

CEDAR CREEK

NATURAL, SCENIC AND RECREATIONAL RIVERS STUDY

november 3, 1975
indiana department of natural resources
division of outdoor recreation

table of contents

	Page
Introduction	1
Location Map	3
General Description	4
History	4
Vegetation	5
Fauna	6
Geology	8
Soils	9
Climate	10
Land Use	11
Water Quality	12
Transportation	12
Regional Recreation Facilities	13
Population and Economics	15
Evaluation and Recommendations	16
River Concept Plan	18
Establishment	18
Administration	19
Protection	19
Management	21
Recommended Access Plan	23
Appendix.	26
Topographic Maps	27
Criteria for Identifying Natural, Scenic, and Recreational Rivers in Indiana	29
Public Law 124, Acts of 1973	34
Bibliography	49

introduction

The Indiana General Assembly established the Indiana Natural, Scenic, and Recreational Rivers System during the 1973 session of the Legislature. The law provides for the preservation and protection of streams in the State which possess outstanding natural and scenic characteristics.

Cedar Creek, located in Allen and Dekalb Counties, was designated by the Director of the Department of Natural Resources to be studied for eligibility for inclusion in the System. This report presents the findings, conclusions, and recommendations of the Department staff who studied the stream.

Criteria for rating streams for inclusion into the Natural Rivers System were developed and subsequently approved by the Natural Resources Commission. The criteria provides an objective method whereby the eligibility of streams or stream segments in the State can be determined and, if eligible, be rated for designation as either Natural, Scenic, or Recreational Rivers.

Two basic stipulations within the criteria require that in order for any stream or stream segment to be considered, it must 1) be a minimum of ten miles in length, and 2) be capable of being canoed from March through June.

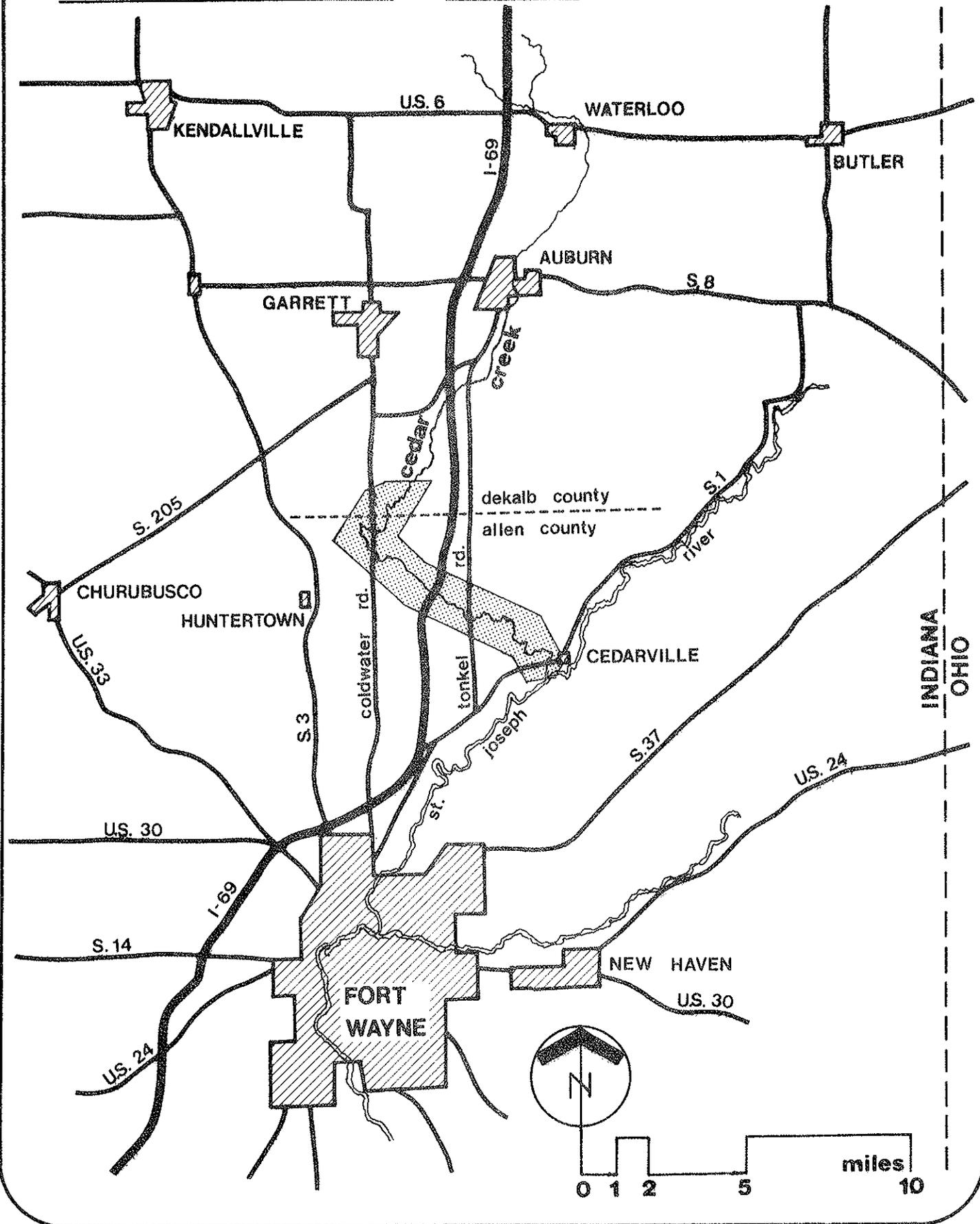
In determining the classification of a stream or stream segment, the following criteria are used:

1. Naturalness of bank vegetation;
2. Vegetation depth - lengths;
3. Physical modifications of streams or its course;
4. Human development of flood plains, slopes, and visible uplands;

5. Special natural features;
6. Aesthetic quality of water;
7. Number of roads, railroads, or overhead utility line crossings;
8. Paralleling roads.

This study involved both field inspection and review of written reports and other publications. The Natural Rivers System Coordinating Committee herewith submits this study for review and consideration by the Natural Resources Commission.

LOCATION MAP



general description

Cedar Creek, with its wide floodplains between picturesque tree-covered high banks and uplands, is a vital natural system in the Cedar Creek area because the area is rapidly changing from an essentially rural area to one of expanding housing and development. Cedar Creek is a tributary of the St. Joseph River and originates in the northern part of DeKalb County. North of the Allen - DeKalb County line, Cedar Creek is a narrow tree-lined waterway transversing the agricultural lands in DeKalb County as it flows in a southwesterly direction. South of the county line, it flows approximately fourteen miles, changing its course to a southeasterly flow through an area called Cedar Canyons. The Canyons are characterized by 70 to 80-foot valley walls, which are in direct contrast to the surrounding flat topography. Within Allen County, Cedar Creek drains 273 square miles and has a stream gradient of four feet per mile.

Cedar Creek is relatively free from human encroachments with the exception of a small number of residential buildings that can be seen from the stream. There is one quasi-public youth camp along the creek and a trail which provides a good opportunity to enjoy and observe the wildlife and plant life. The vegetation is interesting and of wide variety, varying from upland forests to bottomland species which feature large overhanging trees.

history

The history of the Cedar Creek area is very interesting as some 13,000 years ago the geological landscape we have today was being formed. Since that time, a race that possibly was an offshoot of a unique group from Central America settled in the

Mississippi Valley, but also drifted to northern Indiana. This group, called Mound Builders, had an advanced civilization as compared with other tribes of that time period. They received their name because of the burying grounds or mounds that are the only enduring record of their existence.

This civilization preceded the advent of the historic Indians which were present when the settlers first appeared, and in comparison was more permanently located and densely populated. Traces of their habitation are found along Cedar Creek. In Perry Township, four mounds have been located and excavators have found human bones, arrowheads, copper ornaments and charcoal. In Cedar Creek Township, at Cedarville, there are three mounds running parallel to the St. Joseph River. The mouth of Cedar Creek is the southern limit of known mounds in Allen County.

The historic Indians seldom erected mounds for their dead, but there is evidence of their burying grounds on the banks of the St. Joseph River near Cedarville. As the European settlers were moving westward, General Anthony Wayne established a post at the present site of Fort Wayne in 1794. This early settlement was located at the junction of the St. Mary's and St. Joseph Rivers, and furnished protection to the pioneers. A chronological list of historic events in this area is located in the appendix of this report.

vegetation

The native vegetation of Cedar Creek is influenced by topography, geological features, and land uses. Vegetation consists mainly of deciduous trees, water-tolerant grasses and sedges, and some water-tolerant trees. As described in the earliest land surveys, vegetation was in three plant groups in the area; 1 elm-ash swamp forests, 2 beech forests, and 3 mixed oak forests.

Mississippi Valley, but also drifted to northern Indiana. This group, called Mound Builders, had an advanced civilization as compared with other tribes of that time period. They received their name because of the burying grounds or mounds that are the only enduring record of their existence.

This civilization preceded the advent of the historic Indians which were present when the settlers first appeared, and in comparison was more permanently located and densely populated. Traces of their habitation are found along Cedar Creek. In Perry Township, four mounds have been located and excavators have found human bones, arrowheads, copper ornaments and charcoal. In Cedar Creek Township, at Cedarville, there are three mounds running parallel to the St. Joseph River. The mouth of Cedar Creek is the southern limit of known mounds in Allen County.

The historic Indians seldom erected mounds for their dead, but there is evidence of their burying grounds on the banks of the St. Joseph River near Cedarville. As the European settlers were moving westward, General Anthony Wayne established a post at the present site of Fort Wayne in 1794. This early settlement was located at the junction of the St. Mary's and St. Joseph Rivers, and furnished protection to the pioneers. A chronological list of historic events in this area is located in the appendix of this report.

vegetation

The native vegetation of Cedar Creek is influenced by topography, geological features, and land uses. Vegetation consists mainly of deciduous trees, water-tolerant grasses and sedges, and some water-tolerant trees. As described in the earliest land surveys, vegetation was in three plant groups in the area; 1 elm-ash swamp forests, 2 beech forests, and 3 mixed oak forests.

Along the river banks, vegetative cover consists of a narrow band of trees and shrubs comprised of cottonwood, sycamore, silver and red maples, box elder, bladdernut, ash, black haw, silky dogwood, redbud, smooth sumac, witchhazel, winterberry, red elm, and various willows. Common groundcovers include poison-ivy, jewelweed, stinging nettle, wild rye and occasionally large clumps of cinnamon ferns. Much of the wetland forests that once occurred have disappeared as a result of clearing and drainage for agricultural uses.

Although limited, some woodlands occur in the moist upper banks bordering flat uplands, which include sugar maple, beech, green ash, red oak, tulip tree, wild black cherry, and buckeye. The trees occurring on drier sites include hackberry, white and black oaks, and shagbark hickory.

Understory plant material located in areas least disturbed by grazing and occasional fires include ferns, trilliums, jack in the pulpit, white baneberry, sweet cicely, bloodroot, spring beauty, hepatica, bellwort, Dutchman's breeches, wild ginger, jewelweed, sneezeweed, monkey flower, turtlehead, ragweed, celandine poppy, columbine, and skunk cabbage. As disturbance increases, plant succession includes millet, sedges, rushes, asters, goldenrods, and invading blackberry. Some of the most unusual flowers discovered in isolated parts of the valley are the rare Indian paint brush and the yellow ladyslipper orchid.

fauna

Farming practices have had an important influence on the population of wildlife. A well-planned and managed farm wildlife system provides food and cover for wildlife and maintains good crop yields from the soils. Farm crops, as a source of food for wild-

Along the river banks, vegetative cover consists of a narrow band of trees and shrubs comprised of cottonwood, sycamore, silver and red maples, box elder, bladdernut, ash, black haw, silky dogwood, redbud, smooth sumac, witchhazel, winterberry, red elm, and various willows. Common groundcovers include poison-ivy, jewelweed, stinging nettle, wild rye and occasionally large clumps of cinnamon ferns. Much of the wetland forests that once occurred have disappeared as a result of clearing and drainage for agricultural uses.

