers system:

(1) Allegheny, Pennsylvania: The segment from its mouth to the town of East Brady, Pennsylvania.

(2) Bruneau, Idaho: The entire main stem.

(3) Buffalo, Tennessee: The entire river.

(4) Chattooga, North Carolina, South Carolina, and Georgia: The entire river.

(5) Clarion, Pennsylvania: The segment between Ridgway and its confluence with the Allegheny River.

(6) Delaware, Pennsylvania and New York: The segment from Hancock, New York, to Matamoras, Pennsylvania.

(7) Flathead, Montana: The North Fork from the Canadian border downstream to its confluence with the Middle Fork; the Middle Fork from its headwaters to its confluence with the South Fork; and the South Fork from its origin to Hungry Horse Reservoir.

(8) Gasconade, Missouri: The entire river.

(9) Illinois, Oregon: The entire river.

(10) Little Beaver, Ohio: The segment of the North and Middle Forks of the Little Beaver River in Columbiana County from a point in the vicinity of Negly and Elkton, Ohio, downstream to a point in the vicinity of East Liverpool, Ohio.

(11) Little Miami, Ohio: That segment of the main stem of the river, exclusive of its tributaries, from a point at the Warren-Clermont County line at Loveland, Ohio, upstream to the sources of Little Miami including North Fork.

(12) Maumee, Ohio and Indiana: The main stem from Perrysburg, Ohio, to Fort Wayne, Indiana, exclusive of its tributaries in Ohio and inclusive of its tributaries in Indiana.

(13) Missouri, Montana: The segment between Fort Benton and Ryan Island.

(14) Moyie, Idaho: The segment from the Canadian border to its confluence with the Kootenai River.

(15) Obed, Tennessee: The entire river and its tributaries, Clear Creek and Daddys Creek.

(16) Penobscot, Maine: Its east and west branches.

(17) Pere Marquette, Michigan: The entire river.

(18) Pine Creek, Pennsylvania: The segment from Ansonia to Waterville.

(19) Priest, Idaho: The entire main stem.

(20) Rio Grande, Texas: The portion of the river between the west boundary of Hudspeth County and the east boundary of Terrell County on the United States side of the river: *Provided*, That before undertaking any study of this potential scenic river, the Secretary of the Interior shall determine, through the channels of appropriate

executive agencies, that Mexico has no objection to its being included among the studies authorized by this Act.

(21) Saint Croix, Minnesota and Wisconsin: The segment between the dam near Taylors Falls and its confluence with the Mississippi River.

(22) Saint Joe, Idaho: The entire main stem.

(23) Salmon, Idaho: The segment from the town of North Fork to its confluence with the Snake River.

(24) Skagit, Washington: The segment from the town of Mount Vernon to and including the mouth of Bacon Creek; the Cascade River between its mouth and the junction of its North and South Forks; the South Fork to the boundary of the Glacier Peak Wilderness Area; the Suiattle River from its mouth to the Glacier Peak Wilderness Area boundary at Milk Creek; the Sauk River from its mouth to its junction with Elliott Creek; the North Fork of the Sauk River from its junction with the South Fork of the Sauk to the Glacier Peak Wilderness Area boundary.

(25) Suwannee, Georgia and Florida: The entire river from its source in the Okefenokee Swamp in Georgia to the gulf and the outlying Ichetucknee Springs, Florida.

(26) Upper Iowa, Iowa: The entire river.

(27) Youghiogheny, Maryland and Pennsylvania: The segment from Oakland, Maryland, to the Youghiogheny Reservoir, and from the Youghiogheny Dam downstream to the town of Connellsville, Pennsylvania.

Studies.

(b) The Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture shall proceed as expeditiously as possible to study each of the rivers named in subsection (a) of this section in order to determine whether it should be included in the national wild and scenic rivers system. Such studies shall be completed and reports made thereon to the President and the Congress, as provided in section 4 of this Act, within ten years from the date of this Act: *Provided, however*, That with respect to the Suwannee River, Georgia and Florida, and the Upper Iowa River, Iowa, such study shall be completed and reports made thereon to the President and the Congress, as provided in section 4 of this Act, within two years from the date of enactment of this Act. In conducting these studies the Secretary of the Interior and the Secretary of Agriculture shall give priority to those rivers with respect to which there is the greatest likelihood of developments which, if undertaken, would render them unsuitable for inclusion in the national wild and scenic rivers system.

(c) The study of any of said rivers shall be pursued in as close cooperation with appropriate agencies of the affected State and its political subdivisions as possible, shall be carried on jointly with such agencies if request for such joint study is made by the State, and shall include a determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the national wild and scenic rivers system.

(d) In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved.

82 STAT. 912

Land acquisition.

SEC. 6. (a) The Secretary of the Interior and the Secretary of Agriculture are each authorized to acquire lands and interests in land within the authorized boundaries of any component of the national wild and scenic rivers system designated in section 3 of this Act, or hereafter designated for inclusion in the system by Act of Congress, which is administered by him, but he shall not acquire fee title to an average of more than 100 acres per mile on both sides of the river. Lands owned by a State may be acquired only by donation, and lands owned by an Indian tribe or a political subdivision of a State may not be acquired without the consent of the appropriate governing body thereof as long as the Indian tribe or political subdivision is following a plan for management and protection of the lands which the Secretary finds protects the land and assures its use for purposes consistent with this Act. Money appropriated for Federal purposes from the land and water conservation fund shall, without prejudice to the use of appropriations from other sources, be available to Federal departments and agencies for the acquisition of property for the purposes of this Act.

(b) If 50 per centum or more of the entire acreage within a federally administered wild, scenic or recreational river area is owned by the United States, by the State or States within which it lies, or by political subdivisions of those States, neither Secretary shall acquire fee title to any lands by condemnation under authority of this Act. Nothing contained in this section, however, shall preclude the use of condemnation when necessary to clear title or to acquire scenic easements or such other easements as are reasonably necessary to give the public access to the river and to permit its members to traverse the length of the area or of selected segments thereof.

(c) Neither the Secretary of the Interior nor the Secretary of Agriculture may acquire lands by condemnation, for the purpose of including such lands in any national wild, scenic or recreational river area, if such lands are located within any incorporated city, village, or borough which has in force and applicable to such lands a duly adopted, valid zoning ordinance that conforms with the purposes of this Act. In order to carry out the provisions of this subsection the appropriate Secretary shall issue guidelines, specifying standards for local zoning ordinances, which are consistent with the purposes of this Act. The standards specified in such guidelines shall have the object of (A) prohibiting new commercial or industrial uses other than commercial or industrial uses which are consistent with the purposes of this Act, and (B) the protection of the bank lands by means of acreage, frontage, and setback requirements on development.

(d) The appropriate Secretary is authorized to accept title to non-Federal property within the authorized boundaries of any federally administered component of the national wild and scenic rivers system designated in section 3 of this Act or hereafter designated for inclusion in the system by Act of Congress and, in exchange therefor, convey to the grantor any federally owned property which is under his jurisdiction within the State in which the component lies and which he classifies as suitable for exchange or other disposal. The values of the properties so exchanged either shall be approximately equal or, if they are not approximately equal, shall be equalized by the payment of cash to the grantor or to the Secretary as the circumstances require.

(e) The head of any Federal department or agency having administrative jurisdiction over any lands or interests in land within the authorized boundaries of any federally administered component of the national wild and scenic rivers system designated in section 3 of this Act or hereafter designated for inclusion in the system by Act of Congress in authorized to transfer to the appropriate secretary jurisdic-

tion over such lands for administration in accordance with the provisions of this Act. Lands acquired by or transferred to the Secretary of Agriculture for the purposes of this Act within or adjacent to a national forest shall upon such acquisition or transfer become national forest lands.

