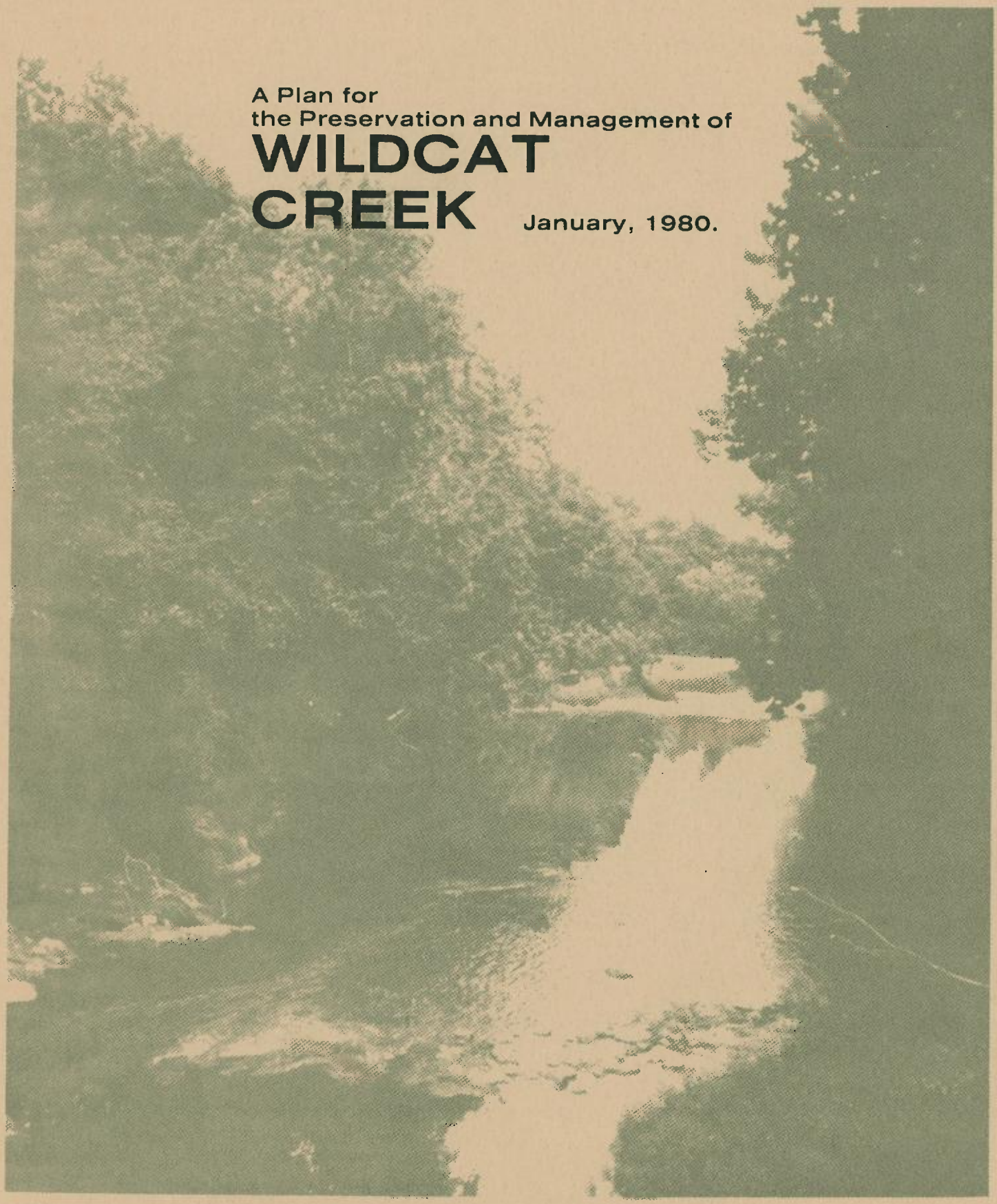
A Plan for
the Preservation and Management of

WILDCAT CREEK

January, 1980.



Department of Natural Resources
Division of Outdoor Recreation

Indiana Natural Rivers System Study

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INTRODUCTION

The Wildcat Creek valley is rich in history from both a geologic and human aspect. There are three forks of the Wildcat Creek system; the North, having the most flow; the South, rating second in terms of flow; and the Middle, having intermittent flow. All three branches of Wildcat Creek flow in a westerly direction through lands utilized for a variety of purposes: cropland, pastureland, forest, and small residential and commercial development. Farmland in the Wildcat valley is particularly rich and productive, supporting many agricultural pursuits.

The geologic history of the Wildcat valley includes massive alteration during the last glacial era. Bedrock in the valley was cut by preglacial drainage, forming the basis of the Wildcat system. Much of the valley is covered by glacial drift, and several large glacial kames (mounds) are visible from the South Fork of Wildcat Creek. Sand and gravel mining operations in the Wildcat area have exposed many of these glacial deposits.

Early human settlement along Wildcat Creek included both the Wea and Shawnee Indian tribes. The Wildcat valley was the site for many famous Indian, French, and British battles, which are quite historically documented in the annals of Indiana and American history. French influence in the valley resulted from the presence of the "Coureur de bois" (French or half-breed trapper) of Canada, who lived and traded with local Indian tribes. The old trading cabins and foot trails grew into settlements and roadways as trade increased in the valley. Between 1829 and 1877 at least 12 mills were built on the forks of the Wildcat. Farming became the leading profession in the Wildcat valley and remains so today.

Wildcat Creek has had a great effect on the people of its valley. Originally used as a source of power to grind grain and as a transportation mode for early pioneers, the Wildcat system is used today in a variety of ways. In many cases the new uses of Wildcat Creek and the surrounding corridor have brought the potential for deterioration and misuse of the resource. The waterway has proven to be a convenient place to dump trash or drain sewage. In some cases the streambank vegetation has been clearcut, and seasonal crops have been planted in place of the native vegetation. Agricultural run-off and increased streambank erosion are now causing the creek to run "brown" during some periods of the year.

Many of Indiana's rivers have been changed, their streambank vegetation cleared, and their channels made as uniform as roadside ditches. Biologically important wetlands and floodplains have been filled and buildings erected, and increasing numbers of people are wanting a resort home beside a river. Our rivers are under constant pressure for development and exploitation. As the Wildcat exists today, it is one of the few remaining streams in the State that has received little modification and remains in a relatively natural condition. For the main part, its course is free-flowing, its banks are vegetated, and its surrounding lands undeveloped.