Although limited, some woodlands occur in the moist upper banks bordering flat uplands, which include sugar maple, beech, green ash, red oak, tulip tree, wild black cherry, and buckeye. The trees occurring on drier sites include hackberry, white and black oaks, and shagbark hickory.

Understory plant material located in areas least disturbed by grazing and occasional fires include ferns, trilliums, jack in the pulpit, white baneberry, sweet cicely, bloodroot, spring beauty, hepatica, bellwort, Dutchman's breeches, wild ginger, jewelweed, sneezeweed, monkey flower, turtlehead, ragweed, celandine poppy, columbine, and skunk cabbage. As disturbance increases, plant succession includes millet, sedges, rushes, asters, goldenrods, and invading blackberry. Some of the most unusual flowers discovered in isolated parts of the valley are the rare Indian paint brush and the yellow ladyslipper orchid.

fauna

Farming practices have had an important influence on the population of wildlife. A well-planned and managed farm wildlife system provides food and cover for wildlife and maintains good crop yields from the soils. Farm crops, as a source of food for wild-

life, are abundant in the area, but cover for small animals, in most areas, is lacking. Soils that are depleted of vegetative cover increase the population of insects and undesirable species such as rodents because of the lack of food and cover for the more desirable animals.

In woody and bushy areas in the Cedar Creek area, the only large game animal is the white-tailed deer. Other animals include the coyote and badger which are occasionally reported, and the red and gray fox, mink, weasel, skunk, raccoon, muskrat, woodchuck, and opossum which are in fair to good populations. Trapping of these fur-bearing animals is popular. Four squirrel species are found in the area: fox squirrel, which prefer wooded streambanks and lots and also represent the highest population, and the gray squirrel, red squirrel, and southern flying squirrels which also live in the basin woodlands. Bushy fencerows and wood lots are the habitation of the cottontail rabbits which exist in low to medium numbers and thrive in grain and hay fields.

In the large bottomland woods, the wood ducks have found good to excellent habitats for nesting. Mallards and Black ducks make up the greatest part of migrating ducks which provide moderate waterfowl hunting. However, both resident and migrating wood ducks represent the largest percentage of waterfowl in the area.

The peaceful Great Blue Heron has about 25 active nests in a rookery in the southern part of DeKalb County along Cedar Creek. The ring-necked pheasant and bobwhite quail are occasionally present in the area. The pheasants require undisturbed nesting and winter cover, but are not as productive in bushy areas as in intensively farmed areas. Quail are often found in the bushy edge of farm fields.

Cedar Creek is a rocky bottom stream with ripples and cool water containing a habitat suitable for smallmouth and rock bass. Also included on the sport fishing list are bluegill, channel catfish, buffalo fish, pan fish and suckers. The stream was once a good trout stream on a put and take basis, but existing water quality no longer allows put and take operations. As water quality improves, it is hoped trout-stocking can take place again. In the appendix is a list of fauna found in the Cedar Creek region.

geology

The landscape of Cedar Creek is a result of geologic processes occurring 13,000 to 15,000 years ago during the last of the Pleistocene period. Most of the area lies in glacial end moraine deposits. This area is characterized by low rolling topography and till material rich in clay and relatively impervious. The bottomlands include mainly alluvium and outwash deposits of sand and gravel which were carried into the valleys by melting ice.

At one time, Cedar Creek was thought to have carried large volumes of water from melting glacial ice. The gorge, measuring 60 to 70 feet deep and 800 to 1,000 feet wide, was cut across the Wabash Moraine at a right angle, thus carrying water from upper Cedar Creek to the St. Joseph River instead of the Eel River, to which it once flowed. This is an example of stream piracy. The intersection of Tonkel Road and Cedar Creek marks the division where this change has taken place.

N.K. Bleuer and M.C. Moore, from the Division of Geological Survey, have outlined a hypothetical sequence of events of the piracy of Cedar Creek. A narrative explanation and diagram appear in the appendix.

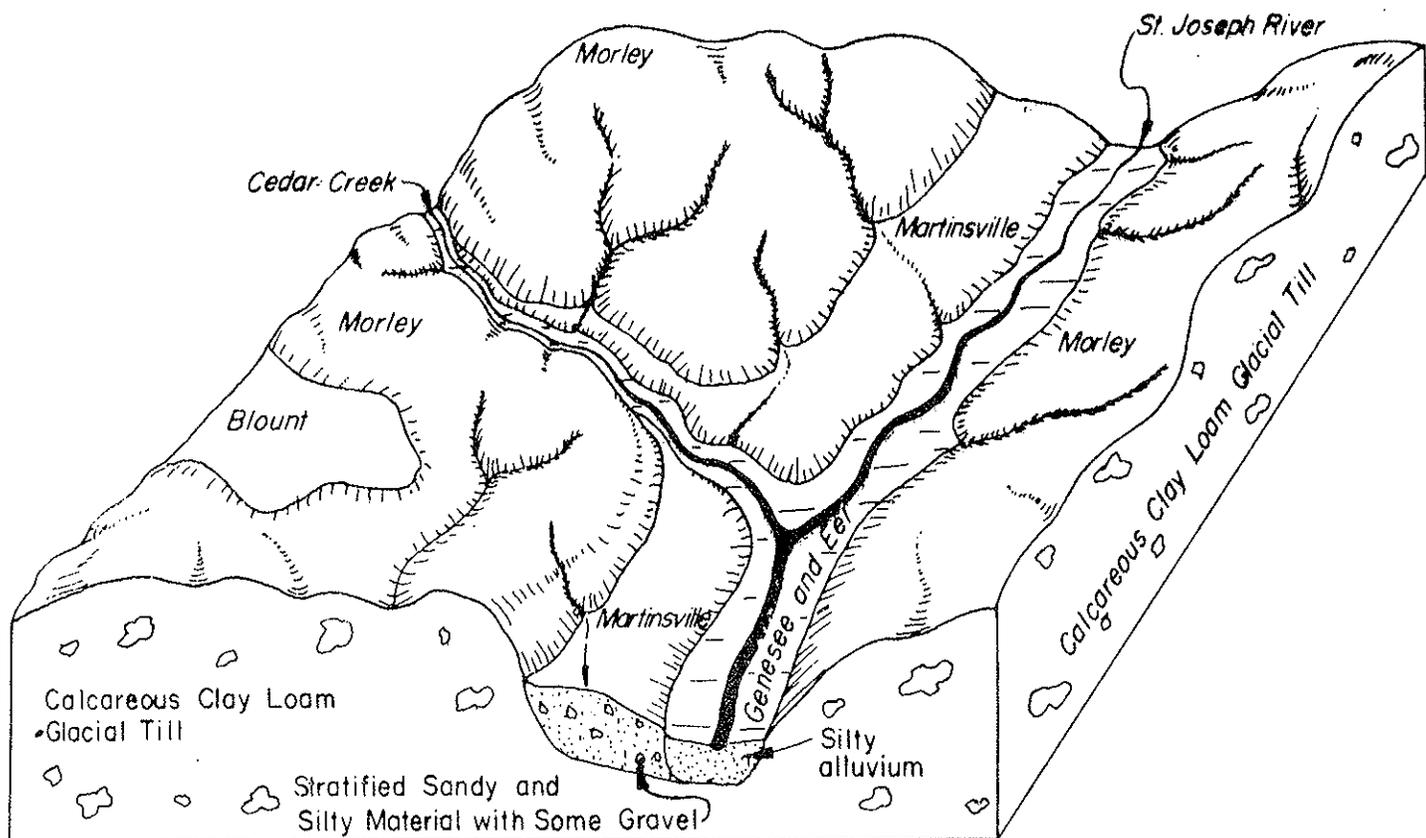
soils

The Morley-Blount association and the Eel-Martinsville-Genesee association comprise the majority of the soils along Cedar Creek. The Morley-Blount association indicates deep, moderately to poorly drained, nearly level to steep, medium textured soils and usually occurs on uplands. Of this association, morley soils represent 50% of the average and blount soils equal 40%.

The gently sloping soils support meadow crops, corn, soybeans and small-grained crops. The steeply sloping soils maintain some native vegetation but erosion is a hazard.

The Eel-Martinsville-Genesee association consists of deep, moderately well-drained nearly level, medium to moderately fine textured soils on bottom lands and stream terraces. The bottomland soils, Eel and Genesee, represent 55% of the average and the Martinsville or stream terrace soils represent 45%. Soils in this association are suited to meadow crops, corn, soybeans, and small grain crops. Eel and Genesee soils are inundated occasionally by flooding and the Martinsville soils are subject to erosion.

Soils of stream terraces provide the most suitable sites for residential structures, on-site sewage disposal, campsites and picnic areas. If trails are located on the contours, the steep valley walls provide recreational potential when considering proper control of erosion. The soils in the Cedar Creek area have a wide range of properties, which have a dramatic influence on their suitability for potential land uses.



—Parent material and position of soils in associations 1 and 4 in the north-central part of the county.

Source: U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Allen County, Indiana. Washington GPO, May, 1969, p. 3.

climate

The climate of the Cedar Creek area is typical of the southern portion of the Great Lakes Region. Summers are warm and humid while winters are cold and cloudy with annual and day-to-day temperatures varying greatly.

The average temperatures range from 26⁰F in January to 73⁰F in July which provide an average growing season of 156 days in length. During the summer afternoons, the humidity often reaches 80% to 90%. Droughts are most likely to occur in midsummer which is characterized by scattered showers, infrequent rain and high evaporation losses. Mean annual precipitation is approximately 35 inches and the annual snowfall is 30 inches from November through

March. Thunderstorms occur on about 43 days each year.

The prevailing wind direction is from the southwest quadrant and during summer thunderstorms wind speeds can approach 90 mph. The area can experience severe weather conditions with tornados in the spring and summer and heavy snows in the winter.

Cedar Creek will rise and fall rapidly following heavy rains and at times can be quite dangerous.

land use

Cedar Creek has light development along its heavily forested banks and bottomlands. The upland plateau surrounding the creek is predominately agricultural with scattered urban development and some forest lands. The majority of agricultural lands are being rotationally tilled, producing row crops such as corn and soybeans with lesser amounts of wheat and legumes. Specialty crops such as tomatoes and sugar beets are grown in the area; also of moderate significance is dairy farming.

A general picture of the land use for the Creek indicates approximately 76% agriculture, 21% forested lands, and 3% urban environment. The land use acreages and percentages for Allen and DeKalb Counties are as follows:

STATE OF INDIANA								
County	Total Land Area	Federal Non Crop	Urban +Build Up	Small Water Areas	Cropland	Pasture	Forest	Other
Allen	428,800	700 0.2	64,000 14.9	1,300 0.3	308,176 71.9	9,216 2.1	35,237 8.2	10,171 2.4
DeKalb	233,600	0 0.0	29,200 12.5	1,702 0.7	153,019 65.5	18,479 7.9	24,442 10.5	6,758 2.9

Source: Bureau of Outdoor Recreation, The Maumee River, A Wild and Scenic River Study, p.99.

For an overview of the changing land use patterns of the Cedar Creek area, two townships in Allen County, Cedar Creek and

Perry, illustrate the change. Cedar Creek township had a total of 3,014 acres of woodland in 1964 and since has lost 124 total acres; 64 acres to agriculture, 29 acres to residential development, and 31 acres to miscellaneous changes. Perry Township, as of 1964, had 4,233 total acres of woodland but has since lost a total of 87 acres, 60 acres to agriculture and 27 acres to residential.

water quality

The water quality of Cedar Creek for many reasons is periodically degraded. Some reasons include inadequately treated municipal and industrial waste, overflow of sewer systems, run-off from agricultural lands, and sedimentation caused by poor land management practices.

A U.S. Environmental Protection Agency sampling crew conducted a comprehensive water quality survey on Cedar Creek on August 21, 1973. The study indicated the Creek to be turbid, high in dissolved solids, and periodically odorous. Dissolved oxygen deficiencies and high phosphorous levels have been experienced within Allen County, which are a result of excessive amounts of soil erosion and agricultural run-off along with treated waste residuals.