(f) The appropriate Secretary is authorized to accept donations of lands and interests in land, funds, and other property for use in connection with his administration of the national wild and scenic rivers system.

(g)(1) Any owner or owners (hereinafter in this subsection referred to as "owner") of improved property on the date of its acquisition, may retain for themselves and their successors or assigns a right of use and occupancy of the improved property for noncommercial residential purposes for a definite term not to exceed twenty-five years or, in lieu thereof, for a term ending at the death of the owner, or the death of his spouse, or the death of either or both of them. The owner shall elect the term to be reserved. The appropriate Secretary shall pay to the owner the fair market value of the property on the date of such acquisition less the fair market value on such date of the right retained by the owner.

Right of use and occupancy.

(2) A right of use and occupancy retained pursuant to this subsection shall be subject to termination whenever the appropriate Secretary is given reasonable cause to find that such use and occupancy is being exercised in a manner which conflicts with the purposes of this Act. In the event of such a finding, the Secretary shall tender to the holder of that right an amount equal to the fair market value of that portion of the right which remains unexpired on the date of termination. Such right of use or occupancy shall terminate by operation of law upon tender of the fair market price.

"Improved property."

(3) The term "improved property", as used in this Act, means a detached, one-family dwelling (hereinafter referred to as "dwelling"), the construction of which was begun before January 1, 1967, together with so much of the land on which the dwelling is situated, the said land being in the same ownership as the dwelling, as the appropriate Secretary shall designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures accessory to the dwelling which are situated on the land so designated.

Water resources projects. Restrictions.

SEC. 7. (a) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act (41 Stat. 1063), as amended (16 U.S.C. 791a et seq.), on or directly affecting any river which is designated in section 3 of this Act as a component of the national wild and scenic rivers system or which is hereafter designated for inclusion in that system, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of approval of this Act. No department or agency of the United States shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration, or request appropriations to begin

82 STAT. 914

construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior or the Secretary of Agriculture, as the case may be, in writing of its intention so to do at least sixty days in advance, and without specifically reporting to the Congress in writing at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of this Act and would affect the component and the values to be protected by it under this Act.

(b) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, as amended, on or directly affecting any river which is listed in section 5, subsection (a), of this Act, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river might be designated, as determined by the Secretary responsible for its study or approval—

49 Stat. 863. 16 USC 791a.

Publication in Federal Register.

(i) during the five-year period following enactment of this Act unless, prior to the expiration of said period, the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, on the basis of study, conclude that such river should not be included in the national wild and scenic rivers system and publish notice to that effect in the Federal Register, and

(ii) during such additional period thereafter as, in the case of any river which is recommended to the President and the Congress for inclusion in the national wild and scenic rivers system, is necessary for congressional consideration thereof or, in the case of any river recommended to the Secretary of the Interior for inclusion in the national wild and scenic rivers system under section 2(a)(ii) of this Act, is necessary for the Secretary's consideration thereof, which additional period, however, shall not exceed three years in the first case and one year in the second.

Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a potential wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or diminish the scenic, recreational, and fish and wildlife values present in the potential wild, scenic or recreational river area on the date of approval of this Act. No department or agency of the United States shall, during the periods hereinbefore specified, recommend authorization of any water resources project on any such river or request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture in writing of its intention so to do at least sixty days in advance of doing so and without specifically reporting to the Congress in writing at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of this Act and would affect the component and the values to be protected by it under this Act.

(c) The Federal Power Commission and all other Federal agencies shall, promptly upon enactment of this Act, inform the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, of any proceedings, studies, or other activities within their jurisdiction which are now in progress and which affect or may affect any of the rivers specified in section 5, subsection (a), of this Act. They shall likewise inform him of any such proceedings, studies, or other activities which are hereafter commenced or resumed before they are commenced or resumed.

(d) Nothing in this section with respect to the making of a loan or grant shall apply to grants made under the Land and Water Conservation Fund Act of 1965 (78 Stat. 897; 16 U.S.C. 460l-5 et seq.).

SEC. 8. (a) All public lands within the authorized boundaries of any component of the national wild and scenic rivers system which is designated in section 3 of this Act or which is hereafter designated for inclusion in that system are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States.

(b) All public lands which constitute the bed or bank, or are within one-quarter mile of the bank, of any river which is listed in section 5, subsection (a), of this Act are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States for the periods specified in section 7, subsection (b), of this Act.

Mining and mineral leasing laws.

SEC. 9. (a) Nothing in this Act shall affect the applicability of the United States mining and mineral leasing laws within components of the national wild and scenic rivers system except that—

(i) all prospecting, mining operations, and other activities on mining claims which, in the case of a component of the system designated in section 3 of this Act, have not heretofore been perfected or which, in the case of a component hereafter designated pursuant to this Act or any other Act of Congress, are not perfected before its inclusion in the system and all mining operations and other activities under a mineral lease, license, or permit issued or renewed after inclusion of a component in the system shall be subject to such regulations as the Secretary of the Interior or, in the case of national forest lands, the Secretary of Agriculture may prescribe to effectuate the purposes of this Act;

(ii) subject to valid existing rights, the perfection of, or issuance of a patent to, any mining claim affecting lands within the system shall confer or convey a right or title only to the mineral deposits and such rights only to the use of the surface and the surface resources as are reasonably required to carrying on prospecting or mining operations and are consistent with such regulations as may be prescribed by the Secretary of the Interior or, in the case of national forest lands, by the Secretary of Agriculture; and

(iii) subject to valid existing rights, the minerals in Federal lands which are part of the system and constitute the bed or bank or are situated within one-quarter mile of the bank of any river designated a wild river under this Act or any subsequent Act are hereby withdrawn from all forms of appropriation under the mining laws and from operation of the mineral leasing laws including, in both cases, amendments thereto.

Regulations issued pursuant to paragraphs (i) and (ii) of this subsection shall, among other things, provide safeguards against pollution of the river involved and unnecessary impairment of the scenery within the component in question.

(b) The minerals in any Federal lands which constitute the bed or bank or are situated within one-quarter mile of the bank of any river which is listed in section 5, subsection (a) of this Act are hereby withdrawn from all forms of appropriation under the mining laws during the periods specified in section 7, subsection (b) of this Act. Nothing contained in this subsection shall be construed to forbid prospecting or the issuance or leases, licenses, and permits under the mineral leasing laws subject to such conditions as the Secretary of the Interior and, in the case of national forest lands, the Secretary of Agriculture find appropriate to safeguard the area in the event it is subsequently included in the system.

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Administration.

SEC. 10. (a) Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area.

(b) Any portion of a component of the national wild and scenic rivers system that is within the national wilderness preservation system, as established by or pursuant to the Act of September 3, 1964 (78 Stat. 890; 16 U.S.C., ch. 23), shall be subject to the provisions of both the Wilderness Act and this Act with respect to preservation of such river and its immediate environment, and in case of conflict between the provisions of these Acts the more restrictive provisions shall apply.