In 1967, the Department of Natural Resources' Division of Fish and Wildlife identified five stream segments in Indiana that were deemed worthy of preservation in their natural state. However, due to lack of appropriate legislation further action was not taken. The 1970 State Comprehensive Outdoor Recreation Plan also recommended a number of river segments for preservation and suggested that a thorough inventory of Indiana's rivers be conducted. A study entitled "Indiana Natural, Scenic, and Recreational Streams System - A Proposal" was completed in 1973 by

Purdue University under a contractual arrangement with the Department of Natural Resources. The identification of study rivers, criteria for stream selection, and recommendations for legislation and river management were subjects of this study. The study, and the influence of related stream preservation laws at the Federal and State level, led to passage of the Indiana Rivers Preservation Act (See Appendix A) by the 1973 Indiana General Assembly. The Rivers Preservation Act, Indiana Code 13-2-26, resulted from the realization that some of the remaining free-flowing, natural streams in the State are worthy of protection. These rivers were viewed as vestiges of Indiana's natural heritage which should be preserved for the enjoyment of all generations.

Since passage of the Rivers Preservation Act in 1973, there have been five rivers studied by the Department of Natural Resources for possible inclusion in the System. Blue River, in Washington, Harrison, and Crawford Counties, was the initial study stream, and Cedar Creek, in Dekalb and Allen Counties, was the subsequent river to be studied. Both river segments have been designated as components of the Natural, Scenic, and Recreational Rivers System. Sugar Creek in Montgomery and Parke Counties, was the subject of the third study and was placed in a special protected status by the Natural Resources Commission. In this instance, it was determined that local zoning ordinances, with State assistance, could adequately protect the river. The fourth study stream, the West Fork of Whitewater River in Franklin County, has recently been recommended for inclusion in the system, and action by the Natural Resources Commission is pending. Wildcat Creek is the subject of the fifth study and this plan.

The Department evaluated Wildcat Creek for possible inclusion in the System in June, 1979. Wildcat Creek was chosen for study at the request of a number of local individuals and organizations. The North Fork, from S.R. 29 in Carroll County to Peter's Mill Bridge in Tippecanoe County, and the South Fork, from S.R. 38 in Tippecanoe County to its confluence with the North Fork were found to qualify for the System with a Scenic classificaion. Since it was determined to be eligible it is the responsibility of the Department to recommend designation of Wildcat Creek in the System.

A river designated as a component of the Indiana Natural Rivers System, is protected from detrimental impact from publicly funded or regulated projects. Dams, channelization and dredging operations, and public utility developments are examples of such projects. Designation also places responsibility on the State for monitoring fill and construction in a floodway, according to the 1945 Indiana Flood Control Act (Indiana Code 13-2-22) in terms of the impact on the special fish, wildlife, and botanical resources of the river and its banks. A river designated as a component of the System is not, however, protected from private development which is above the 100-year floodway. Designation also cannot prevent clear-cutting of streambank vegetation. For these reasons, the Department works with local citizen advisory groups, streambank landowners, planning and zoning boards, and other local public officials . Through cooperation at the State and local level, some of the problems associated with preservation of river resources are being accomplished.

Local citizen advisory groups have been formed for each river study. These groups serve as the liaison between landowners, other interested groups, and the Department. This citizen advisory group is chosen from volunteers after the initial public information meeting is held and is generally comprised of riparian landowners, county officials, members of interested groups, and similar representatives. All are residents in the area of the study segment. The citizen advisory group helps

to insure local involvement and public participation during the study process. The Department works to incorporate all concerns of the advisory group members which are not significantly in conflict with the intent of the Rivers Preservation Act.

Following the public information meeting on the Wildcat Creek study, the Wildcat Creek Advisory Group was selected. Through a series of meetings with the advisory group, this plan was developed and will be presented at another public information meeting. A public hearing will then be held, and the plan and hearing officer's report will be submitted to the Natural Resources Commission for consideration. The Natural Resources Commission will then decide whether Wildcat Creek is to be designated as a component of Indiana's Natural Rivers System. Also, in the designation process the Commission may accept, modify, or reject the recommendations for the preservation and management of Wildcat Creek, as presented in this plan.

AREA DESCRIPTION

Environment

The Wildcat Creek basin is one of the few post-glacial stream basins to follow the basic bedrock valley of a pre-glacial river. The geology, soil types, and locations in the basin have been greatly affected by extensive glaciation. Eight or nine distinct, but discontinuous, till sheets are comprised of layers of unsorted glacial debris that resulted mostly from melting of the basal ice load. These till sheets are spread over this general area of western Indiana. New Albany Shale and Rockford Limestone are the dominent bedrock materials, and surface geology represents east to west fluted ground moraine of an uppermost tongue of the Trafalgar formation, the latest known advance of the East White glacial sublobe (Bleuer,N., 1980).

Indiana, particularly in the central region, has some of the most productive soils in the United States. These soils, good management, and climate contribute to consistently increasing crop-yield levels. Soil types in the Wildcat valley are derived from two general groups : alluvial and gray-brown podzolics. The podzols are located on the uplands and slopes and are good agricultural soils. The alluvial soil types, generally located in the bottomlands, create special stabilization and soil conservation concerns. Soil associations and related soils are listed in Appendix F *(General Soils Maps and Interpretation Tables for the Counties of Indiana, 1971)* The meandering drainage system in the basin is comprised of three main branches: the North, South, and Middle Forks of Wildcat Creek. The watershed includes areas in Howard, Clinton, Carroll, and Tippecanoe counties, involving over 805 square miles of land. The Wabash River receives the waters of these forks after they converge to form the main stem of Wildcat Creek.

The study segments of the North and South Forks of Wildcat Creek lie within the boundaries of State Planning Region 4, consisting of eight west-central counties: Benton, Carroll, Clinton, Fountain, Montgomery, Tippecanoe, Warren, and White. This region is approximately 2,214,000 acres - the largest in area of the 18 Planning Development Regions in the State. The table below indicates Region 4's 1975 and projected total public water supply use.

	1975 (Estimated)	1980 (Projected)	1990 (Projected)	2000 (Projected)
Service Population	158,000	164,000	174,000	181,700
Withdrawal (MGD)	25.17	27.31	30.87	33.76
Consumption (MGD)	2.52	2.73	3.09	3.38

(Source: The Water Resources Situation in Planning Region 4, Governors Water Resources Study Commission, Preliminary Draft. November, 1978)

The Wabash and Tippecanoe Rivers and Wildcat Creek were identified as streams which have sufficient yield potential to meet future public water supply needs. Groundwater resources in both Tippecanoe and Carroll counties are expected to be adequate to meet the projected increase in water supply demands (see Appendix G).