At the present, not all of the causes of pollution have been identified, but through continued efforts and actions the water quality of the stream is being improved to ensure the natural integrity and recreational enjoyment of the stream.

transportation

Cedar Creek, because of its proximity to Fort Wayne, is traversed by one interstate highway (I-69), one state highway (S.R. 1) and by two major county roads (Tonkel and Coldwater) leading to

the urban center. These transportation routes are of major importance and when consolidated with the local or minor collectors, provide good access to Cedar Creek.

Rail passenger service in Fort Wayne is available through Amtrak which is part of the Chicago to New York service.

Air passenger service is provided by three airports of which Baer Field, on the southern limits of Fort Wayne, is the most widely used. Smith Field, located on the northern part of Fort Wayne, and Auburn Airfield in Auburn are smaller.

regional recreational facilities

Cedar Creek, on a local and regional scale, provides much needed topographic and scenic relief within an area that is primarily flat agricultural land. The stream and its wooded banks provide a habitat for wildlife and opportunities for fishing and nature observations and studies.

Along Cedar Creek, there currently exist two private areas of recreational significance. The Izaak Walton League Chapter Grounds, located in Allen County, consist of 158 acres which are utilized for camping, fishing, hiking, and scenic woodlands. Camp McMillen is a girl scout camp located on 62 acres in Allen County, offering activities such as camping, fishing and hiking.

Within a fifty-mile radius of Allen County including the urban centers of Elkhart and Fort Wayne, the Federal and State Recreation Areas totalled approximately 46,700 acres in 1975. Approximately 22,000 acres of this total represents three flood control-recreational reservoirs in the southwestern part of this area; the Huntington, Salamonie, and Mississinewa Reservoirs. These water pools relieve

much of the recreational pressure on the lakes to the north of Allen County and because of the easy access, provide good opportunities for boating, water skiing, and fishing.

This region contains 40 percent of the lake acreage in the State. The Federal and State recreation facilities available in this region are listed in the appendix of this report. Neighboring states of Michigan and Ohio do not greatly affect the local recreational need for facilities in the area, but do provide limited resources for leisure-time activities.

The majority of public recreation areas within the area are provided by the Fort Wayne Park System. The system has a total of 1667 acres which includes seven parks 70 acres are larger in size. The close proximity of residents and the available access are the primary reasons for the success of the Fort Wayne Parks. The City Parks provide picnic and sport and game areas, but when comparing the overall average of recreation areas in Fort Wayne to the standard determined by the State of ten acres per 1,000 population, it falls approximately 250 acres short.

Other recreation sites in the area include Community Parks totaling 42 acres. These parks are designed for local needs and provide playground equipment and facilities for basketball, baseball and picnicking. Public recreation areas in Allen County are listed in the appendix.

There are two natural areas in Allen County of major significance that have been protected for present and future enjoyment. A natural area can be defined as an area in which nature predominates, having little or no human development.

Fox Island, a morainal dune is located in Aboite township. The 371 acre area was formed by glacial sand dunes that remain

from the outline of Lake Maumee. Fox Island contains a 220 acre nature preserve and some of the county's most interesting vegetation and fauna, having second growth of hardwood timber up to 40 feet high.

Mengerson Woods, located in Allen County in an urban setting off Stellhorn Road, offers 40 acres of interesting variety of meadow land, woodland and wetland.

The largest acreage of non-public recreational facilities are golf courses, several of which provide tennis and swimming. Three golf courses are located within the Fort Wayne Park System area. Special outdoor activities such as sportsman clubs are located in the surrounding townships. Private recreational facilities are listed in the appendix.

population and economics

Allen County, as of 1960, had a population of 232,196 and in 1970 increased to 280,455 and is projected in 1980 to 318,000. DeKalb County, being less urbanized, had a population of 28,271 in 1960, 30,837 in 1970 and is anticipated to reach 33,470 in 1980. Approximately seventy-five percent of the residents of Allen County live in an urban environment and only thirty percent of the population of Dekalb County live in an urban setting.

Information that gives a basic understanding of social and economic factors of the study area are located in the appendix.

When considering that 10 million people live within a two hour drive of Allen County, including urban centers, and that the level of education, income, and life expectancy are increasing, the demand for leisure time activities is continually growing in importance. We can also conclude that pressures are multiplying

on the natural features of the United States, Indiana, Allen and DeKalb Counties, and Cedar Creek and that we must preserve our remaining natural areas for the education and enjoyment of this increasing demand.

evaluation and recommendations

Cedar Creek was rated to determine its qualification for classification as a Natural, Scenic, or Recreational River. The following definitions taken from the act will assist in understanding the criteria:

1. The term "natural river" shall mean any river which, free of impoundment, is generally unpolluted, undeveloped, and inaccessible.
2. The term "scenic river" shall mean any river which is free of impoundments, accessible in several places, and with minimal pollution and shore line developments.
3. The term "recreational river" shall mean any river which does not contain those characteristics necessary to qualify as a natural or scenic river, but which still maintains scenic or recreational characteristics of unusual and significant value.
4. The term "river" shall mean any flowing body of water and adjacent lands, or portions thereof.

The criteria are designed to give the State an objective rating system which can be applied to any river. Even though a stream meets the necessary criteria, it may be disqualified if its rating from classification criteria is too low to be included in one of the classes.

In order to qualify for evaluation, the stream segment must meet the following minimum criteria:

1. Stream segment must be a minimum of 10 miles long.
2. Depth must be adequate to canoe in the months of March through June in years of normal rainfall although some rapids may require wading or portaging. Intermittent streams shall not be qualified.

3. If a stream segment receives zero points on any of the classification criteria below, it is automatically disqualified from further consideration. The automatic disqualification is made if:
 - a. The stream (or segment) is channelized for more than 5% of its stream length or a dam or dams impound water which create artificial pools that back up water for more than 5% of the stream's length at normal summer water levels. Inundation and/or channelization having a cumulative total of more than 5% disqualifies the stream. (See classification criteria no. 3 in appendix.)
 - b. Pollution is chronic and visible (not including muddy waters). (See classification criteria no. 6 in appendix.)
 - c. A total of more than 5 miles of paralleling roads are within 1,000 feet per 10 miles of stream. (See classification criteria no. 7 in appendix.)
 - d. There are ten or more road, railroad, or overhead utility line crossings per ten miles of stream. (See classification criteria no. 8 in appendix.)

Once a stream is seen to meet the criteria qualifying it for study, it is then rated for classification as a natural, scenic, or recreational stream. If it fails to meet minimum rating values, it is disqualified.

The system for classification has eight categories for which the stream or any ten-mile segment of it is investigated. These are naturalness of bank vegetation, a vegetation depth-length index, physical modification of stream course, human developments, special natural features, water quality, paralleling roads, and number of crossings. For each category, a rating value is assigned, either 0, 1, 2, 3, or in one case, 4, on the basis of a set of defined criteria. The lower points are for lower quality, the higher points for better quality, according to the defined criteria. Streams or stream segments are then classified into one of three

groups according to their point totals.

<u>Total Points</u>	<u>Classification</u>
21+	Natural
17-20	Scenic
13-16	Recreational

Streams with a rating of 12 or lower are disqualified, however, they may be rated and considered at a later date if improvement has been made to warrant re-evaluation.

The complete rating table for application of criteria appears in the appendix.

An interdisciplinary committee made up of representatives from various Divisions within the Department of Natural Resources was formed to study streams proposed for possible inclusion into the System. This Natural Rivers System Coordinating Committee has given Cedar Creek a rating of 15 total points and recommends the approximate 13.7 mile section between County Road 68 at the Cedar Chapel Bridge in DeKalb County to the confluence with the St. Joseph River be classified under the third or Recreational category.

river concept plan

The Indiana Natural, Scenic and Recreational Rivers System Act directed the Department of Natural Resources to prepare and maintain a plan for establishment, development, management, use and administration of rivers in the System. The act also states that this plan is to become an integral part of comprehensive state plans for water management and outdoor recreation.

establishment

The law authorizes the Director of the Department of Natural Resources to study and from time to time, submit to the Natural Resources Commission proposals for the inclusion of any section

of river into the System. In recommending a river segment for inclusion, the Director is to prepare a detailed report on the factors which, in his judgment, make the river worthy of designation.

Based upon the study and recommendations of the Director, the Commission may designate a river for inclusion into the System by rule and regulation. Prior to promulgation, the Director must notify each adjacent or abutting landowner of plans and recommendations for the river. A public hearing must then be held in the county containing the largest section of the river being considered.

administration

The Director of the Department of Natural Resources assumes administrative responsibility for the Indiana Natural Rivers System as provided for in the Act. He may take the necessary action to acquire, develop, maintain, and preserve the river and authorized related land area. This is to be done in accordance with his previously conferred powers with respect to parks, fish and wildlife areas, reservoirs, forests, and other areas.

The law also provides that the Director may seek assistance in the development, operation, and maintenance of rivers in the System from other governmental units and agencies. The Director and the Department of Natural Resources retains primary responsibility, however.

protection

Protection of Cedar Creek will be accomplished by a number of strategies. As long as abuses of the natural values are prevented

or preventable through other means, full public ownership in fee will not be necessary to insure this protection. Instead, the State will attempt to acquire easements to insure that land uses remain static or are upgraded along the length of the stream corridor.

The primary means of providing protection for the Cedar Creek corridor will be the purchase of "conservation easements". This type of easement, as provided in Public Law 195, Indiana Acts of 1971, is defined as "a restriction or restrictions on the use of land designed to preserve in their open state for a period of years, or in perpetuity, lands of cultural, scenic, recreational, or historic, significance". Public Law 195 also provides permission for "all reasonable uses of the land not in conflict with the purposes for which the conservation easement was acquired, by the landowners, their heirs, successors and assigns."

In essence, a conservation easement requires permission from the Indiana Natural Resources Commission for alteration of natural conditions or development on the land as provided for in the agreement. Current uses of the land may be continued, and repairs to existing buildings may be made. Ownership of the land does not change, and, consequently, public access to the land is not allowed. Where access to Cedar Creek is needed, the State will purchase small (two to three acres) areas of land in fee simple. Two such access sites are planned for Cedar Creek.

The sole purpose of a conservation easement is to maintain and allow for natural improvement of the scenic integrity of the stream. The purchase of a conservation easement will provide the most palatable approach for the landowner and the least expensive one for the State, while accomplishing the intent of the Natural Rivers Act.

According to the aforementioned Public Law 195, the land covered by a conservation easement will "be assessed and taxed on a basis which reflects its limitations". If the easement is donated to the State, the Internal Revenue Service will allow the landowner to deduct the value of the easement. In addition to the tax benefits for the landowner, the market value of his land adjacent to the land protected by a conservation easement should increase.

The Natural Resources Commission presently has the responsibility for regulating all development in the floodway "which will adversely affect the efficiency of or unduly restrict the capacity of the floodway" as set forth in the 1945 Flood Control Act. The establishment of conservation easements in the floodway will provide further protection in regards to clear cutting of vegetation, alteration of soil structure, and types of developments which may be permitted.

The Commission also has the responsibility through the Natural, Scenic, and Recreational Rivers System Act, to disapprove any use or development within the floodway if in their judgment such use and/or development may alter the original classification of the stream segment. This means that the Commission could control potentially damaging uses or developments initiated by public or quasi-public concerns which come under their jurisdiction.

management

Management of Cedar Creek will be in accordance with the overall goal of the Natural Rivers Program which is to first preserve the stream in as natural a condition as possible and secondly to improve the recreational access and use of the stream by the public. Usage by the public shall be provided for, but only to the extent that this usage will not pose a threat to the preservation of the natural characteristics of the stream.

Access points allowing the public to enter and exit the river will be developed as part of this program. The Cedar Chapel Bridge, located on County Road 68 in DeKalb County, is viewed as an existing access point to the stream, and we do not envision further development at this site. We are recommending an access point in the vicinity of the Chapman Road and Cedar Creek intersection as the primary ingress to the stream, providing parking and trash receptacles. Because of the many natural windfalls and log jams between Cedar Chapel Bridge and Chapman Road, and the heron rookery located in this segment, we do not want to encourage further use.