16 USC 1131 note.

(c) Any component of the national wild and scenic rivers system that is administered by the Secretary of the Interior through the National Park Service shall become a part of the national park system, and any such component that is administered by the Secretary through the Fish and Wildlife Service shall become a part of the national wildlife refuge system. The lands involved shall be subject to the provisions of this Act and the Acts under which the national park system or national wildlife system, as the case may be, is administered, and in case of conflict between the provisions of these Acts, the more restrictive provisions shall apply. The Secretary of the Interior, in his administration of any component of the national wild and scenic rivers system, may utilize such general statutory authorities relating to areas of the national park system and such general statutory authorities otherwise available to him for recreation and preservation purposes and for the conservation and management of natural resources as he deems appropriate to carry out the purposes of this Act.

(d) The Secretary of Agriculture, in his administration of any component of the national wild and scenic rivers system area, may utilize the general statutory authorities relating to the national forests in such manner as he deems appropriate to carry out the purposes of this Act.

Cooperative agreements with State or local governments.

(e) The Federal agency charged with the administration of any component of the national wild and scenic rivers system may enter into written cooperative agreements with the Governor of a State, the head of any State agency, or the appropriate official of a political subdivision of a State for State or local governmental participation in the administration of the component. The States and their political subdivisions shall be encouraged to cooperate in the planning and administration of components of the system which include or adjoin State- or county-owned lands.

Assistance in financing State and local projects.

16 USC 460l-4 note.

16 USC 460l-460l-3.

SEC. 11. (a) The Secretary of the Interior shall encourage and assist the States to consider, in formulating and carrying out their comprehensive statewide outdoor recreation plans and proposals for financing assistance for State and local projects submitted pursuant to the Land and Water Conservation Fund Act of 1965 (78 Stat. 897), needs and opportunities for establishing State and local wild, scenic and recreational river areas. He shall also, in accordance with the authority contained in the Act of May 28, 1963 (77 Stat. 49), provide technical assistance and advice to, and cooperate with, States, political subdivisions, and private interests, including nonprofit organizations, with respect to establishing such wild, scenic and recreational river areas.

(b) The Secretaries of Agriculture and of Health, Education, and Welfare shall likewise, in accordance with the authority vested in them, assist, advise, and cooperate with State and local agencies and private interests with respect to establishing such wild, scenic and recreational river areas.

Administration and management policies. Review.

SEC. 12. (a) The Secretary of the Interior, the Secretary of Agriculture, and heads of other Federal agencies shall review administrative and management policies, regulations, contracts, and plans affecting lands under their respective jurisdictions which include, border upon, or are adjacent to the rivers listed in subsection (a) of section 5 of this Act in order to determine what actions should be taken to protect such rivers during the period they are being considered for potential addition to the national wild and scenic rivers system. Particular attention shall be given to scheduled timber harvesting, road construction, and similar activities which might be contrary to the purposes of this Act.

(b) Nothing in this section shall be construed to abrogate any existing rights, privileges, or contracts affecting Federal lands held by any private party without the consent of said party.

(c) 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 river.

Fish and wildlife. Jurisdiction under State and Federal laws.

SEC. 13. (a) Nothing in this Act shall affect the jurisdiction or responsibilities of the States with respect to fish and wildlife. Hunting and fishing shall be permitted on lands and waters administered as parts of the system under applicable State and Federal laws and regulations unless, in the case of hunting, those lands or waters are within a national park or monument. The administering Secretary may, however, designate zones where, and establish periods when, no hunting is permitted for reasons of public safety, administration, or public use and enjoyment and shall issue appropriate regulations after consultation with the wildlife agency of the State or States affected.

Compensation for water rights.

(b) The jurisdiction of the States and the United States over waters of any stream included in a national wild, scenic or recreational river area shall be determined by established principles of law. Under the provisions of this Act, any taking by the United States of a water right which is vested under either State or Federal law at the time such river is included in the national wild and scenic rivers system shall entitle the owner thereof to just compensation. Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

(c) Designation of any stream or portion thereof as a national wild, scenic or recreational river area shall not be construed as a reservation of the waters of such streams for purposes other than those specified in this Act, or in quantities greater than necessary to accomplish these purposes.

(d) The jurisdiction of the States over waters of any stream included in a national wild, scenic or recreational river area shall be unaffected by this Act to the extent that such jurisdiction may be exercised without impairing the purposes of this Act or its administration.

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(e) Nothing contained in this Act shall be construed to alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made by any States which contain any portion of the national wild and scenic rivers system.

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(f) Nothing in this Act shall affect existing rights of any State, including the right of access, with respect to the beds of navigable streams, tributaries, or rivers (or segments thereof) located in a national wild, scenic or recreational river area.

82 STAT. 916.

Easements and rights-of-way.

(g) The Secretary of the Interior or the Secretary of Agriculture, as the case may be, may grant easements and rights-of-way upon, over, under, across, or through any component of the national wild and scenic rivers system in accordance with the laws applicable to the national park system and the national forest system, respectively: *Provided*, That any conditions precedent to granting such easements and rights-of-way shall be related to the policy and purpose of this Act.

Claim and allowance as charitable contribution or gift. 76 Stat. 1034. 68A Stat. 410.

SEC. 14. The claim and allowance of the value of an easement as a charitable contribution under section 170 of title 26, United States Code, or as a gift under section 2522 of said title shall constitute an agreement by the donor on behalf of himself, his heirs, and assigns that, if the terms of the instrument creating the easement are violated, the donee or the United States may acquire the servient estate at its fair market value as of the time the easement was donated minus the value of the easement claimed and allowed as a charitable contribution or gift.

Definitions.

SEC. 15. As used in this Act, the term—

(a) "River" means a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes.

(b) "Free-flowing", as applied to any river or section of a river, means existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic rivers system shall not automatically bar its consideration for such inclusion: *Provided*, That this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the national wild and scenic rivers system.

(c) "Scenic easement" means the right to control the use of land (including the air space above such land) for the purpose of protecting the scenic view from the river, but such control shall not affect, without the owner's consent, any regular use exercised prior to the acquisition of the easement.

Appropriations.

SEC. 16. There are hereby authorized to be appropriated such sums as may be necessary, but not more than $17,000,000, for the acquisition of lands and interests in land under the provisions of this Act.

Approved October 2, 1968.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 1623 accompanying H. R. 18260 (Comm. on Interior & Insular Affairs) and No. 1917 (Comm. of Conference).
SENATE REPORT No. 491 (Comm. on Interior & Insular Affairs).
CONGRESSIONAL RECORD:
Vol. 113 (1967): Aug. 8, considered and passed Senate.
Vol. 114 (1968): July 15, Sept. 12, considered and passed House, amended, in lieu of H. R. 18260.
Sept. 25, House agreed to conference report.
Sept. 26, Senate agreed to conference report.

Public Law 93-279
93rd Congress, H. R. 9492
May 10, 1974

An Act

To amend the Wild and Scenic Rivers Act by designating the Chattooga River, North Carolina, South Carolina, and Georgia as a component of the National Wild and Scenic Rivers System, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Wild and Scenic Rivers Act (82 Stat. 906; 16 U.S.C. 1274 et seq.), as amended, is further amended as follows:

Wild and Scenic Rivers Act, amendments.
16 USC 1271 note.

(a) In section 3(a) after paragraph (9) insert the following new paragraph:

88 Stat. 1174.
16 USC 1274.

"(10) CHATTOOGA, NORTH CAROLINA, SOUTH CAROLINA, GEORGIA.—The Segment from 0.8 mile below Cashiers Lake in North Carolina to Tugaloo Reservoir, and the West Fork Chattooga River from its junction with Chattooga upstream 7.3 miles, as generally depicted on the boundary map entitled 'Proposed Wild and Scenic Chattooga River and Corridor Boundary', dated August 1973; to be administered by the Secretary of Agriculture: *Provided*, That the Secretary of Agriculture shall take such action as is provided for under subsection (b) of this section within one year from the date of enactment of this paragraph (10): *Provided further*, That for the purposes of this river, there are authorized to be appropriated not more than $2,000,000 for the acquisition of lands and interests in lands and not more than $809,000 for development.".