Climate in the Wildcat area is generally categorized as humid-continental, influenced in the winter by eastward-moving, northerly, polar air masses, and by warm gulf air during summer. Average yearly precipitation for the basin is 37 inches. Annual snowfall averages 18 inches, contributing little to spring flooding. Of the average annual runoff of 12.4 inches, 81.8% occurs in the first seven months of the year. January is the coldest month, averaging 26.7°F, and July, the hottest month, averages 75.1°F. July also has an average relative humidity of 50-52%. (Stanley Consultants - U.S. Army Corps of Engineers, 1974).

Land use in the valley is varied, with agriculture being the principle use in terms of acreage. Much of the stream corridor exists in a forested, agricultural, or rural residential atmosphere. The floodplain of the three forks ranges from approximately one quarter of a mile to almost one mile in width, restricting residential development in many areas. Agriculture is profitable since soils of the valley are generally rich. The glacial drift is formed of layers varying from relatively thin cover to a depth of up to 435 feet (Indiana Department of Natural Resources, 1978). The topography of the area is flat to moderately rolling; however, steep cut banks do occur in certain areas along the creek. The bottomlands and high relief areas remain in a vegetated condition while the flat uplands are generally utilized for agriculture. Approximately 80% of the land in the valley has been adapted for intensive agriculture purposes.

Floodplain and upland forest types are found in the Wildcat basin. The floodplain forest is a silver maple and American elm climax forest, including additional species such as willows, basswood, sycamore, and ash. In clearings or thinned woods, hawthorne, milkweed, and various sedges, grasses, and ferns are found. The upland forest is a sugar maple-beech and oak-hickory climax forest with associations of numerous additional tree and shrubbery species. In the spring visitors can find Dutchman's breeches, bluebells, hepatica, spring beauties, bloodroot, trilliums, mayflowers, violets, and many more wildflowers along the Wildcat.

The quality and quantity of forest and agricultural vegetation directly affects the number and species of animals present. Upland forest and bottomland vegetation support white-tailed deer, raccoon, opossum, gray and fox squirrel, and numerous small mammals and birds. It is quite possible to see great horned owls, little green and great blue herons, red-tailed hawks, kingfishers, and numerous species of ducks while traveling Wildcat Creek. (A complete list of fish and wildlife and botanical resources in the Wildcat valley can be found in the source *Environmental Study -Lafayette Lake, Lafayette, Indiana,* Stanley Consultants, Prepared for Department of the Army, Louisville District Corps of Engineers, 1974.)

A study by the Indiana Department of Natural Resources' Division of Fish and Wildlife evaluated the habitat of Wildcat Creek for the Governor's Water Resources Study. The biologist assigned to each quarter of the State surveyed all lakes of five or more acres which are accessible to the public and all rivers with a drainage area of at least fifteen square miles. A visual rating was given to each qualified stream at a five river mile interval or less to determine habitat quality. The rating included width and depth of creek, flow, temperature, channel character, pollution, percen-

tage of pools and riffles, the general categories of fish present, and overall aquatic habitat. Riparian habitat included width of river bank, vegetative types, and a qualitative rating of the overall streambank habitat.

The aquatic and riparian habitat was broken down into three ratings: high, moderate, low, or negligible. Both the North and South Forks rated higher than the Middle Fork in this habitat evaluation.

Habitat Rating

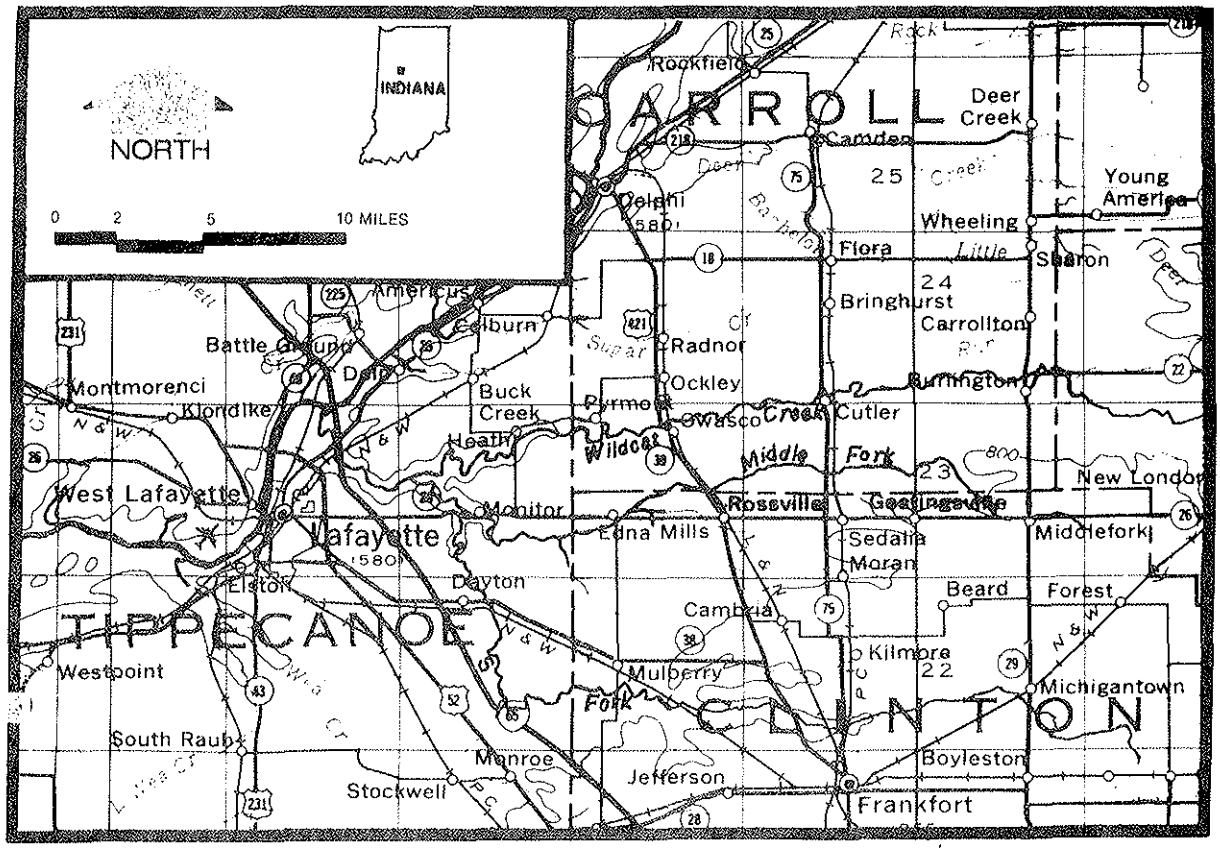
	North Fork	Middle Fork	South Fork	Creek Total
		Riparian		
H	0	0	13%	3%
M	72%	33%	38%	56%
L	20%	67%	49%	36%
N	9%	0	0	5%
		Aquatic		
H	23%	0	8%	15%
M	46%	43%	57%	49%
L	12%	57%	35%	26%
N	19%	0	0	10%