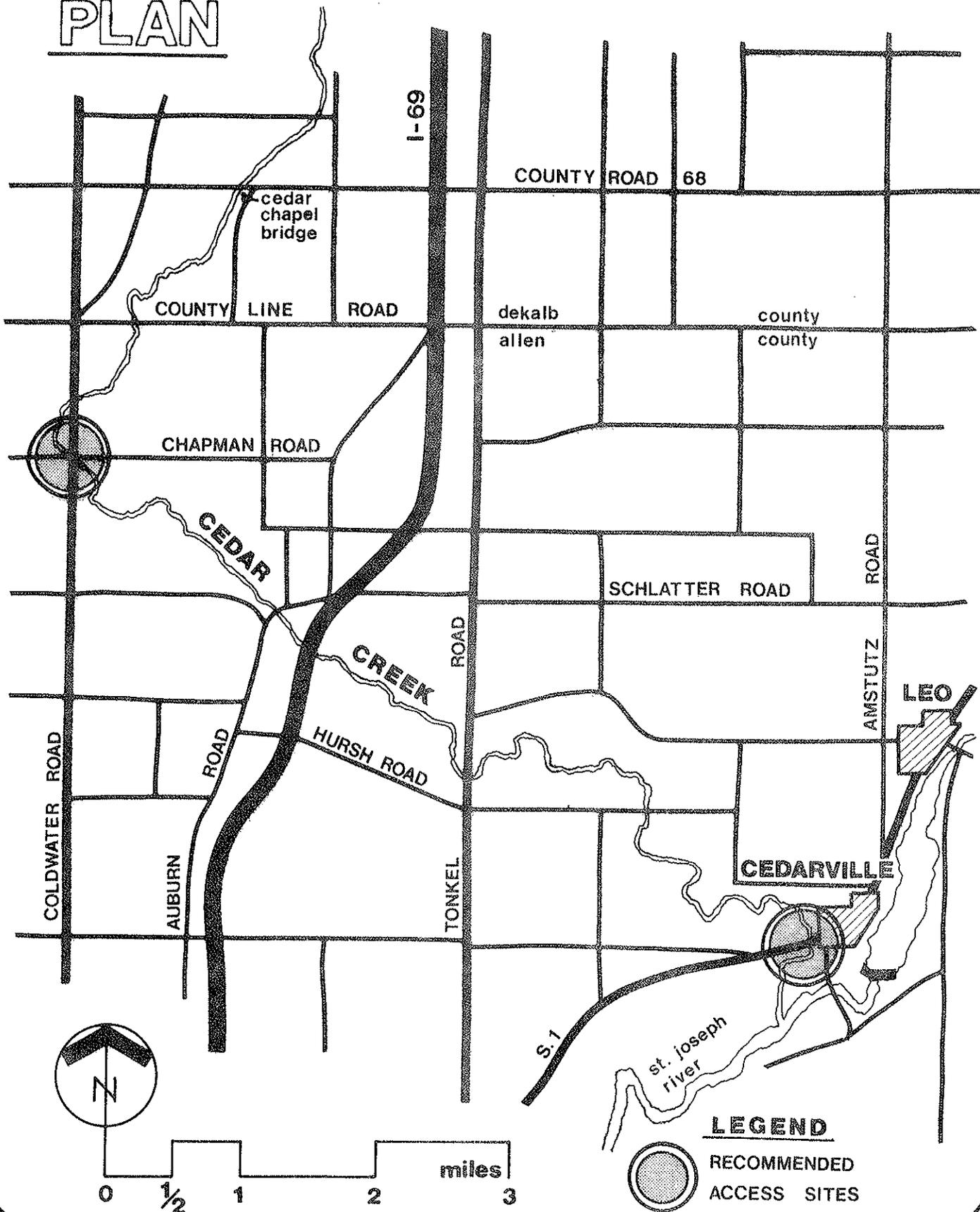
The site for egress from the stream will be located near the intersection of State Road 1 and Cedar Creek. At this location we suggest parking facilities, vault toilets, trash receptacles, and access to the creek. As close to midpoint as possible, between Chapman Road and Cedarville, we recommend a rest stop that would be accessible only from the river.

The Division of Outdoor Recreation will be responsible for overall coordination of the management and protection of Cedar Creek. In this capacity, the Division will periodically monitor the stream corridor to insure that the property is being managed according to the goals of the program and the intent of the law.

The Division of State Parks would logically be responsible for management of the stream and corridor since Chain O'Lakes State Park is the closest Department property. However, it is recommended that the management responsibility for access sites be transferred to the local chapter of the Izaak Walton League utilizing a lease arrangement similar to that used in the fishing access site program. The Division of Outdoor Recreation will investigate any activity or use of the stream or corridor which is detrimental to the natural qualities of the stream as part of its responsibilities.

RECOMMENDED ACCESS

PLAN



The following policies will be adhered to in managing and developing the Cedar Creek Corridor once it has been designated for inclusion into the System:

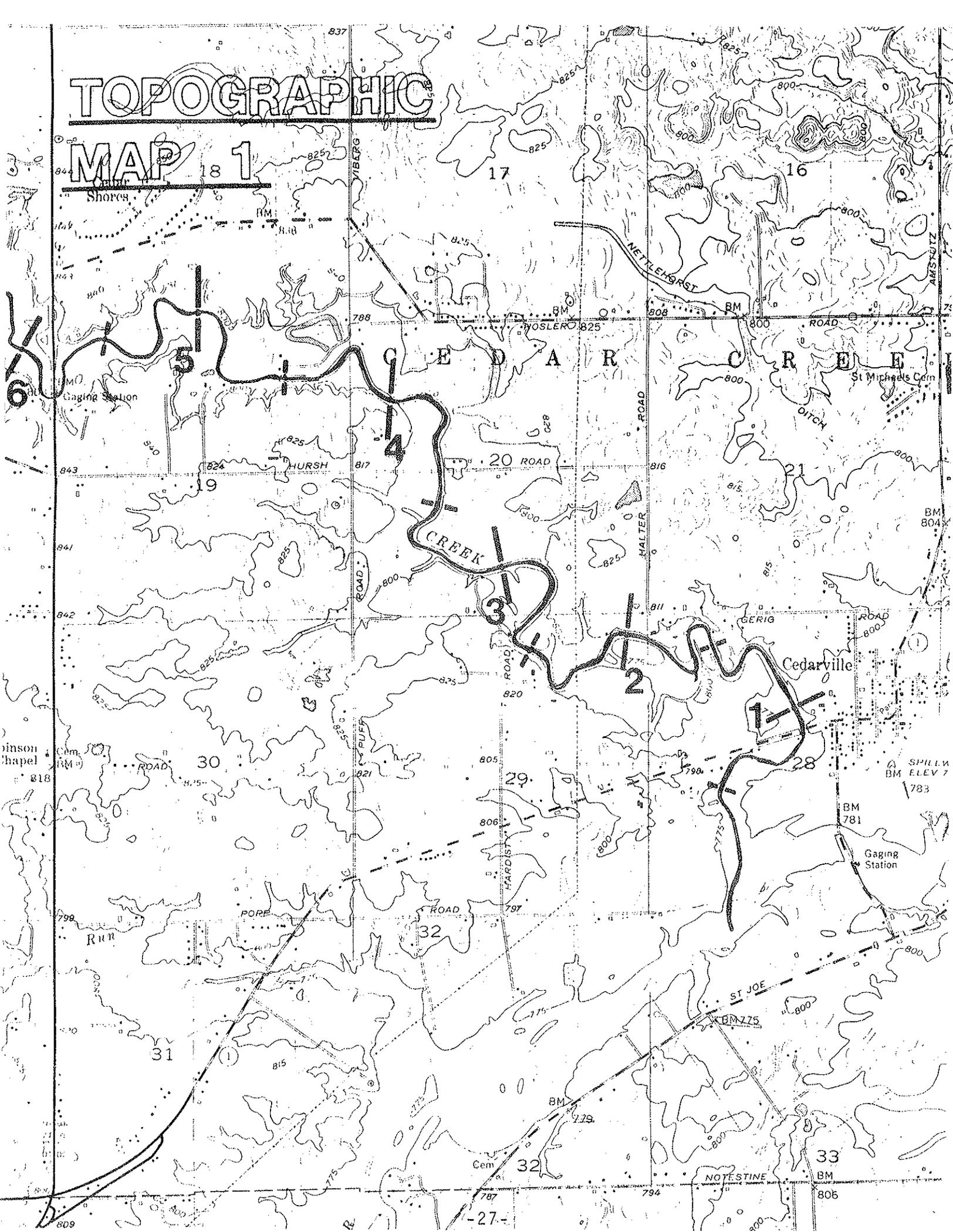
1. The depth of easement acquisition shall not extend farther than from the river bank to the visible horizon or where feasible, to such level of undeveloped, substantially natural and contiguous land as indicated on the United States Geological Survey, Flood-Prone Areas, maps of 1971. In instances where the visible horizon extends beyond the immediate river corridor it may not prove feasible to acquire easements great distances from the river. In general, the depth of easement acquisition will vary depending upon vegetative and topographic conditions.
2. Developed access points may provide sanitary facilities, trash receptacles, water, canoe launching, parking and limited picnic facilities where feasible. Cost of design, construction and management will be born by the State, with maintenance responsibilities transferred to a local body.
3. Commercial concessions selling dry goods, groceries, equipment and bait shall not be permitted on property controlled by the State of Indiana.
4. Trees, branches, or other debris shall be cut or removed only if their presence constitutes a safety hazard for river travelers. This shall not preclude the possibility for individual landowners to selectively harvest timber as provided for in easements obtained by the Department of Natural Resources.
5. No action shall be taken to alter natural growth or features on lands owned or controlled by the Department of Natural Resources for the purpose of enhancing beauty, neatness, or amenities of the river corridor.
6. The primary visitor activities in the stream corridor shall be canoeing, fishing, and nature observation.
7. Access site facilities will be designed and constructed so as to have the least possible effect upon the natural qualities of the river.
8. The two recommended public access sites shall have appropriate postings maintained by the State, indicating the following: the only public access to the river exists at the 2 State owned sites; the land bordering the Creek is private property; canoeing during high water can be dangerous; and please help maintain this stream, do not litter.

9. The stream corridor will be inspected and patrolled at regular intervals by the Department of Natural Resources' personnel or their assigns.
10. A permanent advisory council will be formed from 1) members of the landowners and other affected groups, and 2) members of the Department of Natural Resources. This council would be responsible for monitoring the 13.7 mile section of the river and making recommendations to the Natural Resources Commission for its protection and preservation. The council would further act as a vehicle for local input to the Department of Natural Resources concerning the 13.7 mile section of Cedar Creek. The Department would be responsible for providing information relative to any proposed changes in the law, departmental regulations and other matters affecting the 13.7 mile section of Cedar Creek.

appendix

TOPOGRAPHIC

MAP 1



INDIANA
DEPARTMENT OF NATURAL RESOURCES

Criteria for
Identifying Natural, Scenic and
Recreational Rivers in Indiana

The 1973 General Assembly through passage of Senate Enrolled Act No. 134 created a Natural, Scenic, and Recreational River System. This act authorized the Indiana Department of Natural Resources to administer the implementation and development of the system. The criteria below have been developed to evaluate streams for possible inclusion in the system.

The following definitions taken from the act will assist in understanding the criteria.

A. The term "natural river" shall mean any river which, free of impoundments, is generally unpolluted, undeveloped, and inaccessible.

B. The term "scenic river" shall mean any river which is free of impoundments, accessible in several places, and with minimal pollution and shore line developments.

C. The term "recreational river" shall mean any river which does not contain those characteristics necessary to qualify as a natural or scenic river, but which still maintains scenic or recreational characteristics of unusual and significant value.

D. The term "river" shall mean any flowing body of water and adjacent lands, or portions thereof.

The following criteria define 1) the qualities necessary for any stream to be considered for the Natural, Scenic, and Recreational Streams System and 2) the qualities which place a stream into the different categories of the system.