Appropriation.

(b)(1) In section 4 delete subsection (a) and insert in lieu thereof the following:

16 USC 1275.

"SEC. 4. (a) The Secretary of the Interior or, where national forest lands are involved, the Secretary of Agriculture or, in appropriate cases, the two Secretaries jointly shall study and submit to the President reports on the suitability or nonsuitability for addition to the national wild and scenic rivers system of rivers which are designated herein or hereafter by the Congress as potential additions to such system. The President shall report to the Congress his recommendations and proposals with respect to the designation of each such river or section thereof under this Act. Such studies shall be completed and such reports shall be made to the Congress with respect to all rivers named in subparagraphs 5(a) (1) through (27) of this Act no later than October 2, 1978. In conducting these studies the Secretary of the Interior and the Secretary of Agriculture shall give priority to those rivers with respect to which there is the greatest likelihood of developments which, if undertaken, would render the rivers unsuitable for inclusion in the national wild and scenic rivers system. Every such study and plan shall be coordinated with any water resources planning involving the same river which is being conducted pursuant to the Water Resources Planning Act (79 Stat. 244; 42 U.S.C. 1962 et seq.).

Studies, submittal to President.

Report to Congress.

16 USC 1276.

"Each report, including maps and illustrations, shall show among other things the area included within the report; the characteristics which do or do not make the area a worthy addition to the system; the current status of land ownership and use in the area; the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the national wild and scenic rivers system; the Federal agency (which in the case of a river which is wholly or substantially within a national forest, shall be the Department of Agriculture) by which it is proposed the area, should it be added to the system, be administered; the extent to which it is proposed that such administration, including the costs thereof, be shared by State and local agencies; and the estimated cost to the United States of acquiring necessary lands and interests in

Contents.

land and of administering the area, should it be added to the system. Each such report shall be printed as a Senate or House document."

Printing as Senate or House document. 82 Stat. 910. 16 USC 1276. 16 USC 1278.

(2) In section 5 delete subsection (b) and reletter subsections (c) and (d) as (b) and (c), respectively.

(3) In section 7(b) delete clause (i) and insert in lieu thereof the following:

"(i) during the ten-year period following enactment of this Act or for a three complete fiscal year period following any Act of Congress designating any river for potential addition to the national wild and scenic rivers system, whichever is later, unless, prior to the expiration of the relevant period, the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, on the basis of study, determine that such river should not be included in the national wild and scenic rivers system and notify the Committees on Interior and Insular Affairs of the United States Congress, in writing, including a copy of the study upon which the determination was made, at least one hundred and eighty days while Congress is in session prior to publishing notice to that effect in the Federal Register, and".

Notification to congressional committees. Publication in Federal Register.

(4) In section 7(b)(ii) delete "which is recommended", insert in lieu thereof "the report for which is submitted", and delete "for inclusion in the national wild and scenic rivers system".

16 USC 1286.

(c) In section 15(c) delete "for the purpose of protecting the scenic view from the river," and insert in lieu thereof "within the authorized boundaries of a component of the wild and scenic rivers system, for the purpose of protecting the natural qualities of a designated wild, scenic or recreational river area,".

Appropriation. 16 USC 1287.

(d) Delete section 16 and insert in lieu thereof:

"SEC. 16. (a) There are hereby authorized to be appropriated, including such sums as have heretofore been appropriated, the following amounts for land acquisition for each of the rivers described in section 3(a) of this Act:

Ante, p. 122.

Clearwater, Middle Fork, Idaho, $2,909,800;
Eleven Point, Missouri, $4,906,500;
Feather, Middle Fork, California, $3,935,700;
Rio Grande, New Mexico, $253,000;
Rogue, Oregon, $12,447,200;
St. Croix, Minnesota and Wisconsin, $11,768,550;
Salmon, Middle Fork, Idaho, $1,237,100; and
Wolf, Wisconsin, $142,150.

Expiration date.

"(b) The authority to make the appropriations authorized in this section shall expire on June 30, 1979."

Approved May 10, 1974.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 93-675 (Comm. on Interior and Insular Affairs).
SENATE REPORT No. 93-738 (Comm. on Interior and Insular Affairs).
CONGRESSIONAL RECORD:
Vol. 119 (1973): Dec. 3, considered and passed House.
Vol. 120 (1974): Mar. 22, considered and passed Senate, amended.
Apr. 10, House concurred in Senate amendment with an amendment.
Apr. 23, Senate agreed to House amendment with amendments.
Apr. 25, House concurred in Senate amendments.

GPO 86-139

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

PURPOSE

The following criteria supplement those listed in Section 2 of the Wild and Scenic Rivers Act, which states that rivers included in the National Wild and Scenic Rivers System shall be free-flowing streams which possess outstandingly remarkable scenic, recreational, geological, fish and wildlife, historic, cultural and other similar values.

These guidelines are intended to define minimum criteria for the classification and management of free-flowing river areas proposed for inclusion in the national system by the Secretary of the Interior or the Secretary of Agriculture, and for State rivers included in the system by the Secretary of the Interior.

In reading these guidelines and in applying them to real situations of land and water it is important to bear one important qualification in mind. There is no way for these statements of criteria to be written so as to mechanically or automatically indicate which rivers are eligible and what class they must be. It is important to understand each criterion; but it is perhaps even more important to understand their collective intent. The investigator has to exercise his judgment, not only on the specific criteria as they apply to a particular river, but on the river as a whole, and on their relative weights. For this reason, these guidelines are not absolutes. There may be extenuating circumstances which would lead the appropriate Secretary to recommend, or approve pursuant to Section 2(a)(ii), a river area for inclusion in the system because it is exceptional in character and outstandingly remarkable even though it does not meet each of the criteria set forth in these guidelines. However, exceptions to these criteria should be recognized only in rare instances and for compelling reasons.

The three classes of river areas described in Section 2(b) of the Wild and Scenic Rivers Act are as follows:

"(1) Wild river areas--Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive

and waters unpolluted. These represent vestiges of primitive America.

"(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.

"(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 or diversion in the past."

GENERAL CHARACTERISTICS

The Wild and Scenic Rivers Act, Section 10(a), states that, "Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area."

In order to qualify for inclusion in the national system, a State free-flowing river area must be designated as a wild, scenic, or recreational river by act of the State legislature, with land areas wholly and permanently administered in a manner consistent with the designation by any agency or political subdivision of the State at no cost to the Federal Government, and be approved by the Secretary of the Interior as meeting the criteria established by the Wild and Scenic Rivers Act and the guidelines contained herein. A river or related lands owned by an Indian tribe cannot be added to the national system without the consent of the appropriate governing body.

In evaluating a river for possible inclusion in the system or for determining its classification, the river and its immediate land area should be considered as a unit, with primary emphasis upon the quality of the experience and overall impressions of the recreationist using the river or the adjacent riverbank. Although a free-flowing river or river unit frequently will have more than one classified area, each wild, scenic, or recreational area must be long enough to provide a meaningful experience. The number of different classified areas within a unit should be kept to a minimum.

Any activity, use, or development which is acceptable for a wild river is also acceptable for scenic and recreational river areas, and that which is acceptable for a scenic river is acceptable for a recreation river area. Activity and development limitations discussed below should not necessarily be interpreted as the desired level to which development or management activity should be planned. Hunting and fishing will be permitted, subject to appropriate State and Federal laws.