H = *High* M = *Moderate* L = *Low* N = *Negligible*

(Source: *Indiana's Existing and Projected Water Uses and Needs - Preliminary Phase I Report to the Governor's Water Resources Study Commission.* June, 1978)

Wildcat Creek is classified as a quality fisheries resource. The primary sport fish is smallmouth bass, although largemouth bass, catfish, several varieties of panfish, and other game and "rough" fish are also found. A Wildcat Creek Stream Survey Report (Department of Natural Resources, 1974) states: "In summary, the fish population of Wildcat Creek is indicative of a clear, moderate gradient stream. The game fish population made up a substantial portion of the total population, and game fish were present at all stations.... The rare bigeye chub, indicative of silt free conditions was found at two stations. The South Fork of the Wildcat appears to offer the best fishing opportunities." Included in the study were a number of recommendations: "1. Farmers should adopt land management programs to further reduce soil run-off. 2. Public access should be provided. Many people float the North Fork although no developed public access areas are present. 3. Wildcat Creek, particularly the South Fork should be included in the Natural Streams Program. 4. Water quality in the watershed should be protected by continued monitoring of possible pollution sources by the State Board of Health. 5. No additional channelization or reduction of wildlife habitat in the immediate area of the stream should be permitted...".

WILDCAT CREEK AREA MAP



Human Activity

The final glacial retreat in Wildcat valley took place approximately 16,000 years ago. In general, the valley was not extensively used for human habitat, probably due to the steep valley slopes and seasonal flooding. Hunting and early agricultural pursuits were the mainstay for the Woodland Indians who inhabited the region. The Lafayette area and the Wildcat basin played a large part in settlement of the Northwest Territory by Europeans. Several clashes with Indians resulted over their desire to retain ancestral ground. The Wildcat area was also a battleground for the French and British during the French and Indian War. The American Revolution and War of 1812 were struggles between the British and Americans in the vicinity. Much of the early Indiana history in this area was written by French Jesuit missionaries. Their goal was to bring Christianity to the Indian nation of the Great Lakes area, which included the Shawnees, Miamis, Potawatomis, and Delawares.

Tippecanoe Battlefield, near Lafayette, was the site of the defeat of the Shawnee Indians, perhaps the most ferocious Indian tribe in the territory. "Spur's Defeat", or the second Battle of Tippecanoe, took place near Pyrmont and occurred one year after the Battle of Tippecanoe. In this battle General Samual Hopkins, who had been encamped at Monitor Springs, was lured into ambush by the Indians. Following the War of 1812, the Shawnees sold their land to the government and were moved west of the Mississippi River, leaving the Wildcat valley as a part of the "Big Reserve" for the Miami and Wea Indians.

LaSalle is believed to have been the first white man in the territory of Indiana, but hunters and traders migrated into the area soon afterward. The Canadian " Courier de bois" (French or half-breed trapper) lived and traded with local Indian tribes. Squatters came to the area and built on Indian ground, and as the area became legally opened for settlement, Scotch-Irish, French, and Canadian descendants located in the valley. Agriculture became the predominant land use, and the area became settled much as it is today. Eventually dirt roads were gravelled or paved, and low-water fords became covered or planked bridges. Many mills were built along the Wildcat, with a few remaining today. Carroll County became a legal entity on January 7, 1828, upon signature of the Governor of Indiana. This county was named after Charles Carroll, who was the only surviving signer of the Declaration of Independence at that time. Tippecanoe County formed on January 26, 1826, as an act of the State legislature. Wyandot, a popular trading center which was located on the Wildcat in Tippecanoe County, was the location of one of the largest exporters of logs, cattle, and wheat (Gredesky, Knudson, 1974). Agricultural activity (corn, soybean, wheat grain, hay, and straw cropping; cattle production; and forestry) is still the major source of income for today's landowners in the Wildcat valley.

The segments of the North and South Forks of Wildcat Creek that are the subject of this study are located in Carroll and Tippecanoe Counties. Carroll County has a population of 17,700 with an average population density of 47 people per square mile, and Tippecanoe County has a population of 109,400, for an average density of 218 people per square mile (Census of Population, 1970). Most of the population of Tippecanoe County is located in the City of Lafayette and surrounding suburbs, not along the studied segment of Wildcat Creek.

The growth projections for both counties is an indicator of potential change in the valley:

Growth Projections by County and State

	Tippecanoe	Carroll	State
1970-80	7.4% increase	1.1% increase	4.5% increase
1980-90	5.8% increase	3.9% increase	6.0% increase
1990-2000	3.4% increase	5.4% increase	5.3% increase

(Source: *Regional Analysis of the Revised (1978) Indiana County Population Projections 1980-2000 for Indiana's 18 State Planning Regions, 1978).*

These projections indicate trends towards an increasing population growth rate for primarily rural, agricultural Carroll County and a decline in population growth rate for relatively urbanized Tippecanoe County.

Recreation

Recreation needs in the area are served by park and recreation boards in Lafayette, West Lafayette, Tippecanoe County, and Carroll County. These jurisdictions are eligible to receive federal Land and Water Conservation Funds for recreation development. The *1979 Indiana Outdoor Recreation Plan* indicates an overall

deficit in recreation lands of 1,429 acres in Tippecanoe County and 237 acres in Carroll County. Picnicking, hiking and nature walking, fishing, and bicycling were the activities having the highest participation rate in these two counties. Along the study segments of Wildcat Creek there are eleven private or quasi-public parks and three small public parks.

EVALUATION

After the Rivers Preservation Act was passed, "Criteria for Identifying Natural, Scenic, and Recreational Rivers in Indiana" (See Appendix B) were adopted by the Indiana Natural Resources Commission. These criteria were established in order to identify and evaluate rivers which may qualify for inclusion in the System. The criteria measure the degree of naturalness that a river or river segment possesses at the time of evaluation. According to the criteria, a river which achieves a Natural rating presently exists in a relatively undisturbed, pristine condition. A Natural river exhibits the highest quality in terms of being free-flowing, possessing heavily wooded banks and unique natural features, having few man-made developments visible from the surface of the water, no visible water pollution, and few river crossings and paralleling roads. The Scenic classification describes rivers which may have more development and accessibility, minor impoundments, and infrequent visible water pollution. The final classification is Recreational, which means the river generally is more accessible, has more development visible from the water, and has significantly less vegetation along its banks. A river classified as Recreational does not mean recreation is the primary purpose or use of the river.