The criteria are designed to give the state an objective rating system which can be applied to any river. Even though a stream meets the necessary criteria, it may be disqualified if its rating from classification criteria is too low to be included in one of the classes.

Criteria Necessary to Qualify for Evaluation

1. Stream segment must be a minimum of 10 miles long.
2. Depth must be adequate to canoe in the months of March through June in years of normal rainfall although some rapids may require wading or portaging. Intermittent streams shall not be qualified.
3. If a stream segment receives zero points on any of the classification criteria below it is automatically disqualified from further consideration. The automatic disqualification is made if:
 - a. The stream (or segment) is channelized for more than 5% of its stream length or a dam or dams impound water which create artificial pools that back up water for more than 5% of the stream's length at normal summer water levels. Inundation and/or channelization having a cumulative total of more than 5% disqualifies the stream. (See classification criteria no. 3)

- b. Pollution is chronic and visible (not including muddy waters) (See classification criteria no. 6)
- c. A total of more than 5 miles of paralleling roads are within 1,000 feet per 10 miles of stream. (See classification criteria no. 7)
- d. There are ten or more road, railroad or overhead utility line crossings per ten miles of stream. (See classification criteria no. 8)

cond measurements are meaningful only in a uniform channel with constant gradient. The pools, riffles varying widths and gradients of the streams in Indiana make comparison between streams on a cubic feet per second basis meaningless.

Classification Criteria

Once a stream is seen to meet the criteria qualifying it for study, it is then rated for classification as a natural, scenic, or recreational stream. If it fails to meet minimum rating values, it is disqualified.

The system for classification has eight categories for which the stream or any ten mile segment of it is investigated. These are naturalness of bank vegetation, a vegetation depth-length index, physical modification of stream course, human developments, special natural features, water quality, paralleling roads, and number of crossings. For each category a rating value is assigned, either 0, 1, 2, 3, or in one case 4, on the basis of a set of defined criteria. The lower points are for lower quality, the higher points for better quality, according to the defined criteria. Streams are then classified into one of three groups according to their point totals.

Explanatory Comments on Necessary Criteria

Stream Segment Length

The minimum length of any segment to be considered should be 10 miles. This length allows for a pleasant half-day to full-day float trip, a stream-side walk of several hours, or fishing on a stretch long enough to provide variety of fish habitat and water appearance. A length any shorter does not allow an opportunity for adequate immersion in the natural or scenic environment. It would be piecemeal, chopped up naturalness. While the 10-mile minimum is admittedly an arbitrary length, field experience and interviews with other river users verify it as a reasonable and suitable length for a high-quality state system. There is no reason that short segments could not be protected by county governments or other arrangements. They should not normally become part of the state Natural Streams System, which should represent the best of the state.

<u>Total Points</u>	<u>Classification</u>
21+	Natural
17 - 20	Scenic
13 - 16	Recreational

Streams with ratings of 12 or lower are disqualified however, they may be rated and considered at a later date if improvement has been made to warrant re-evaluation.

Depth Rating

A channel depth of 6-12" is usually adequate to float a canoe. There is no objective measure of stream flow or depth which is easily taken and meaningful to this classification. Cubic feet per se-

The following rating table was approved by the Natural Resources Commission for use in future evaluations. The explanation of each criterion and its rating follows.

1. Naturalness of Bank Vegetation

- 0 Pts. The native vegetation present and in immediate view from the stream (100' on each side + close visible slopes) is more than 75% disturbed by heavy grazing, cutting, or clearing.
- 1 Pts. The native vegetation present and in view from the stream is 51-74% disturbed by heavy grazing, cutting, or clearing.
- 2 Pts. The native vegetation present and in view is 25-50% visibly disturbed as above.
- 3 Pts. The native vegetation present and in view is 25% or less disturbed. Some light cutting, cattle grazing, or access, and clearing or thinning may have occurred, but as long as the character of the form remains intact, the condition of the vegetation will still rank 3.

¹Native vegetation includes communities of plants of local origin dominating the land areas designated in either secondary successional or old-growth stages. The communities may include some introduced species.

2. Vegetation Depth-Length Index

Depth of the native vegetation affects the experience of isolation and naturalness along a stream by the public.

There are two classes of depth used in determining the index:

- 1. Native vegetation extending back from the bank at least 100 feet is simply measured in the miles of its length along the stream.
- 2. Forest or brush fringes and strips of vegetation less than 100 feet deep are given 1/2 the value of their length along the stream.

Examples: Strips of 150 ft. wide forest extend for 3 miles along both banks of the forest. Their index is 6 miles (both banks, each for 3 miles).

A fringe of forest 3-5 trees deep covers one bank for 3 miles. Its index value is 1.5 miles.

These two combined on a 10 mile stretch of stream would be 7.5 miles / 20 miles of banks = 38%.

Rating

- 0 Pts. Stream has a vegetation depth-length index of less than 25%
- 1 Pts. Stream has a vegetation depth-length index of 25-50%
- 2 Pts. Index of 51-74%
- 3 Pts. Index of 75% or more

3. Physical Modifications of the Stream or its Course

0 Pts. Disqualified-stream (or segment) is channelized for more than 5% of its stream length or a dam or dams impound water which create artificial pools that back up water for more than 5% of the stream's length at normal summer water levels. Inundation and/or channelization having a cumulative total of more than 5% disqualifies the stream.

1 Pts. Stream (or segment) is channelized for more than 3% but not more than 5% of the stream's length or a dam or dams impound water which create artificial pools that back up water for more than 3% but not more than 5% of the stream's length at normal summer water levels. Inundation and/or channelization should not have a cumulative total of more than 5%.

2 Pts.* Stream (or segment) is not channelized or a dam or dams impound water which create artificial pools that back up for 3% or less of the stream length at normal summer water levels. Inundation and/or channelization should not have a cumulative total of more than 3%.

3 Pts. Stream (or segment) is not channelized and no dams are present along the entire stream length.

Notes to Classification Criteria No. 3

-If a stream segment receives a rating of 1 or 2 on this classification because of the presence of impoundments and it otherwise rates high enough for recommendation into the program, it will automatically be recommended as a recreational stream.

-Low head impoundments constructed within the banks of the stream channel are exempt from consideration, as impoundments under this classification criteria provided the impoundments do not visually affect the users' experience on the water. However, for each segment where low head impoundments are located, one point shall be deducted from that segment's point total.

4. Human Development of Flood-2 plains, Slopes, and Visible Uplands (The stream (or segment) is to be rated when foliage is full for both a) urban impact and b) additional visible structures.)

a. Urban Impact

0 Pts. More than 10% urban along the stream

1/2 Pts. Between 5% and 10% urban along stream

1 Pts. Up to 5% urban along stream

1 1/2 Pts. 100% non-urban along both banks

b. Additional Visible Structures

0 Pts. More than twenty additional visible houses, cabins, barns, industrial buildings, gravel pits, or clusters allowed for every ten miles.

1/2 Pts. Between 11 and 20 additional visible houses, cabins, barns, industrial buildings, gravel pits, or clusters allowed for every ten miles.

1 Pts. Between 6 and 10 additional visible houses, cabins, barns, industrial buildings, gravel pits, or clusters allowed for every ten miles.

1 1/2 Pts. Up to five visible houses, cabins, barns, industrial buildings, gravel pits or clusters allowed every ten miles.

2 A cluster is defined as up to five cabins, houses, etc., located immediately adjacent to each other.

5. Special Natural Features

Views, species of plants, fish and wildlife habitat, or geological formations, occurring anywhere along the length of the stream (or segment thereof) either singly or in combination that are:

0 Pts. Not of local significance, not some of the finest examples of locally common features.

1 Pts. Of local significance

2 Pts. Of regional significance

3 Pts. Of statewide significance

4 Pts. Of national significance

6. Aesthetic Quality of Water

0 Pts. Disqualified- pollution is chronic and visible (not including muddy waters)

1 Pts. Visual pollution periodic but infrequent. Turbid or muddy chronically.

2 Pts. Visual pollution, except for muddy water, is rare. Turbid or muddy during half or fewer of the 6 warm season months.

3 Pts. No pollution, visible except for highly unusual accidents. Turbid or muddy only after heavy rains, then stream clears up rapidly.

7. Paralleling Roads³

0 Pts. Disqualified-a total of more than 5 miles of paralleling road within 1,000 feet per 10 miles of stream.

1 Pts. Up to a total of five miles of paralleling county, state, or U.S. highways within 1,000 feet per 10 miles of stream.

2 Pts. Up to a total of one mile paralleling county or state (but no U.S.) highways within 1,000 feet per 10 miles of stream.

3 Pts. Up to a total of three-fourths of a mile of paralleling county roads within 300 feet per ten miles of stream. No state, U.S. or interstate highways paralleling within 1000 feet of the stream.

8. Crossings⁴

0 Pts. Disqualified- ten or more road, railroad or overhead utility line crossings per ten miles of stream.

1 Pts. Six to ten crossings per ten miles of stream

2 Pts. Four or five crossings per ten miles of stream

3 Pts. Zero to three crossings per ten miles of stream

³Paralleling roads including railroads are defined by their aesthetic effect on the user of the stream. Roads may be excepted if cars travelling them are invisible and inaudible from the river. Highly objectionable roads more than 1,000 feet from the stream may reduce the rating in individual cases.

⁴Covered bridges, foot bridges and fords may be excepted as crossings if, in the judgement of the examiners, they do not seriously impair the visual quality of the stream area.

Public Law No. 124
[S. 134. Approved April 24, 1973.]

SENATE ENROLLED ACT No. 134

AN ACT to amend IC 1971, 13-2 by adding a new chapter creating a natural, scenic and recreational river system.

Be it enacted by the General Assembly of the State of Indiana:

SECTION 1. IC 1971, 13-2 is amended by adding a new chapter to be numbered 26 and to read as follows:

Chapter 26. Natural, Scenic and Recreational Rivers-Preservation.

Sec. 1. This chapter shall be administered by the Indiana Department of Natural Resources which shall hereinafter be referred to as the "Department."

Sec. 2. As part of the continuing growth of the population and the development of the economy of the State of Indiana, it is necessary and desirable that rivers of unusual natural, scenic or recreational significance be set aside and preserved for the benefit of present and future generations before they have been destroyed; for once destroyed, they cannot be wholly restored. It is essential to the people of the State of Indiana that they retain the opportunities to maintain close contact with such natural, scenic and recreational rivers and to benefit from the scientific, aesthetic, cultural, recreational, scenic, and spiritual values they possess. It is, therefore, the public policy of the State of Indiana that a natural, scenic and recreational river system be established and maintained; that such areas be designated, acquired and preserved by the state; and that other agencies, organizations, and indi-

viduals, both public and private, be encouraged to set aside adjacent lands for the common benefit of the people of present and future generations.

Sec. 3. The following definitions are for use in this chapter only and shall be in no way construed to apply to any other chapter.

(a) The term "commission" shall mean the Indiana department of natural resources commission.

(b) The term "director" shall mean the director of the department of natural resources.

(c) The term "natural river" shall mean any river which, free of impoundments, is generally unpolluted, undeveloped, and unaccessible.

(d) The term "scenic river" shall mean any river which is free of impoundments, accessible in several places, and with minimal pollution and shore line developments.

(e) The term "recreational river" shall mean any river which does not contain those characteristics necessary to qualify as a natural or scenic river, but which still maintains scenic or recreational characteristics of unusual and significant value.

(f) The term "system" shall mean the Indiana natural, scenic and recreational river system.

(g) The term "adjacent lands" shall mean the area of land paralleling, but not necessarily contiguous to, the river, needed to preserve, protect, and manage the natural, scenic and/or recreational character of the river.

(h) The term "river" shall mean any flowing body of water and adjacent lands, or portions thereof.

(i) The term "water use easement" shall mean the granting of the right of the general public to travel along or across all water portions of the river.

(j) The term "scenic easement" shall mean the granting of protection of adjacent land in its present state to preserve its natural or scenic characteristics.

(k) The term "land use easement" shall mean the granting of the right of the general public to use the adjacent lands.

(1) The term "conservation easement" shall be defined pursuant to IC 1971, 14-4-5.5-1.