- The Wild and Scenic Rivers Act provides that rivers must be in a free-flowing natural condition, i.e., a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes which are without impoundment, diversion, straightening, rip-rapping or other modification of the waterway. However, low dams, diversion works, and other minor structures will not automatically preclude the river unit from being included in the National Wild and Scenic Rivers System, providing such structures do not unreasonably diminish the free-flowing nature of the stream and the scenic, scientific, geological, historical, cultural, recreational, and fish and wildlife values present in the area.

- The river or river unit must be long enough to provide a meaningful experience. Generally, any unit included in the system should be at least 25 miles long. However, a shorter river or segment that possesses outstanding qualifications may be included in the system.

- There should be sufficient volume of water during normal years to permit, during the recreation season, full enjoyment of water-related outdoor recreation activities general-

ly associated with comparable rivers. In the event the existing supply of water is inadequate, it would be necessary to show that additional water can be provided reasonably and economically without unreasonably diminishing the scenic, recreational, and fish and wildlife values of the area.

●The river and its environment should be outstandingly remarkable and, although they may reflect substantial evidence of man's activity, should be generally pleasing to the eye.

● The river should be of high quality water or susceptible of restoration to that condition. A concept of nondegradation whereby existing high water quality will be maintained to the maximum extent feasible will be followed in all river areas included in the national system.

All rivers included in the national system should meet 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. Water quality should meet the criteria for fish, other aquatic life, and wildlife, as defined in that document, so as to support the propagation of those forms of life which normally would be adapted to the habitat of the stream. Where no standards exist or where existing standards will not meet the objectives of these criteria, standards should be developed or raised to achieve those objectives. Wild river areas can be included in the national system only if they also meet the minimum criteria for primary contact recreation, except as these criteria might be exceeded by natural background conditions. Scenic or recreation river areas which qualify for inclusion in the system in all respects except for water quality may be added to the system provided adequate and reasonable assurance is given by the appropriate Federal or State authority that the water quality can and will be upgraded to the prescribed level for the desired types of recreation, and support aquatic life which normally would be adapted to the habitat of the stream at the prescribed level of water quality. At such time as water quality fully meets the criteria, it may be desirable to change the classification of a river.

●New public utility transmission lines, gas lines, water

lines, etc., in river areas being considered for inclusion in the national system are discouraged. However, where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are indicated, the scenic, recreational, and fish and wildlife values must be evaluated in the selection of the site in accordance with the general guidelines described in the Report of the Working Committee on Utilities prepared for the President's Council on Recreation and Natural Beauty, December 1968.

- Mineral activity subject to regulations under the Act must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment. Specific controls will be developed as a part of each management plan.

CRITERIA FOR RIVER DESIGNATION

The following criteria for classification, designation, and administration of river areas are prescribed by the Act. These criteria are not absolutes, nor can they readily be defined quantitatively. In a given river, a departure from these standards might be more than compensated by other qualities. However, if several "exceptions" are necessary in order for a river to be classified as wild, it probably should be classified as scenic. If several "exceptions" are necessary in order for a river to be classified as scenic, it probably should be classified as recreational.

Wild River Areas

The Wild and Scenic Rivers Act states that "these represent vestiges of primitive America," and they possess these attributes:

1. "Free of impoundments"
2. "Generally inaccessible except by trail"
3. "Watersheds or shorelines essentially primitive"
4. "Waters unpolluted"

- Classification criteria.

Despite some obvious similarities, the "wildness" associated with a wild river area is not synonymous with the "wildness"

involved in wilderness classification under the Wilderness Act of 1964. One major distinction, in contrast to wilderness, is that a wild river area also may contain recreation facilities for the convenience of the user in keeping with the primitive setting.

1. An "impoundment" is a slack water pool formed by any man-made structure. Except in rare instances in which esthetic and recreational characteristics are of such outstanding quality as to counterbalance the disruptive nature of an impoundment, such features will not be allowed on wild river areas. Future construction of such structures that would have a direct and adverse effect on the values for which that river area was included in the national system, as determined by the Secretary charged with the administration of the area, would not be permitted. In the case of rivers added to the national system pursuant to Sec.2(a)(ii), such construction could result in a determination by the Secretary of the Interior to reclassify or withdraw the affected river area from the system.

2. "Generally inaccessible" means there are no roads or other provisions for overland motorized travel within a narrow, incised river valley, or if the river valley is broad, within 1/4 mile of the riverbank. The presence, however, of one or two inconspicuous roads leading to the river area will not necessarily bar wild river classification.

3. "Essentially primitive" means the shorelines are free of habitation and other substantial evidence of man's intrusion. This would include such things as diversions, straightening, rip-rapping, and other modifications of the waterway. These would not be permitted except in instances where such developments would not have a direct and adverse effect on the values for which that river area was included in the national system as determined by the Secretary charged with the administration of the area. In the case of rivers added to the national system pursuant to Section 2(a)(ii), such construction could result in a determination by the Secretary of the Interior to reclassify or withdraw the affected river area from the system. With respect to watersheds, "essentially primitive" means that the portion of the watershed within the boundaries has a natural-like appearance. As with shorelines, developments within the boundaries should emphasize a natural-

like appearance so that the entire river area remains a vestige of primitive America. For the purposes of this Act, a limited amount of domestic livestock grazing and pasture land and cropland devoted to the production of hay may be considered "essentially primitive." One or two inconspicuous dwellings need not necessarily bar wild river classification.

4. "Unpolluted" means the water quality of the river at least meets the minimum criteria for primary contact recreation, except where exceeded by natural background conditions, and esthetics as interpreted in the Federal Water Pollution Control Administration's Water Quality Criteria, April 1, 1968. In addition, the water presently must be capable of supporting the propagation of aquatic life, including fish, which normally would be adapted to the habitat of the stream. Where no standards exist or where existing standards will not meet the objectives of these criteria, standards should be developed or raised to achieve those objectives.

● Management objectives.

The administration of a wild river area shall give primary emphasis to protecting the values which make it outstandingly remarkable while providing river-related outdoor recreation opportunities in a primitive setting.

To achieve these objectives in wild river areas, it will be necessary to:

1. Restrict or prohibit motorized land travel, except where such uses are not in conflict with the purposes of the Act.

2. Acquire and remove detracting habitations and other nonharmonious improvements.

3. Locate major public-use areas, such as large campgrounds, interpretive centers or administrative headquarters, outside the wild river area. Simple comfort and convenience facilities, such as fireplaces, shelters, and toilets, may be provided for recreation users as necessary to provide an enjoyable experience, protect popular sites, and meet the management objectives. Such facilities will be of a design and

location which harmonize with the surroundings.

4. Prohibit improvements or new structures unless they are clearly in keeping with the overall objectives of the wild river area classification and management. The design for any permitted construction must be in conformance with the approved management plan for that area. Additional habitations or substantial additions to existing habitations will not be permitted.

5. Implement management practices which might include construction of minor structures for such purposes as improvement of fish and game habitat; grazing; protection from fire, insects, or disease; rehabilitation or stabilization of damaged resources, provided the area will remain natural appearing and the practices or structures will harmonize with the environment. Such things as trail bridges, an occasional fence, natural-appearing water diversions, ditches, flow measurement or other water management devices, and similar facilities may be permitted if they are unobtrusive and do not have a significant direct and adverse effect on the natural character of the area.