The "Criteria" are divided into two seperate sections: criteria necessary to qualify for evaluation, and classification criteria. In order to be eligible for designation, a river must: (1) be a minimum of ten miles long, and (2) be of adequate depth to canoe from March through June, in years of normal rainfall (parts may require wading or portaging, but the majority of the stream segment must be floatable).

Classification criteria consist of eight components: (1) naturalness of bank vegetation, (2) vegetation depth-length index, (3) physical modification of the stream course, (4) human development, (5) special natural features, (6) aesthetic quality of water, (7) paralleling roads, and (8) number of river crossings. Each classification criterion is considered during the river evaluation, and for each category, a high point value represents a more natural condition. For example, if a stream segment is totally free-flowing, it would receive the maximum rating of 3 points on criterion #3, physical modification of the stream or its course.

The evaluation of Wildcat Creek took place on June 21, 22, 28, and 29, 1979. Separate tabulations were made by a Natural Rivers Coordinating Committee for the North and South Forks of Wildcat Creek. The committee is a multidisciplinary team composed of various Divisions within the Department of Natural Resources. Representatives from the Divisions of Water, Engineering, State Parks, Forestry, Fish and Wildlife, Geological Survey, and Outdoor Recreation formed the committee. Utilizing this methodology, a comprehensive evaluation of the study segments of Wildcat Creek was conducted.

The results of the evaluation of the North and South Forks of Wildcat Creek are summarized in the following paragraphs:

Necessary Criteria	North Fork	South Fork
1) Segment length - 10 mile minimun	yes	yes
2) Segment depth - adequate to canoe from March to June.	yes	yes

Classification Criteria	N.F.	S.F.
1) Naturalness of Bank Vegetation	3	3

The native vegetation in immediate view from the stream is 25% or less disturbed. Although there has been some clearing, the creek banks generally remain in a vegetated condition. Native vegetation includes local species of canopy trees, understory growth, shrubby, and herbaceous growth. Introduced species are rare, occuring occassionally in areas of human development.

2) Vegetation Depth-Length Index	2	2

The vegetation depth-length index is 51-74%, as computed from that criterion's formula. Along the North and South Forks of Wildcat Creek, the index of 51-74% represents the fact that approximately one-half to three-quarters of the study segments have at least a 100-foot deep vegetative strip extending from each streambank.

3) Physical Modification of the Stream Course	2	3

The North Fork of Wildcat Creek received a rating of 2 because the dam at Adams Mill partially impounds the stream, but for less than 3% of the stream segment length at normal summer levels. The old dam at Pyrmont no longer impounds the creek, as the stream has changed course around the dam. The North Fork study segment has not been channelized. The South Fork of Wildcat Creek received a rating of 3 since it has not been channelized or impounded along the entire study segment.

4) Human Development	a. 1 b. 1	1½ 1

Two aspects of human development are examined by this criterion: (a) urban impact and (b) additional visible structures. On the North Fork, urban impact involved less than 5% of the segment; on the South Fork it was determined to be 100% non-urban along both banks. Both Forks rated 1 for additional visible structures, meaning that there were between six to ten additional visible houses, barns, clusters (up to five relatively adjacent buildings), or other visible man-made structures per ten miles of river.

5) Special Natural Features	3	3

Both Forks received a rating of statewide significance for this criterion. The natural features of special interest are the geologic "notes" (cutbanks showing overlapping deposits from diferent glacial activities) indicating the Wildcat Valley was a boundary region during the last glaciation of the Great Lakes region. Also of interest are the massive conglomerates (gravel, stone, and sand aggregates in hardened clay), the glacial kames (glacial outwash mounds), the excellent sport

	N.F.	S.F.
fisheries habitat (particularly in the South Fork), and the diverse forest and wildlife species.		
6) Aesthetic Quality of Water	2	2
The rating of 2 for both Forks signifies that visible pollution, except for muddy water, is rare, with the water being turbid during three months or less of the six warm season months.		
7) Paralleling Roads	2	2
Less than one mile of paralleling County or State Road is present within 1,000 feet of both Forks per ten miles of stream.		
8) Crossings	2	2
All overhead stream crossings, such as road bridges, railroad bridges, and power lines were counted. On both Forks there were between four to five crossings per ten miles of stream. With this criterion, covered bridges and fords may be excepted as crossings, if, in the judgement of the rater, they do not seriously impair the aesthetic quality of the stream corridor. Multiple adjacent crossings, such as a bridge and power line crossing in one location, are generally only counted as one crossing.		
Total	18	19.5

Evaluation Summary

The North Fork of Wildcat Creek, from river mile 43.11 (S.R. 29 bridge at Burlington), to river mile 4.82 (Peters Mill Bridge) rated a total of 18 points. The South Fork of Wildcat Creek, from river mile 10.21 (S.R. 38 bridge at Dayton), to river mile 0.0 (the confluence of the South Fork and North Fork) rated a total of 19.5 points. In both cases the statistical mode was used to tally all rater's scores and obtain a final rating. The numerical rating indicates that, if designated, the North and South Forks of Wildcat Creek would receive a classification of Scenic.

RECOMMENDATION FOR DESIGNATION

The North Fork of Wildcat Creek, from river mile 43.11 to river mile 4.82, and the South Fork of Wildcat Creek, from river mile 10.21 to river mile 0.0, in Carroll and Tippecanoe Counties, have been found to possess the characteristics necessary for classification as a Scenic component of Indiana's Natural Rivers System. As a result, it is recommended to the Natural Resources Commission that the 38.29 miles of the North Fork and the 10.21 miles of the South Fork of Wildcat Creek be classified in the Scenic category and designated by rule and regulation as a component of Indiana's Natural Rivers System.

RECOMMENDATIONS FOR PRESERVATION AND MANAGEMENT

The Wildcat Creek Advisory Group (representing riparian landowners on Wildcat Creek, Indiana Farm Bureau, Carroll County Area Plan Commission, Tippecanoe County Area Plan Commission, Wildcat Canoe Club, Wildcat Park Foundation, U.S. Canoe Association, Wildcat Creek Federation, League of Women Voters of Greater Lafayette, Girl Scouts of America, and Wildcat Group-Sierra Club) was formed to help develop this *Plan for the Preservation and Management of Wildcat Creek.* Indiana's Rivers Preservation Act directs the Department to prepare the plan for streams recommended for inclusion in the System.

The purpose of this plan is to recommend means to:

1) protect the river's ecosystem,
2) maintain the natural and scenic qualities of the river corridor,
3) control future corridor development, striving to prevent incompatible land uses, and
4) manage public use of the river.