Sec. 4. (a) The director is authorized to study and, from time to time, submit to the commission proposals for the inclusion of any section of a river into the system, which in his judgment fall within one or more of the categories of natural river, scenic river, or recreational river.

(b) In recommending any river or section for inclusion in the system, the director shall prepare a detailed report on the factors which, in his judgment, make the river worthy of designation for inclusion in the system. This report shall evaluate among other categories:

- (1) length of segment
- (2) condition of naturally occurring vegetation
- (3) stream scenic view
- (4) physical modification of stream course
- (5) human developments along stream
- (6) unique or special features of area
- (7) water quality
- (8) paralleling roads
- (9) number of stream crossings

(c) Specific criteria for each of these natural river, scenic river, and recreational river categories will be selected after having given due consideration to the above categories and any other categories which are deemed to be important.

Sec. 5. (a) Based upon the study and recommendations of the director, the commission may designate by rule and regulation a river for inclusion into the system in accordance with IC 1971, 4-22-2.

(b) Prior to the promulgation, the director shall notify each adjoining or abutting land owner of such plans and recommendations by registered mail and shall conduct a public hearing in the county which contains the largest section of the river being considered.

Sec. 6. In all planning for the use and/or development of water and related land resources of rivers in the sys-

tem, including the construction of impoundments, diversions, realignments, rip-rapping, roadways, crossings, channelizations, locks, canals, or other uses which may change the character of a river or destroy its scenic values, full review and evaluation of the river as a scenic resource shall be given and the environmental impact of the proposed use and/or development shall be determined as specified in IC 1971, 13-1-10, before plans for use and/or development are approved by the commission.

Sec. 7. No use and/or development of water and related land resources of rivers in the system will be approved if in the judgment of the commission such use and/or development may alter the original classification of a river in the system.

Sec. 8. The director shall prepare and maintain a plan for the establishment, development, management, use and administration of rivers in the system. The river system plan shall be included and become an integral part of the comprehensive state plans for water management and outdoor recreation.

When a river is proclaimed a part of the system, it will become an administrative responsibility of the director. The director will take the necessary action in keeping with the policy of this chapter to acquire, develop, maintain, and preserve the river and authorized related land area in accordance with his powers and duties conferred elsewhere by law with respect to parks, fish and wildlife areas, reservoirs, forests, and miscellaneous areas. The director may seek assistance in the development, operation and maintenance of scenic rivers from other governmental units and agencies.

The director shall have the power to acquire on behalf of the State of Indiana land in fee title or any other interest in land including water use easements, scenic easements, and land use easements. With regard to conservation and water use easements only, the director shall have the power to exercise the right of eminent domain on behalf of the state of Indiana. Acquisition of land or of interest therein may be by purchase with appropriated or donated funds, exchanges, donations, or otherwise.

The director may seek financial assistance for land acquisition and for facility development of scenic rivers

from federal and local governmental sources and from private groups and individuals.

Sec. 9. Nothing in this chapter shall preclude a component of the state system from becoming a part of any national scenic rivers system. The director shall encourage and assist federal studies for inclusion of Indiana rivers in a national scenic rivers system. The director may enter into written cooperative agreements for joint federal-state administration of an Indiana component of a national scenic rivers system, provided such agreements for the administration of water and related land uses are not less restrictive than those set forth in this chapter.

Sec. 10. Recognizing that most of the rivers recommended for inclusion in the system may not be state owned, the Indiana General Assembly encourages riparian owners to grant easements to the director for the purposes of this chapter.

Sec. 11. The Department of Natural Resources is authorized to expend funds for the purposes of this chapter already appropriated or which may from time to time be appropriated to the department from any fund whatsoever for the purpose of developing public recreation facilities.

chronological - historic list of events

- 1813 Battle of the Basin in which Col. John Allen of Kentucky was killed. Allen County was named after him.
- 1818 Treaty of St. Mary's, land ceded by Indians, became possession of United States.
- 1822 Fort Wayne's early limits were laid out.
- 1823 Allen County, by a legislative act, was organized out of Randolph and Delaware Counties.
- 1840-1850 Tide of immigration began.
- 1843 Canal opened from Toledo to Wabash River below Lafayette, then continued to the Mississippi River.
- 1876 Area of Allen County was 670 square miles and population was 50,000. Fort Wayne does extensive manufacturing and wholesale business - farming the uplands was rather unproductive while the bottomlands yielded immense crops common to climate.

allen county: perry township

- 1834 Blair and Wines built sawmill on Cedar Creek along with the Stoners Mill and Jason Hatch Mill.
- 1835 First road was surveyed and first schoolhouse was in operation.
- 1839 Gloyd's Mill was built on banks of Cedar Creek.
- 1848 Plank Road was built.

: cedar creek township

- 1834 First crops were planted.
- 1835 First road was surveyed through township.
- 1837 Schoolhouse was built, near center of township.
- 1847 First Post Office.
- 1857 Public School System inaugurated.

Source: Thomas B. Helm, Editor, History of Allen County, Chicago, 1880.

Permanent Residents

Common Name	Remarks
1. Bobwhite Quail	R - C
2. Ring-necked Pheasant	R - C
3. Gray Partridge	Ac. - VR
4. Herring Gull	R - C
5. Ring-billed Gull	R - C
6. Rock Dove	C
7. Mourning Dove	C
8. Barn Owl	R
9. Screech Owl	R
10. Great Horned Owl	R - VC
11. Barred Owl	R - U
12. Long-eared Owl	Ac. - U
13. Short-eared Owl	Ac. - U
14. Belted Kingfisher	R - C
15. Yellow-shafted Flicker	R - C
16. Pileated Woodpecker	Rare or very local
17. Red-bellied Woodpecker	Local
18. Red-headed Woodpecker	VR - C
19. Hairy Woodpecker	R - U
20. Downy Woodpecker	U - C
21. Horned Lark	R - C
22. Blue Jay	U - C
23. Common Crow	U - C
24. Black-capped Chickadee	Ac. - C
25. Tufted Titmouse	C
26. White-breasted Nuthatch	U - C
27. Carolina Wren	VR - C
28. Mockingbird	Ac. - C
29. Robin	Ac. - Ab.
30. Eastern Bluebird	R - C
31. Cedar Waxwing	R - C
32. Starling	C - Ab.
33. House Sparrow	C - Ab.
34. Brown-headed Cowbird	U - VC
35. Cardinal	R - VC
36. Song Sparrow	C - Ab.

Ab. - Abundant
 VC - Very Common
 C - Common
 U - Uncommon
 R - Rare
 VR - Very Rare
 Ac. - Accidental

Migrant Birds Which Sometimes Nest and/or Appear in Winter

REMARKS			REMARKS		
Common Name	Nesting	Winter	Common Name	Nesting	Winter
1. Pied-billed Grebe	R (May - July)	Ac. - R	52. Red-breasted Nuthatch		Ac. - C
2. Great Blue Heron	U-VC (Apr.-Aug)	Ac. - R	53. Brown Creeper	Ac.	R - C
3. Green Heron	R-C (Apr.-July)	Ac.	54. Winter Wren		Ac. - U
4. Common Nighthawk	R-C (Apr.-July)	Ac.	55. Long-billed Marsh Wren	Ac.-C (May-Sept.)	Ac. - R
5. Black-crowned Night Heron	VR-C (Apr.-Aug)	Ac. - VR	56. Short-billed Marsh Wren	Ac.-U (May-July)	Ac.
6. Yellow-crowned Night Heron	Ac.-U (Apr.-July)		57. House Wren	Ac.-C (Apr.-July)	
7. Least Bittern	Ac.-U (May-July)		58. Catbird	U - C (May-July)	Ac. - R
8. American Bittern	Ac.-R (Apr.-July)	VR	59. Brown Thrasher	U - C (Apr.-July)	Ac.
9. Canada Goose	VR-U (Apr.-July)	R - C	60. Golden-crowned Kinglet		R - U
10. Mallard	R-U (Apr.-July)	U - C	61. Yellow-throated Vireo	Ac.-R (Apr.-Aug.)	
11. Black Duck	R-U (Apr.-July)	U - C	62. Red-eyed Vireo	C-VC (May-Aug.)	
12. Blue-winged Teal	VR-U (May-July)	VR	63. Warbling Vireo	R-C (May-Aug.)	
13. Wood Duck	U-VC (Apr.-Aug)	VR	64. Prothonotary Warbler	Ac.-U (May-July)	
14. Common Goldeneye		U - C	65. American Goldfinch	Ac.-C (May-July)	
15. Turkey Vulture		R - C	66. Yellow Warbler	U-VC (Apr.-July)	
16. Sharp-shinned Hawk	U-C (Apr.-July)	Ac. - VR	67. Blue-chinned Warbler	Ac.-U (May-July)	
17. Northern Saw-whet Owl	Ac.-R (Mar.-July)	Ac. - VR	68. Purple Warbler		Ac.-C
18. Common Nighthawk	U - C (Apr.-July)	U - C	69. Cerulean Warbler	Ac.-C (May-July)	
19. Red-tailed Hawk	U (Mar. - July)	U - C	70. Chestnut-sided Warbler	Ac.-U (May-July)	
20. Red-shouldered Hawk	R-U (Mar.-July)	VR	71. Ovenbird	VR-C (May-Aug.)	
21. Broad-winged Hawk	Ac.-R (Apr.-July)	Ac.	72. Yellow-crowned Chat	Ac.-C (May-Aug.)	
22. Sharp-shinned Hawk		R - C	73. Mourning Warbler	Definite nesting records from Lucas County	
23. Marsh Hawk	R (Mar.-July)	U - C	74. Yellowthroat	U-C (May-Aug.)	Ac.
24. Kestrel	U - C (Feb.-July)	U - C	75. Bluebird	Ac.-U (May-Aug.)	
25. Virginia Rail	Ac.-U (May-July)	Ac.	76. Eastern Wood-pewee	Ac.-U (Apr.-July)	Ac. - R
26. King Rail	Ac.-U (May-July)		77. Western Gull	Ac.-U (Apr.-July)	Ac. - R
27. Ring-billed Gull	VR-U (Apr.-July)		78. Ring-billed Gull	Ac.-U (Apr.-July)	Ac.
28. Herring Gull	R - U (Apr.-July)		79. Ring-billed Gull	Ac.-U (Apr.-July)	Ac.
29. Ring-billed Gull	R-C (Apr.-July)	Ac. - P	80. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
30. Ring-billed Gull	VR-U (Apr.-July)	Ac.	81. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
31. Ring-billed Gull	R-C (Apr.-July)		82. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
32. Ring-billed Gull	U - C (Apr.-July)		83. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
33. Ring-billed Gull	Ac.-U (Apr.-July)		84. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
34. Ring-billed Gull	Ac.-U (Apr.-July)		85. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
35. Ring-billed Gull	Ac.-U (Apr.-July)		86. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
36. Ring-billed Gull	Ac.-U (Apr.-July)		87. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
37. Ring-billed Gull	Ac.-U (Apr.-July)		88. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
38. Ring-billed Gull	Ac.-U (Apr.-July)		89. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
39. Ring-billed Gull	Ac.-U (Apr.-July)		90. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
40. Ring-billed Gull	Ac.-U (Apr.-July)		91. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
41. Ring-billed Gull	Ac.-U (Apr.-July)		92. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
42. Ring-billed Gull	Ac.-U (Apr.-July)		93. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
43. Ring-billed Gull	Ac.-U (Apr.-July)		94. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
44. Ring-billed Gull	Ac.-U (Apr.-July)		95. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
45. Ring-billed Gull	Ac.-U (Apr.-July)		96. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
46. Ring-billed Gull	Ac.-U (Apr.-July)		97. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
47. Ring-billed Gull	Ac.-U (Apr.-July)		98. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
48. Ring-billed Gull	Ac.-U (Apr.-July)		99. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C
49. Ring-billed Gull	Ac.-U (Apr.-July)		100. Ring-billed Gull	Ac.-U (Apr.-July)	Ac. - C