Scenic River Areas

The Wild and Scenic Rivers Act states that scenic rivers:

1. Are "free of impoundments"
2. Are "accessible in places by road"
3. Have "shorelines or watersheds still largely primitive and shorelines largely undeveloped"

● Classification criteria.

1. An "impoundment" is a slack water pool formed by any manmade structure. Except in rare instances in which esthetic and recreational characteristics are of such outstanding quality as to counterbalance the disruptive nature of an impoundment, such features will not be allowed on scenic river areas. Future construction of such structures that would have a direct and adverse effect on the values for which that river area was included in the national system as determined by the Secretary charged with the administration of the area, would not be permitted. In the case of rivers added to the national

system pursuant to Section 2(a)(ii), such construction could result in a determination by the Secretary of the Interior to to reclassify or withdraw the affected river area from the system.

2. "Accessible in places by road" means that roads may occasionally bridge the river area. Scenic river areas will not include long stretches of conspicuous and well-traveled roads closely paralleling the riverbank. The presence, however, of short stretches of conspicuous or longer stretches of inconspicuous and well-screened roads or screened railroads will not necessarily preclude scenic river designation. In addition to the physical and scenic relationship of the free-flowing river area to roads, consideration should be given to the type of use for which such roads were constructed and the type of use which would occur within the proposed scenic river area.

3. "Largely primitive" means that the shorelines and the immediate river environment still present an overall natural character, but that in places, land may be developed for agricultural purposes. A modest amount of diversion, straightening, rip-rapping, and other modification of the waterway would not preclude a river from being considered for classification as a scenic river. Future construction of such structures would not be permitted except in instances where such developments would not have a direct and adverse effect on the values for which that river area was included in the national system as determined by the Secretary charged with the administration of the area.

In the case of rivers added to the national system pursuant to Section 2(a)(ii), such construction could result in a determination by the Secretary of the Interior to reclassify or withdraw the affected river area from the system. "Largely primitive" with respect to watersheds means that the portion of the watershed within the boundaries of the scenic river area should be scenic, with a minimum of easily discernible development. Row crops would be considered as meeting the test of "largely primitive," as would timber harvest and other resource use, providing such activity is accomplished without a substantially adverse effect on the natural-like appearance of the river or its immediate environment.

4. "Largely undeveloped" means that small communities or any concentration of habitations must be limited to relatively short reaches of the total area under consideration for designation as a scenic river area.

●Management objectives.

A scenic river area should be managed so as to maintain and provide outdoor recreation opportunities in a near natural setting. The basic distinctions between a "wild" and a "scenic" river area are degree of development, type of land use, and road accessibility. In general, a wide range of agricultural, water management, silvicultural and other practices could be compatible with the primary objectives of a scenic river area, providing such practices are carried on in such a way that there is no substantial adverse effect on the river and its immediate environment.

The same considerations enumerated for wild river areas should be considered, except that motorized vehicle use may in some cases be appropriate and that development of larger scale public-use facilities within the river area, such as moderate size campgrounds, public information centers, and administrative headquarters, would be compatible if such structures were screened from the river.

Modest facilities, such as unobtrusive marinas, also would be possible if such structures were consistent with the management plans for that area.

Recreational River Areas

The Wild and Scenic Rivers Act states that recreational rivers:

1. Are "readily accessible by road or railroad"
2. "May have some development along their shoreline"
3. May have "undergone some impoundment or diversion in the past"

●Classification criteria.

1. "Readily accessible" means the likelihood of paralleling roads or railroads on one or both banks of the river, with the possibility of several bridge crossings and numerous

river access points.

2. "Some development along their shorelines" means that lands may be developed for the full range of agricultural uses and could include small communities as well as dispersed or cluster residential developments.

3. "Undergone some impoundment or diversion in the past" means that there may be water resources developments and diversions having an environmental impact greater than that described for wild and scenic river areas. However, the degree of such development should not be to the extent that the water has the characteristics of an impoundment for any significant distance.

Future construction of impoundments, diversions, straightening, rip-rapping, and other modification of the waterway or adjacent lands would not be permitted except in instances where such developments would not have a direct and adverse effect on the values for which that river area was included in the national system as determined by the Secretary charged with the administration of the area. In the case of rivers added to the national system pursuant to Section 2(a)(ii), such construction could result in a determination by the Secretary of the Interior to reclassify or withdraw the affected river area from the system.

● Management objectives.

Management of recreational river areas should be designed to protect and enhance existing recreational values. The primary objectives will be to provide opportunities for engaging in recreation activities dependent on or enhanced by the largely free-flowing nature of the river.

Campgrounds and picnic areas may be established in close proximity to the river, although recreational river classification does not require extensive recreational developments. Recreational facilities may still be kept to a minimum, with visitor services provided outside the river area.

Adopted:

Harrison Loesch 2-2-70
Department of the Interior (Date)

Edward P Cliff 2-3-70
Department of Agriculture (Date)

SUMMARY 1/

Attributes and management objectives of the three river classifications for inclusion in the National Wild and Scenic River System

	Wild	Scenic	Recreation
Attributes	1. Free-flowing. Low dams, diversion works or other minor structures which do not inundate the natural riverbank may not bar consideration as wild. Future construction restricted.	1. Free-flowing. Low dams, diversion works or other minor structures which do not inundate the natural riverbank may not bar consideration. Future construction restricted.	1. May have undergone some impoundment or diversion in the past. Water should not have characteristics of an impoundment for any significant distance. Future construction restricted.
	2. Generally inaccessible by road. One or two inconspicuous roads to the area may be permissible.	2. Accessible by roads which may occasionally bridge the river area. Short stretches of conspicuous or longer stretches of inconspicuous and well-screened roads or railroads paralleling river area may be permitted.	2. Readily accessible, with likelihood of paralleling roads or railroads along river banks and bridge crossings.
	3. Shorelines essentially primitive. One or two inconspicuous dwellings and land devoted to production of hay may be permitted. Watershed natural-like in appearance.	3. Shoreline largely primitive. Small communities limited to short reaches of total area. Agricultural practices which do not adversely affect river area may be permitted.	3. Shoreline may be extensively developed.
	4. Water quality meets minimum criteria for primary contact recreation except where such criteria would be exceeded by natural background conditions and esthetics 2/ and capable of supporting propagation of aquatic life normally adapted to habitat of the stream.	4. Water quality should meet minimum criteria for desired types of recreation except where such criteria would be exceeded by natural background conditions and esthetics 2/ and capable of supporting propagation of aquatic life normally adapted to habitat of the stream, or is capable of and is being restored to that quality.	4. Water quality should meet minimum criteria for desired types of recreation except where such criteria would be exceeded by natural background conditions and esthetics 2/ and capable of supporting propagation of aquatic life normally adapted to habitat of the stream or is capable of and is being restored to that quality.
Management objectives	1. Limited motorized land travel in area.	1. Motorized vehicles allowed on land area.	1. Optimum accessibility by motorized vehicle.
	2. No unharmonious or new habitations or improvements permitted.	2. No unharmonious improvements and few habitations permitted.	2. May be densely settled in places.
	3. Only primitive-type public use provided.	3. Limited modern screened public use facilities permitted, i.e. campgrounds, visitor centers, etc.	3. Public use areas may be in close proximity to river.
	4. New structures and improvement of old ones prohibited if not in keeping with overall objectives.	4. Some new facilities allowed, such as unobtrusive marinas.	4. New structures allowed for both habitation and for intensive recreation use.
	5. Unobtrusive fences, gauging stations and other management facilities may be permitted if no significant adverse effect on natural character of area.	5. Unobtrusive fences, gauging stations and other management facilities may be permitted if no significant adverse effect on natural character of area.	5. Management practice facilities permitted.
	6. Limited range of agriculture and other resource uses permitted.	6. Wide range of agriculture and other resource uses may be permitted.	6. Full range of agriculture and other resource uses may be permitted.