The Wildcat Creek Advisory Group and the Department, in a series of public meetings, have formulated the following recommendations for the preservation and management of Wildcat Creek. These recommendations provide ways riparian landowners and State and Local agencies can work together for the common goal of preserving this special natural resource:

1) To protect the Wildcat Creek corridor from inappropriate development, it is recommended that the Carroll and Tippecanoe County Area Plan Commissions amend their zoning ordinances to provide a natural river corridor district along study segments of Wildcat Creek. This should be done within the 1980 calendar year. The natural river corridor district should encompass an area similar to that suggested in the Model Natural River Corridor Zoning District Regulation (see Appendix C). The purpose of establishing the district would be to prevent destruction of natural and scenic qualities in the area which is within view from Wildcat Creek between May 1 and October 15, the normal period of full foliage. In general, only selective harvesting of natural vegetation and the building of structures which would be screened from view from the stream during full foliage should be permitted. All existing land uses would continue to be permitted. New land uses which are compatible with the intent of the Indiana Natural Rivers Program should also be permitted.

2) To provide for better management of public use of Wildcat Creek, it is recommended that small sites presently being used for access be acquired, on a willing-seller basis, and appropriately developed by the Department in the following locations:

   (a) Burlington.
   (b) Prince William Road Bridge, and
   (c) Peters Mill Bridge.

   A portage should also be developed on the right bank at the Adams Mill Dam. It is also recommended that other access sites presently being used along

Wildcat Creek be considered for possible improvements of existing facilities, through the assistance of the Department where appropriate. If any access sites which are presently available for use by the public for a fee, or which may have their use restricted in the future, become available for acquisition, the Department may also acquire and appropriately develop the site(s). The additional sites are:

(a) Adams Mill,
(b) Knop Lake,
(c) Aca-Pi-Ki- Landing, (located off C.R. 900E),
(d) Mis-So-La Landing, (located off C.R. 775E),
(e) First Wildcat Park,
(f) Pathway Park, and
(g) S.R. 26 (Indiana State Highway Commission right-of-way and lot).

Maintenance for any site will be arranged as a component of the development plans. All access sites will be designed and managed in a manner consistent with the intent of the Natural Rivers Program (A map showing the studied segments of the North and South Forks of Wildcat Creek plus access sites can be found on page 19);

3) It is recommended that a permanent Wildcat Creek Advisory Group, comprised of residents of Carroll and Tippecanoe Counties, be formed with the responsibility of monitoring development and use of the Wildcat Creek corridor;

4) It is recommended that the Department make available technical assistance to riparian landowners for appropriate streambank stabilization projects, as well as assist in developing techniques for timber management by private landowners in the Wildcat Creek corridor;

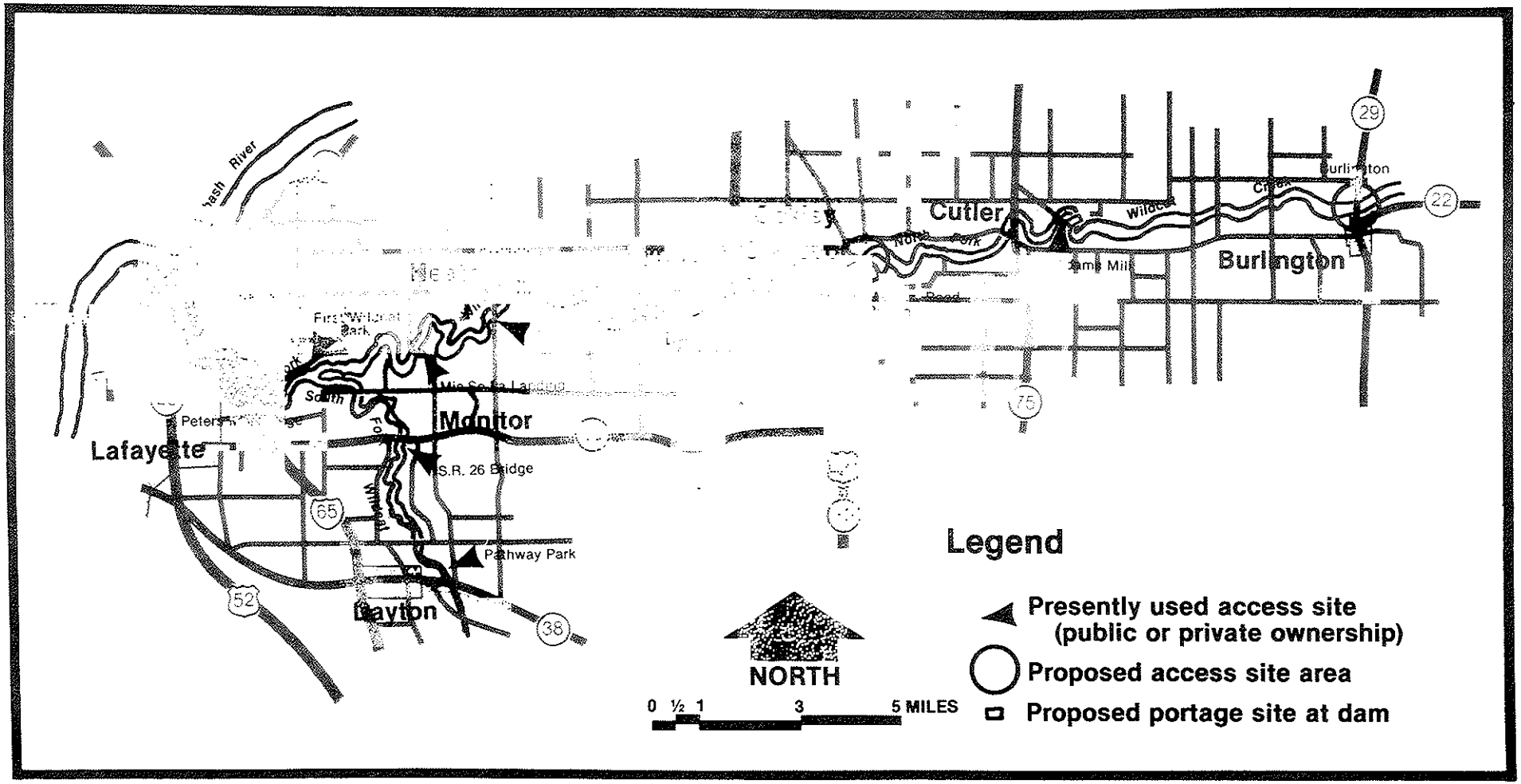
5) It is recommended that Wildcat Creek be given a higher priority by the Department's Division of Enforcement with periodic patrols and additional coordination between area law enforcement personnel and local landowners;

6) It is recommended that a part-time Seasonal Stream Specialist be provided for Wildcat Creek to aid the Department, Advisory Group, and local landowners, monitor stream use and development, and help control problems of trespass and litter;

7) It is recommended that the Department monitor recreational use of Wildcat Creek. If usage becomes too great, creating an unusual number of problems or affecting the natural qualities of Wildcat Creek, the Department should use its public information network to promote alternative recreation choices for the public; and

8) It is recommended that the Department work with utility companies to coordinate plans for any utility crossings of Wildcat Creek to minimize their impact on the natural and scenic qualities of the stream.