MIGRATORY BIRDS

1. Common Loon	Ac - C	51. Knot	Ac - R	101. Orange-crowned Warbler	Ac - R
2. Red-throated Loon	Ac	52. Pectoral Sandpiper	C - VC	102. Nashville Warbler	U - C
3. Red-necked Grebe	Ac	53. White-rumped Sandpiper	Ac - R	103. Parula Warbler	Ac - U
4. Horned Grebe	R - C	54. Baird's Sandpiper	Ac - R	104. Magnolia Warbler	U - C
5. White Pelican	Ac	55. Least Sandpiper	R - C	105. Cape May Warbler	U - C
6. Gannet	Ac - VR	56. Dunlin	R - C	106. Black-throated Blue Warbler	R - U
7. Double-crested Cormorant	Ac - R	57. Short-billed Dowitcher	Ac - C	107. Black-throated Green Warbler	U - VC
8. Little Blue Heron	Ac - VR	58. Long-billed Dowitcher	Ac - C	108. Blackburnian Warbler	U - C
9. Snowy Egret	Ac - VR	59. Still Sandpiper	Ac	109. Yellow-throated Warbler	Ac - U
10. Whistling Swan	Ac - C	60. Semipalmated Sandpiper	R - C	110. Bay-breasted Warbler	U - VC
11. Brant	Ac - VR	61. Buff-breasted Sandpiper	Ac	111. Blackpoll Warbler	U - VC
12. Snow & Blue Goose	R - C	62. Marbled Godwit	Ac	112. Pine Warbler	Ac - U
13. Gadwall	U - C	63. Western Sandpiper	Ac	113. Prairie Warbler	Ac - R
14. Pintail	U - C	64. Hudsonian Godwit	Ac	114. Palm Warbler	R - VC
15. Green-winged Teal	U - C	65. Sanderling	Ac	115. Northern Waterthrush	R - C
16. Green-winged Teal	U - C	66. American Avocet	Ac	116. Louisiana Waterthrush	Ac - VR
17. Shoveler	U - C	67. Red Phalarope	Ac	117. Kentucky Warbler	Ac - R
18. Redhead	U - VC	68. Wilson's Phalarope	Ac - VR	118. Connecticut Warbler	Ac - U
19. Ring-necked Duck	VU - C	69. Northern Phalarope	Ac	119. Canada Warbler	R - U
20. Canvasback	VU - C	70. Parasitic Jaeger	Ac	120. Hooded Warbler	Ac - R
21. Greater Scaup	VR - R	71. Glaucous Gull	Ac	121. Wilson's Warbler	R - C
22. Lesser Scaup	C - VC	72. Great Black-backed Gull	Ac - U	122. Scarlet Tanager	Ac - C
23. E. f. f. head	U	73. Franklin's Gull	Ac - R	123. Summer Tanager	Ac - C
24. Oldsquaw	R	74. Bonaparte's Gull	Ac - C	124. Evening Grosbeak	Ac - U
25. White-winged Scoter	Ac - U	75. Forster's Tern	Ac - R	125. Pine Grosbeak	Ac - VR
26. R. dy Duck	U - VC	76. Least Tern	Ac	126. Common Redpoll	Ac
27. Hooded Merganser	U - C	77. Caspian Tern	Ac - C	127. Pine Siskin	Ac - C
28. Red-breasted Merganser	R - VC	78. Black Tern	R - C	128. Sharp-tailed Sparrow	Ac - R
29. Goshawk	Ac - VR	79. Yellow-bellied Sapsucker	U - C	129. Harris' Sparrow	Ac - VR
30. Bald Eagle	Ac - R	80. Least Flycatcher	R - C	130. White-crowned Sparrow	R - C
31. Golden Eagle	Ac - VR	81. Oliv-sided Flycatcher	VR - R	131. White-throated Sparrow	U - Ab
32. Osprey	R	82. Caroline Chickadee	Ac	132. Fox Sparrow	R - C
33. Peregrine Falcon	VR	83. Bewick's Wren	Ac	133. Lincoln's Sparrow	VR - C
34. Figeon Hawk	R - C	84. Wood Thrush	U - C	134. Smith's Longspur	Ac - C
35. Sawwhet C. l	Ac - VR	85. Hermit Thrush	U - C	135. Lark Sparrow	Ac - R
36. Sandhill Crane	Ac - VR	86. Swainson's Thrush	U - VC		
37. King Rail	VR	87. Gray-cheeked Thrush	R - C		
38. Yellow Rail	Ac - R	88. Veery	R - C		
39. Purple Gallinule	Ac - VR	89. Blue-Gray Gnatcatcher	R		
40. Semipalmated Plover	R - C	90. Ruby-crowned Kinglet	R - C		
41. Piping Plover	Ac - VR	91. Water Pipit	Ac - C		
42. American Golden Plover	R - Ab	92. Northern Shrike	Ac - R		
43. Black-bellied Plover	VR - U	93. Loggerhead Shrike	Ac - VR		
44. R. dy Turnstone	Ac - C	94. White-eyed Vireo	Ac		
45. Common snipe	U - C	95. Solitary Vireo	U - C		
46. Whimbrel	Ac - R	96. Philadelphia Vireo	VR - U		
47. Solitary Sandpiper	U - C	97. Black-and-White Warbler	R - C		
48. Willet	Ac - VR	98. Worm-eating Warbler	Ac		
49. Greater Yellowlegs	U - C	99. Golden-winged Warbler	Ac - VR		
50. Lesser Yellowlegs	U - C	100. Tennessee Warbler	U - C		

KEY

Ab.	- Abundant	R	- Rare
Vc	- Very Common	VR	- Very Rare
C	- Common	Ac.	- Accidental
U	- Uncommon		

Note: List compiled by the U. S. Bureau of Sport Fisheries and Wildlife.

MAMMALS OF THE MAUMEE RIVER WATERSHED

Common Name	Common Name
1. Masked Shrew	23. Silver-haired Bat
2. Short-tailed Shrew	24. Pygmy Bat (Pipistrelle)
3. Least Shrew	25. Indiana Bat
4. Eastern Mole	26. Big Brown Bat
5. Star-nosed Mole	27. Red Bat
6. Eastern Chipmunk	28. Evening Bat
7. Thirteen-lined Ground Squirrel	29. Hoary Bat
8. Southern Flying Squirrel	30. Opossum
9. Eastern Gray Squirrel	31. Woodchuck
10. Eastern Fox Squirrel	32. Cottontail Rabbit
11. Red Squirrel	33. Muskrat
12. Prairie Deer Mouse	34. Raccoon
13. Woodland Deer Mouse	35. Least Weasel
14. Southern Bog Lemming	36. Long-tailed Weasel
15. Meadow Vole	37. Mink
16. Pine Vole	38. Striped Skunk
17. Prairie Vole	39. Red fox
18. Meadow Jumping Mouse	40. Gray Fox
19. House Mouse	41. Coyote
20. Norway Rat	42. Badger
21. Little Brown Bat	43. White-tailed Deer
22. Eastern Long-eared Bat	44. Beaver

REPTILES AND AMPHIBIANS OF THE MAUMEE RIVER WATERSHED

Common Name	Common Name
1. Mudpuppy	23. Snapping Turtle
2. Jefferson Salamander	24. Stinkpot Turtle
3. Blue-spotted Salamander	25. Spotted Turtle
4. Small-mouthed Salamander	26. Eastern Box Turtle
5. Marbled Salamander	27. Map Turtle
6. Spotted Salamander	28. Midland Painted
7. Eastern Tiger Salamander	29. Blanding's Turtle
8. Red-spotted Hellbender	30. Northern Water Snake
9. Red-backed Salamander	31. Blue Water Snake
10. Four-toed Salamander	32. Northern Water Snake
11. American Toad	33. Queen Snake
12. Fowler's Toad	34. Kirtland's Water
13. Northern Spring Peeper	35. Northern Copperhead
14. Eastern Gray Tree Frog	36. Eastern Milk Snake
15. Western Chorus Frog	37. Northern Brown Snake
16. Blanchard's Cricket Frog	38. Midland Brown Snake
17. Bullfrog	39. Butler's Garter Snake
18. Green Frog	40. Eastern Garter Snake
19. Northern Leopard Frog	41. Eastern Garter Snake
20. Pickerel Frog	42. Black Rat Snake
21. Wood Frog	43. Eastern Hognose Snake
22. Five-lined Skink	44. Eastern Massasauga

Note: List compiled by the U. S. Bureau of Sport Fisheries and Wildlife.

MUSSELS OF THE MAUMEE RIVER BASIN

1. Anodonta imbecillis	24. Actinoidia flagrantissima
2. A. grandis grandis	25. Pylagria limulata ?
3. Anodonta feusselliana	26. Anodonta clivaria ?
4. Strophitus undulatus undulatus	27. G. subrotunda
5. Alasmidonta undulata	28. G. rotosa ?
6. A. Virens	29. Truncatella truncata
7. Pseudostrengia striatula	30. T. donaciformis
8. Lasmodonta complanata	31. Lopholeta ferruginea
9. L. costata	32. Potamilus alatus
10. L. costosa	33. Toxolasma parva
11. Mucronifera gigantea ?	34. T. glans glans
12. Anodonta undulata	35. Ligoria recta
13. G. collinae x	36. L. rosata ?
14. T. subrotunda	37. L. subrotunda ?
15. Anodonta undulata	38. Villosea foetida
16. Pseudostrengia striatula	39. V. iris iris
17. Cyclonaias imbecillis	40. Lamproloma radiata futeola
18. Pseudostrengia striatula	41. L. ventricosa
19. P. coccineum	42. L. fasciata
20. Elliptio dilatatus	43. Dymosia triquetra
21. Uniostrus striatulus	44. D. torulosus radiata
22. Pseudostrengia fasciolaris	45. Eriobolus perobliqua X
23. Dufrenoyia reflexa	

List from Clark and Wilson, The Mussel Fauna of the Maumee River (U.S. Bur. Fish. Bull. No. 257: 1-72) (1912)

Corrections by Dr. B. H. Stanton, Ohio State University, Columbus

1. Should be Pseudostrengia striatula

2. Should be Pseudostrengia striatula

3. Should be Pseudostrengia striatula

4. Should be Pseudostrengia striatula

FISH OF THE MAUMEE RIVER BASIN

1. Largemouth Bass	29. Sucker with Hump
2. Rock Bass	30. Minnow
3. Smallmouth Bass	31. Green Sunfish
4. White Bass	32. Yellow Perch
5. Bluegill	33. Grass Pickerel
6. Gowfin	34. Northern Pike
7. Bigmouth Gizzard	35. Quillback
8. Black Bullhead	36. Glass Sucker
9. Brown Bullhead	37. Cow Pickerel
10. Yellow Bullhead	38. Golden Shiner
11. Carp	39. Fathead Shiner
12. Channel Catfish	40. Rock Bass
13. Bigeye Chub	41. Spottail Shiner
14. Creek Chub	42. Striped Gizzard
15. White Crappie	43. Brown Sunfish
16. Black Crappie	44. Yellow Perch
17. Blackside Darter	45. Striped Bass
18. Greenside Darter	46. Northern Pike
19. Johnny Darter	47. Northern Pike
20. Freshwater Drift	48. Fathead Shiner
21. Longnose Gar	49. Spotted Sucker
22. Goldfish	50. White Sucker
23. Longperch	51. Green Sunfish
24. Brindled Madfish	52. Longnose Darter
25. Tadpole Madfish	53. Orange-spotted Sucker
26. Bluntnose Minnow	54. Pumpkinseed
27. Fathead Minnow	55. Blackchin Shiner
28. Silverjaw Minnow	56. Walltoe

Note: List compiled by the U. S. Bureau of Sport Fisheries and Wildlife

Source: Bureau of Outdoor Recreation, The Maumee River, A Wild and Scenic River Study, p. 146-148.

piracy of cedar creek

Figure A, "Saginaw Lobe advanced into Allen County from the northwest. At one point, it drained along an ice-marginal fracture."

Figure B, "when the Saginaw ice melted or was overridden, this drainage feature was preserved as a buried trough. Eel River, formed along a marginal position of Saginaw ice, was also buried."