1/ To be used only in conjunction with the text.

2/ Federal Water Pollution Control Administration's Water Quality Criteria, April 1, 1968.

February 1970

GPO 889-442

APPENDIX J

Comments on the "Wild and Scenic River Study Report--Pere Marquette River"

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

In Reply Refer To:
D4219-Pere Marquette

JUN 3 - 1974

Dear Mr. Secretary:

This is in reply to Deputy Assistant Secretary Paul A. Vander Myde's letter of January 24, 1974, requesting our review and comments on the proposed Pere Marquette Wild and Scenic River Study Report.

We concur with the recommendation in the report that 66.4 river miles of the Pere Marquette, designated for study in the Wild and Scenic Rivers Act, should be included in the National Wild and Scenic Rivers System.

We note in the report that two sites are listed in the National Register of Historic Places as State-nominated properties. They are:

Lake County
Marlborough and vicinity
Marlborough Historic District
James Road, W 1/4, SW 1/4, Sec. 14
T17N, R13W

Mason County
Not-a-pe-ka-gon Site
Southeast Mason County

We bring these two sites to your attention because if either of them or any other sites listed or eligible for listing in the National Register of Historic Places would be affected by the proposal, it would be necessary to consult with the State Historic Preservation Officer and the Advisory Council on Historic Preservation to comply with procedures established under Executive Order 11593 and section 106 of the National Historic Preservation Act (80 Stat. 915), as published in the Federal Register of January 25, 1974.

While fishing and hunting are important recreational uses, activities of an educational and aesthetic nature are also important to many residents, students, tourists, and casual observers. We believe the report should discuss the importance of interrelationships, diversity, and natural history of the fauna and related flora of the Pere Marquette River area.

Honorable Earl L. Butz, Washington, D.C.; Subj: Pere Marquette River

Safeguards are needed to maintain the present high water quality and the dependent fish and wildlife resources in the entire basin. Management of the entire watershed, especially reaches upstream from those recommended for inclusion in the National System, is essential. For this reason, we are concerned about future water resource developments, such as the Black Creek-Mason small watershed project which contains channel alteration works. Our primary concern is that an accelerated flow from increased drainage in the upper watershed would disrupt the flow characteristics in the main stem of the Pere Marquette. The report should address these watershed projects in more detail.

An expansion of the discussion on the projects proposed and operational under the Rural Environmental Conservation and Resource Conservation and Development programs would assure the reader that the impact of these projects is not detrimental to the proposed area.

We further believe a discussion of present and projected use of pesticides within or near the proposal should be presented.

This letter summarizes our more detailed views which have been provided the U.S. Forest Service informally at staff level to assist in the preparation of your report to the President.

The opportunity to comment on the Pere Marquette River Study Report is appreciated.

Sincerely yours,

(Sgd) Douglas P. Wheeler

Deputy Assistant Secretary of the Interior

Honorable Earl L. Butz
Secretary of Agriculture
Washington, D.C. 20250

DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 20310

Mr. Douglas Shenkyr
Assistant Director
Watershed Management
Department of Agriculture
14th & Independence Ave.,S.W.
Washington, D. C. 20250

Dear Mr. Shenkyr:

A recent letter from Mr. Paul A. Vander Myde forwarded for our review and comment your proposed report recommending inclusion of 66.4 miles of the Pere Marquette River in Michigan as a component of the National Wild and Scenic River System.

As noted in both the proposed report and the draft environmental statement, to which our comments are equally applicable, there are no water resource developments planned, constructed or authorized for construction by the Corps of Engineers in the study reach of the Pere Marquette. Also, there are currently no studies underway which could result in recommendations for water resource development of this 66.4 mile reach of the river.

We believe that implementation of your recommendations could result in preservation of the scenic qualities of this stream for the enjoyment of present and future generations. Consequently, the Department of the Army interposes no objections to the proposal or to your report.

In keeping with our authorities and responsibilities for regulation of construction activities affecting navigable waters of the United States, development planning for this stream should be coordinated with the District Engineer, U. S. Army Engineer District, Detroit, P. O. Box 1027, Detroit, Michigan 48231.

We appreciate the opportunity to provide our views on your proposed report and draft environmental statement, and hope that these comments will be helpful in perfecting these documents.

Sincerely,

Charles R. Ford
Chief
Office of Civil Functions

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
300 SOUTH WACKER DRIVE, CHICAGO, ILLINOIS 60606

March 4, 1974

REGION V

IN REPLY REFER TO:
5M

Mr. Paul A. Vander Myde
Deputy Assistant Secretary
Department of Agriculture
Office of the Secretary
Washington, D. C. 20250

Dear Mr. Vander Myde:

This responds to your letter of January 24, 1974 addressed to the Honorable James T. Lynn, Secretary of the Department of Housing and Urban Development, which transmits for our review and comment a copy of your Department's Draft Environmental Statement for the Pere Marquette, Michigan National Scenic River, Manistee National Forest.

We certainly support the purpose and direction that is being taken by the Department of Agriculture concerning this important natural resource in our Region. We do wish to point out, however, that the treatment of alternatives is most abreviated. Alternatives B., D. and E. could be more fully addressed by dealing with such factors as cost and cost sharing; recreational use impacts vis-a-vis controlled public-private uses; latitude for innovative administrative measures; and relationships to state and regional planning goals.

We appreciate the opportunity you have afforded us to comment on your proposal.

Sincerely,

George J. Vavoulis
Regional Administrator

FEDERAL POWER COMMISSION
WASHINGTON, D.C. 20426

IN REPLY REFER TO:

Honorable Earl L. Butz
Secretary of Agriculture
Washington, D.C. 20250

Dear Mr. Secretary:

This is in response to letters from your Department, dated January 24 and February 5, 1974, transmitting for the Commission's comments, pursuant to provisions of the Wild and Scenic Rivers Act, copies of your Department's proposed report and draft environmental statement on the wild and scenic river study of the Pere Marquette River in Michigan.

The study concludes that a 66.4-mile segment of the main stem of the Pere Marquette River meets the criteria for inclusion in the National Wild and Scenic Rivers System. The study recommends that this segment, which extends from the junction of the Middle and the Little South Branches downstream to the U.S. 31 highway bridges and includes up to 13,000 acres of adjacent land, be classified as a "Scenic River."

The Federal Power Commission staff has reviewed the material furnished to determine the effect of the proposal on matters affecting the Commission's responsibilities. Such responsibilities relate to the development of hydroelectric power and assurance of the reliability and adequacy of electric service under the Federal Power Act, and the construction and operation of natural gas pipelines under the Natural Gas Act.

The staff review shows that there are no existing or known potential hydroelectric projects in the area recommended for scenic river designation. Also, there are no existing or known plans to construct steam-electric power generating facilities in the area. The staff notes, however, that two power transmission lines, one at 46 kilovolts and one at 138 kilovolts, cross the river near Ludington, Michigan. In the same general area, a 345-kilovolt line is proposed for construction in the near future. The report notes that construction of this line would be planned so as to minimize the impact on the scenic river. The staff notes also that there

are several natural gas pipelines, ranging in size up to 10 inches in diameter, that cross or traverse the proposed scenic river area. None of the pipelines are under the jurisdiction of the Federal Power Commission. Management of the proposed scenic river should permit continued operation of the above-mentioned facilities and should recognize that additional power transmission or gas pipeline facilities may be required in the future.