Wildcat Creek Study Area
and
Access Sites



APPENDIX A

IC 13-2-26. Natural, Scenic and Recreational Rivers — Preservation

13-2-26-1 Administration by Department of Natural Resources

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

13-2-26-2 Policy statement

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

13-2-26-3 Definitions

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 characterisitics necessary to qualify as a natural or scenic river, but which still maintains scenic or recreational characterisitics 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 characterisitics.

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

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

13-2-26-4 Categories of rivers

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 judgement 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 judgement, 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.

13-2-26-5 Rules and regulations; notice; hearing

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.

13-2-26-6 Evaluation as scenic resource; environmental impact of proposed use

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

13-2-26-7 Altering original classification prohibited

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

13-2-26-8 River system plan; acquisition of land and easements

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 fom 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 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 sources and from private groups and individuals.

13-2-26-10 Encouragement of riparian owners to grant easements

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.

13-2-26-11 Expending funds

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.

APPENDIX B

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 Rivers System. This act authorized the Indiana Department of Natural Resources to administer the implementation of the act 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 unaccessible.

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 Rivers 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 eligibility 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 ten 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 disqualifications 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 creates 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 five miles of paralleling roads are within 1,000 feet of the stream per ten 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)

Explanatory Comments on Necessary Criteria

Stream Segment Length:

The minimum length of any segment to be considered should be ten 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 into the natural or scenic environment. While the ten-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. Short segments should not normally become part of the Indiana Natural Rivers System, which should represent the best of the State.

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 second measurements are meaningful only in a uniform channel with a 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 meets 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 modifications 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:

Total Points	Classification
21 +	Natural
17 - 20	Scenic
13 - 16	Recreational

Streams with ratings of twelve 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 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[1] present and in immediate view from the stream (100' on each side plus close visible slopes) is more than 75% disturbed by heavy grazing, cutting, or clearing.

1 pt. 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 rate three points.

[1]Native 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. 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 by the miles of its length along the stream.

2. Forest or brush fringes and strips of vegetation less than 100 feet deep are given ½ the number of miles of their length along the stream.

Examples:

Strips of 150 feet wide forest extend for three miles along both banks of the stream. The index is 6 (both banks, each for three miles).

A fringe of forest three to five trees deep covers one bank for three miles. The index value is 1.5.

These two combined on a ten mile stretch of stream would be 7.5 ÷ 20 (miles of banks) = 38%.

rating:

0 pts. Stream has a vegetation depth-length index of less than 25%.

1 pt. 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 impounds water which creates 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 pt. 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 creates 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 creates artificial pools that back up water 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:

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

(2) 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 Floodplains, 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.

½ pt. Between 5% and 10% urban along stream.

1 pt. Up to 5% urban along stream.

1½ 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[2] allowed for every ten miles.

½ pt. Between eleven and twenty additional visible houses, cabins, barns, industrial buildings, gravel pits, or clusters allowed for every ten miles.

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

1½ pts. Up to five visible houses, cabins, barns, industrial buildings, gravel pits, or clusters allowed for every ten miles.

[2]A cluster is defined as up to five cabins, houses, or other structures 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 significant.

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

1 pt. 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 pt. Pollution periodically but infrequently visible; turbid or muddy chronically.

2 pts. Visible pollution, except for muddy water, is rare; turbid or muddy during half or fewer of the six 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 Roads[3]

0 pts. Disqualified: a total of more than five miles of paralleling road within 1,000 feet of the stream per ten miles of stream.

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

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

3 pts. Up to a total of ¾ of a mile of paralleling county roads within 300 feet of the stream per ten miles of stream; no state, U.S., or interstate highways paralleling within 1,000 feet of the stream.

[3]Paralleling roads, including railroads, are defined by their aesthetic affect 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.

8. Crossings[4]

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

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

2 pts. Four to five crossings per ten miles of stream.

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

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

APPENDIX C

MODEL NATURAL RIVER CORRIDOR ZONING DISTRICT REGULATION

(suggested amendment to existing Indiana zoning ordinances)

Section .

A. NATURAL RIVER CORRIDOR DISTRICT REGULATIONS (to maintain the natural and scenic qualities of river corridors).

1. The following area in _____ County is designated in a Natural River Corridor District:
   a) _____ River/Creek and the strip of land along each side of the river which is defined by the river's edge and a line paralleling the top of the river bank; the line paralleling the top of the river bank is determined by measuring horizontally (parallel to the river's surface) 300 feet from the top of the river bank and away from the river.
2. For the purpose of this section, the following terms shall mean:
   a) Deposit — to fill, place, or dump.
   b) Improvement — to use or modify a structure, or to deposit, locate, or remove material.
   c) Locate — to construct, place, insert, or excavate.
   d) Material — any soil, sand, gravel, clay, peat, mud, debris, refuse, or other organic or inorganic substance.
   e) Modify — to alter, repair, enlarge, or extend a structure.
   f) Remove — to dig, dredge, bulldoze, dragline, or blast, or to cut natural vegetation.
   g) Top of the River Bank — the top of the slope immediately bordering the river's course, along which the river normally runs and below which the river is normally contained or the edge of the permanent, woody vegetation or the edge of the field, pasture, or cultivated crop; the closest to the river's edge among the top of the slope, permanent, woody vegetation or field, pasture, or cultivated crop determines the top of the river bank.
   h) Use — to employ or occupy a structure or parcel of land for a person's service, benefit, or enjoyment.
3. All improvement within the Natural River Corridor District will require an Improvement Location Permit, and a Certificate of Occupancy will be required prior to use of any improvement.
4. Improvement Location Permits should be issued if a proposed improvement will not be visible within the Natural River Corridor District from five (5) feet above the river's surface at normal water level between May 1 and October 15, a period of relatively full foliage, or when the natural or scenic features of the Natural River Corridor District will not be detrimentally affected.

5. Any proposed improvement or change determined to be visible within the Natural River Corridor District from five (5) feet above the river's surface at normal water level between May 1 and October 15, or which will detrimentally affect the natural and scenic features of the Natural River Corridor District, shall not receive an Improvement Location Permit.
6. There shall be no complete removal of natural vegetation or clear cutting of timber within the Natural River Corridor District. However, timber may be selectively harvested according to good forestry practice.
7. Any person who causes improvement within the Natural River Corridor District without an Improvement Location Permit or uses such improvement without a Certificate of Occupancy shall be fined not less than ten dollars ($10.00) nor more than three hundred dollars ($300.00) for each day of the violation.