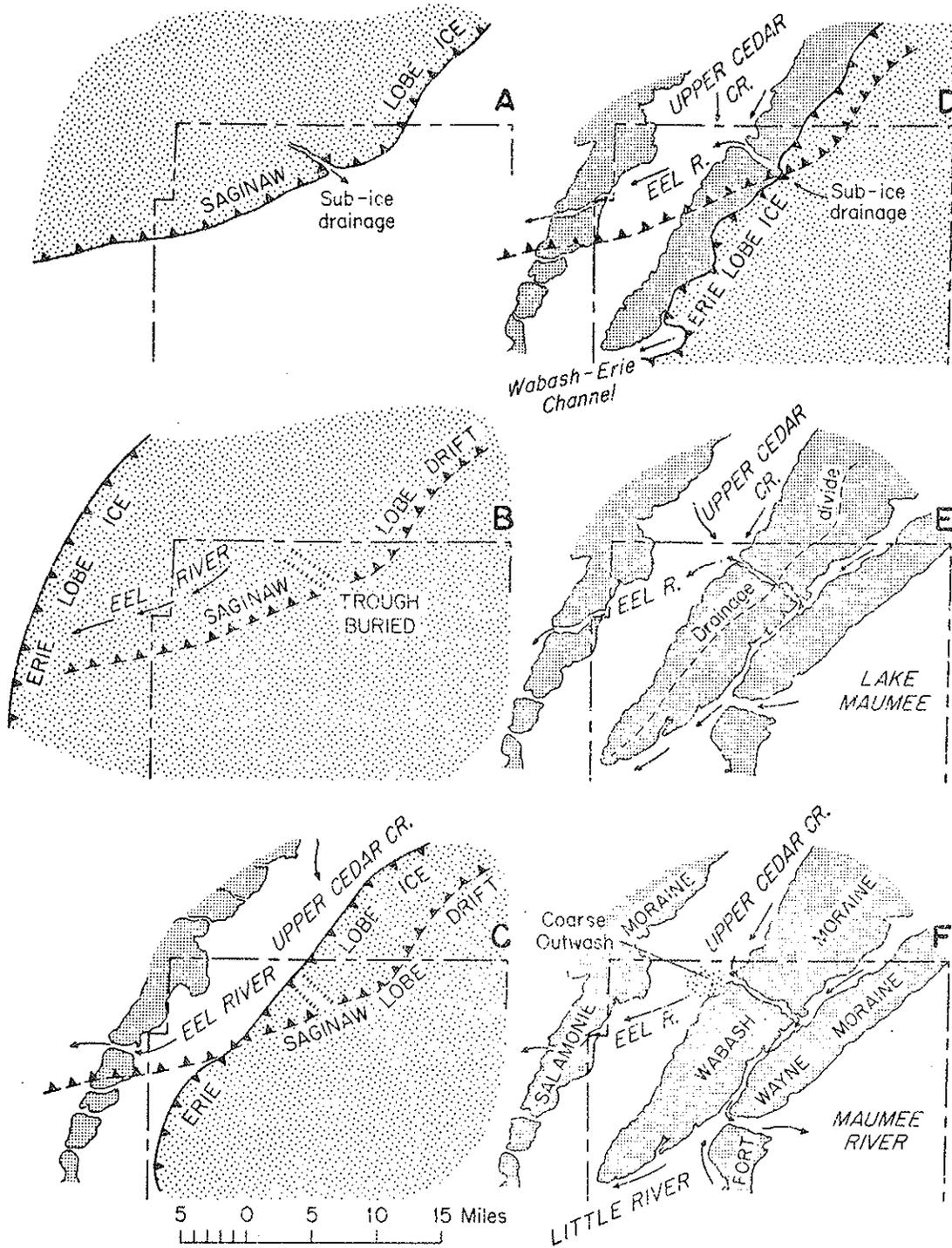
Figure C, "at the time the Erie Lobe ice occupied the position of the Wabash Moraine, the Eel River sliceway was reactivated and included Upper Cedar Creek. Upper Cedar Creek formed as a stream along the Erie Lobe ice margin. The Eel River sliceway has reactivated along the retreating Erie Lobe margin."

Figure D, "as the Erie Lobe ice front melted back to the position of the Fort Wayne Moraine, subice drainage followed the pre-existing sag left by the Saginaw drift as well as continually using the main outlet of the Wabash-Erie Channel."

Figure E, "the St. Joseph Valley was an ice-marginal drainageway as the glacier receded from Fort Wayne Moraine. A short tributary probably developed along the lower course of Cedar Creek Canyon while the upper part of the canyon remained tributary to the Eel. The St. Joseph emptied into the Wabash-Erie Channel, which was also carrying meltwaters from glacial Lake Maumee. Occasionally lake discharge may have been great enough to back up the St. Joseph and cause floodwaters to flow over the divide in the Wabash Moraine. The presence of easily eroded Saginaw Lobe till, as opposed to the tight, clayey New Holland or the very hard Trafalgar tills, facilitated erosion of a through-flowing channel."

Figure F, "by the time the Maumee drainage reversal had taken place, melt-water flow in the St. Joseph and especially in the Eel had substantially diminished. No longer competent to move coarse outwash at the northwest end

of Cedar Creek Canyon, the Eel was ponded and occasionally spilled through the Canyon. Thus, the piracy was quickly completed."



source: N. K. Bleuer and M.C. Moore, "Buried Pinchout of Saginaw Lobe Drift in Northeastern Indiana", p. 9-10.

PUBLIC RECREATION FACILITIES WITHIN TRI-STATE AREA

Facility	Size (Acres)	Location	TOTAL 1975 VISITS OR CAPACITY*	Picnicking	Hiking	Riding or Cycling	Boating	Swimming	Camping	Group Camping	Games & Sports	Cabins & Lodge	Fishing	Winter Sports	Hunting	Water Skiing	Nature Study
FEDERAL																	
Mississinewa Rsvr.	7,000	Wabash County	2,750	X	X		X	X	X				X		X	X	
Salamonie Rsvr.	8,000	Huntington County	7,600	X	X		X	X	X				X		X	X	
Huntington Rsvr.	7,500	Huntington County	2,750	X	X		X	X	X			X	X		X	X	
STATE																	
Chain O Lakes State Pk	2,789	Noble County	5,250	X	X		X	X	X				X		X	X	
Quabache State Rec.	1,077	Wells County	5,400	X	X		X	X	X				X		X	X	
Pokagon State Park	1,516	Steuben County	5,400	X	X	X	X	X	X				X		X	X	
Slocum State Forest		Wabash Co. (Part of Miss. Rsvr.)				X			NONE				X				
Salamonie River State Forest	600	Wabash County	460	X	X		X		X				X				
Pigeon River Fish & Game	15,978	LaGrange County		X			X		X				X		X		
Tri-County Fish & Game	4,475	Kosciusko County					X		X				X		X		
OTHER																	
Spurgeon Woodland Reserve		Noble County			X												X
Beechwood Nature Reserve		Steuben County			X												X
The Bog		Steuben County			X												X
Langing Rock		Wabash County			X												X

*Includes day-use and overnight use

PRIVATE RECREATION FACILITIES

NAME	SIZE	LOCATION	PICNIC	HIKING	RIDING	CYCLING	BOATING	SWIMMING	CAMPING	GROUP CAMPING	GAMES & SPORTS	CABINS	FISHING	WINTER SPORTS	HUNTING	NATURE	SPECIAL	GOLF
GOLF COURSES																		
25. Elks Country Club	160 ac.	I-69 & U.S.30																X
24. Fort Wayne Country Club	160	Covington Rd. & U.S. 24						X		X	X							X
25. Orchard Ridge Country Club	200	S. of lower Huntington Rd.						X		X	X							X
26. Brookwood Golf Club	250	Bluffton Rd. near Airport									X							X
27. Fairview Golf Course	140	Tillman & South Anthony						X		X	X							X
28. Lakeside Golf Course	70	E. of Ft. Wayne nr. U.S.30 bypass								X	X							X
29. Pine Valley		Perry Twp. off U.S.27								X	X							X
SPORTSMEN CLUBS																		
50. Snooting Club		Aboite Township	X								X							
51. Beagle Club		Lafayette Twp.	X								X				X			
52. Snooting Club		Aboite Twp.	X								X				X			
53. Conservation Club		Milan Twp.	X								X							
54. Shooting Club		Near Woodburn	X								X							
55. Izaak Walton		Cedar Creek, Perry Twp.	X	X					X	X	X							
OTHER																		
56. Girl Scout Camp		Cedar Creek, Perry Twp.	X	X					X	X	X							

source: Allen County Park and Recreation Board, Outdoor Recreation for Allen County, p. 22, 27, 28.

population, economic and social factors

1. Of persons employed in Allen County, 51% were white-collar workers compared with 37% blue-collar workers.
2. Within the economy, retail, services, wholesale, and government grew as a percent of total employment as agriculture decreased in number of employees.
3. The median education level in Allen County is .2 years above the United State average, while DeKalb County is at the average at 12.1 years.
4. The United States median family income is \$9,970 as compared with \$11,010 in Allen County and \$9,985 in DeKalb County, which is reflected from an increase of women in the labor force.
5. Because of continued growth, sales in Allen County's services have increased faster than either the State or Nation, and further specialization of selected services is anticipated.
6. Manufacturing is growing, but considering the economy as a whole, it is growing slower. There is a trend for existing firms to expand rather than establishing new firms.
7. From the period of time 1964-1969, the number of farms decreased 3% in Allen County compared, at the State level, to 6%. The total land area in farms decreased 2.2% which is .2% faster than the State.
8. Trends in agriculture are toward larger farms and an increase in scale of operations.
9. Of the population in 1970 in Allen County, 36.9% was under 18 years of age while 8.5% is over 65. In DeKalb County, 37% of the population is under 18 and 11% is over 65 years of age. The median age in Allen County was 28.3 in 1960 and decreased to 26.0 in 1970. In DeKalb County, the median age in 1960 was 30.0 and decreased to 27.5 in 1970.
10. Allen County has one of the highest average densities per square mile at 418, while DeKalb has only 84.3 per square mile, as of 1970. The State average is 143.9 population per square mile.

Sources: Allen County Plan Commission, The People, vol. 2, 1973.
Allen County Plan Commission, The Economy, vol. 2, 1973.

bibliography

- Allen County Park and Recreation Board by Beckman, Swenson, and Associates, Outdoor Recreation for Allen County, Fort Wayne, Indiana, 1966.
- Allen County Plan Commission, The Economy, Fort Wayne, Indiana, Volume 2, 1973.
- Allen County Plan Commission, The People, Fort Wayne, Indiana, Volume 2, 1973.
- Bleuer, N.K. and Moore, M.C., "Buried Pinchout of Saginaw Lobe Drift in Northeastern Indiana," Indiana Geological Survey, Bloomington, Indiana, Volume 84, 1975.
- Bureau of Outdoor Recreation, The Maumee River, A Wild and Scenic River Study, Lake Central Region, 1974.
- Fort Wayne Board of Park Commissioners, Park Master Plan, Fort Wayne, Indiana, January, 1974.
- Helm, Thomas B., Editor, History of Allen County Indiana, Kingman Brothers, Chicago, 1880.
- Indiana Department of Natural Resources by Purdue University, Indiana Natural, Scenic, and Recreational Streams System - A Proposal, 1973.
- Indiana Department of Natural Resources, 1975 Indiana Outdoor Recreation Plan, 1975.
- Lindsey, Alton A., Natural Features of Indiana, Indiana Academy of Science, Indianapolis, Indiana, 1966.
- Lindsey, Alton A., Nichols, Stanley A., Schmelz, Damian V., Natural Areas of Indiana, Department of Biological Sciences, Purdue University, Lafayette, Indiana, 1969.
- Three Rivers Coordinating Council, Open Space Plan, Allen County, Fort Wayne, Indiana, 1974.
- U.S. Department of Agriculture, Soil Conservation Service, Soils Survey of Allen County, Indiana, Washington GPO, May, 1969.
- U. S. Department of Commerce, Bureau of the Census, 1970 Census of Population, December, 1970.