The reports of your Department indicate that there may be significant deposits of oil and natural gas in the area of the Pere Marquette watershed. This general area is being subjected to a great amount of oil and gas leasing activity and exploration. Production from these deposits, if they are discovered to underlie the proposed river corridor, could be achieved by slant drilling from outside the proposed scenic river area.

Based on its consideration of the reports of your Department and the review by its own staff, the Commission concludes that management of the proposed scenic river segment of the Pere Marquette River should recognize the need for river crossings by existing and future power and natural gas transmission facilities.

Sincerely,

John N. Nassikas

John N. Nassikas
Chairman

UNITED STATES WATER RESOURCES COUNCIL

SUITE 800 • 2120 L STREET, N.W. WASHINGTON, D.C. 20037

JUN 19 1974

Mr. Paul A. Vander Myde
Deputy Assistant Secretary
Department of Agriculture
Washington, D.C. 20250

Dear Mr. Vander Myde:

This is in reply to your letter of January 24, 1974, in regard to review and comment on the Draft Environmental Impact Statement for the Department of Agriculture's proposed report on the Pere Marquette River, Michigan.

The Water Resources Council finds that the Environmental Impact Statement adequately addresses and presents the favorable and adverse environmental effects, and the socio-economic effects of preserving the Pere Marquette River in a natural, free-flowing condition and the necessary protection to the area's aesthetic, recreational, and related resource values. The Statement also presents a comprehensive discussion of the alternatives to the proposed action, setting forth the difference in the environmental and economic benefits and consequences of each alternative. The Statement adequately discusses the regional and interstate aspects of the proposed action on recreation, aesthetics, archeologic assets, sport fishing, wildlife and related resource values.

Sincerely,

s/Warren D. Fairchild

Warren D. Fairchild
Director

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 8 1974

Mr. Paul A. Vander Myde
Deputy Assistant Secretary
Department of Agriculture
Washington, D.C. 20250

Dear Mr. Vander Myde:

The Administrator, Mr. Russell E. Train, has asked me to respond to your letter requesting our comments and views on the final Pere Marquette Wild and Scenic River Study Report and its accompanying draft environmental impact statement.

We support the conclusions and recommendations that the 66.4 mile stretch of the Pere Marquette River between the junction of the Middle and Little South Branches, and the U.S. 31 Highway Bridges meets the criteria of the Wild and Scenic Rivers Act (Public Law 90-542) and should be included in the national rivers system. The study report is well written and describes the natural resources of the study area which strongly support the recommendation for inclusion of the Pere Marquette River in the National Wild and Scenic Rivers System; however, the draft environmental impact statement does not contain sufficient information to assess fully the environmental impact of the subject proposal. We offer the following comments for your consideration for inclusion in the final environmental impact statement.

(1) The final environmental impact statement should provide a more complete description of the river corridor, including the average width of the corridor, development and municipalities immediately affected by the scenic classification, existing access points, and the reasonably foreseeable impact on the water quality and natural resources due to the expected annual carrying capacity (visitors days).

(2) A discussion should be included on the ability of the municipalities in the project area to adequately treat the additional sanitary and solid waste which will be generated due to the increased recreational use. In any event, State and Federal water and air quality standards and criteria must be met.

We have classified the draft environmental statement as LO-2, which means that we lack objections to the proposed action and believe that the environmental impact statement contains insufficient information.

We appreciate this opportunity to comment upon the report and accompanying draft environmental impact statement.

Sincerely yours,

Lillian Regelson

Lillian Regelson
Deputy Assistant Administrator
for Water Planning and Standards
Office of Water and Hazardous Material

STATE OF MICHIGAN
WILLIAM G. MILLIKEN, Governor
DEPARTMENT OF NATURAL RESOURCES
STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926
A. GENE GAZLAY, Director

April 4, 1974

Mr. Kenton P. Clark
Forest Supervisor
Huron-Manistee National Forests
Cadillac, Michigan 49601

Dear Mr. Clark:

The Department of Natural Resources has completed a review of the Draft Environmental Impact Statement for the Pere Marquette National Scenic River. We wish to thank you for the opportunity to review the document and offer the following comments for your consideration.

Pages 3, 13 and 17 - Discussion of timber management policies on public lands appear to be in conflict with each other. This makes the policy unclear.

Page 3 - "... timber will be managed primarily to enhance the esthetics"

Page 13 - "Some wildlife habitat will be reduced, ... as a result of restricted timber activities"

Page 17 - "The timber resources ... will be managed for their esthetic, wildlife habitat, and like values ..."

Page 4 - "All long term effects of the proposal are beneficial to the environment, river resource values and the people of the nation." It seems unreasonable to believe that there are no trade-offs in values, especially when pages 6 and 7 are devoted entirely to a discussion of "Adverse Environmental Effects".

Page 10 - In the first paragraph ... the State pays ad-valorum tax on lands it buys. In paragraphs two and three, discussion of watershed councils states that membership is "predominantly river property owners". Our experience has shown that this is not true, but that membership is largely

non-riparian in nature, made up of trout fishermen, hunters, ecology activities and people interested in a river, but not necessarily riparians. Page 71 of the December 1973 Pere Marquette Wild and Scenic River Report states that a watershed council has been formed for the Pere Marquette. It would seem more appropriate to discuss membership of that group in particular.

Page 11 - "Designation as a State Natural River." There is a good deal of information here that is incorrect and conflicts directly with the information contained on page 73 of the final Study Report of the Pere Marquette. Section E should be rewritten to read as follows:

> In 1970, the State of Michigan passed a companion bill to the Federal Wild and Scenic Rivers Act. The state act calls for establishment of zoning by either local or state government to protect the values of outstanding state rivers. Only four rivers have been designated for inclusion in the state natural rivers system. The concept of the state program is similar to the federal program, namely to preserve outstanding rivers in their natural state and to provide for public recreation use.
>
> One of the benefits of this alternative is the protection allowed for tributary streams, assuring protection of water quality, and fisheries and wildlife values, in addition to esthetics. Although only a relatively narrow strip, 400 feet, can be effected by state rules and regulations, there are no restrictions in the state act to prohibit local units of government from extending the protection. Natural river zoning, although not tested in court, would be an effective management tool in protecting certain values of streams, while at the same time, keeping the land on the tax rolls. Lands designated under the state act are not subject to condemnation, which should give better property owner acceptance. River values may be protected by zoning without the expenditure of public funds for land acquisition.
>
> Consequences are that zoning cannot correct adverse environmental effects or "back-up" existing land uses that are in place or are underway. This would include previously platted subdivisions of river frontage. It is possible that restrictive zoning could reduce the local property tax base, but legislation on the state level is being drafted to allow tax base incentives for property owners who sign easements to keep their lands in a non-developed

condition. Payments for loss of tax revenue to local units of government are being made part of that legislation. The state natural rivers program has not yet been tested to prove its effectiveness. A further consequence is that administrative and management costs would be only partially shared by the people of the nation for an area of national significance.

Page 12 - In the fifth paragraph ... natural river system in Lower Michigan in the year 2000, is almost certain to be a highly unique recreational attraction.

Page 13 - In the last paragraph, last sentence ... game animal habitat may be reduced somewhat but total wildlife value may only change, not decrease.

We are pleased to see the Pere Marquette project proceeding and hope that it can move rapidly toward completion.

Sincerely,

A. Gene Gazlay
Director

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