Natural River Corridor

The corridor of a river is that area which may be seen from the river. This area's boundaries change significantly along a river's course due to topographic relief and existing vegetation. In referring to the river corridor of a component of Indiana's Natural Rivers System, the Department of Natural Resources considers the area which may be seen from the river from May 1 to October 15 of any year as the corridor. The time period from May 1 to October 15 represents a period of relatively full foliage in Indiana, although there may be slight variations from year to year and between northern and southern parts of the state.

The phrase "which may be seen from the river" means that which is visible from five feet above the river's surface at the river's normal water level. The river's normal water level may be determined by marking the water level at the river's average, or mean, discharge or by physical evidence on the river's banks. "Five feet above the river's surface at the river's normal water level" represents the general, maximum eye level of a person on the river at normal water level.

Consequently, a natural river corridor is that area which may be seen from the river by a person on the river at normal water level between May 1 and October 15 of any year.

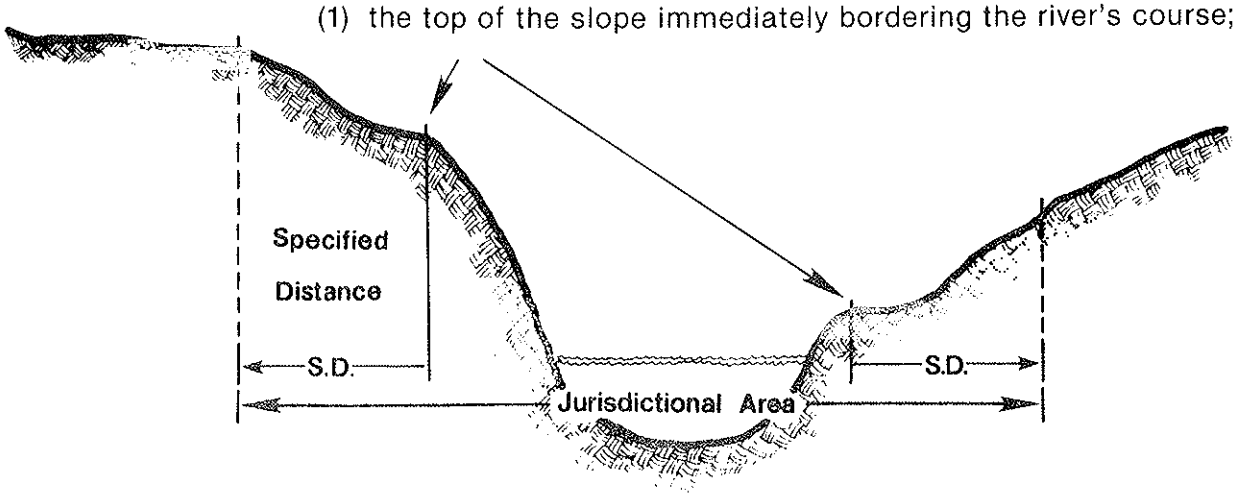
For the purpose of defining a natural river corridor zone, or jurisdictional area, for local zoning regulations, the Department suggests specifying a distance from the top of each river bank to determine the boundaries of the zone. This will enable the riparian landowner and the zoning administrator to be able to perceive the boundaries of the zone. More specifically, the natural river corridor zone would be the area containing the river and the strip of land along each side of the river defined by the river's edge and a line paralleling the top of the river bank; the line paralleling the top of the river bank would be determined by measuring horizontally (parallel to the river's surface) a specified distance from the top of the river bank and away from the river.

The "top of the river bank" is the top of the slope immediately bordering the river's course, along which the river normally runs and below which the river is normally contained, or the edge of the permanent, woody vegetation or, in the absence of permanent, woody vegetation, the edge of the field, pasture, or cultivated crop -- whichever is closest to the river's edge (see the following illustrations of a natural river corridor zone).

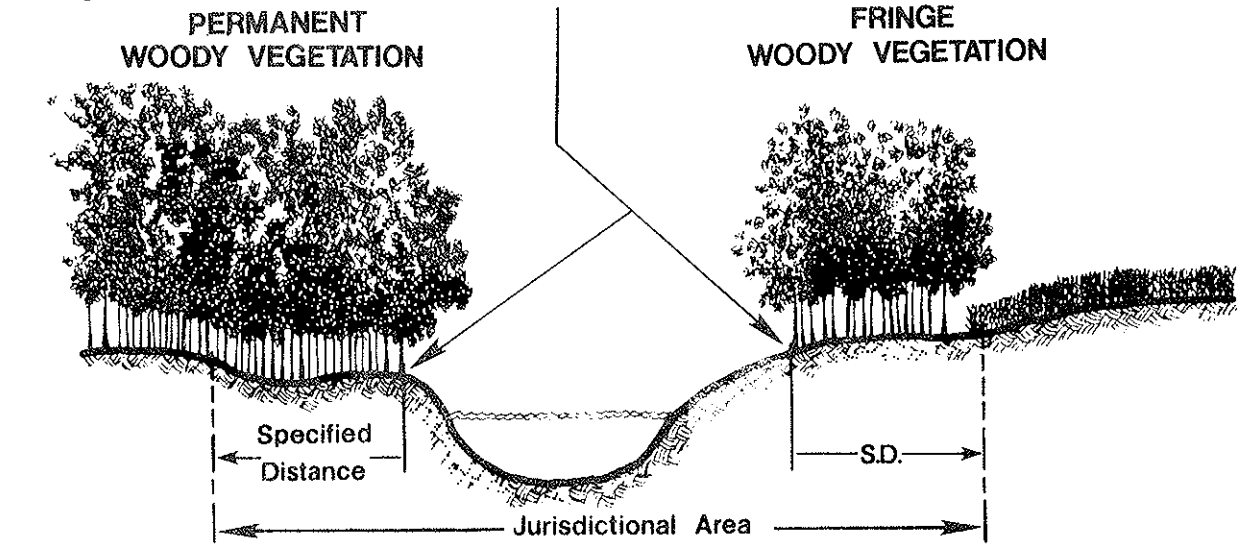
The Department also suggests that a natural river corridor zone, or jurisdictional area, be defined by specifying the distance to be measured from the top of each river bank to be at least 300 feet. Most of Indiana's remaining, free flowing rivers are generally entrenched and bordered by natural vegeatation, and the area defined by two lines measured 300 feet from the top of each river bank would generally encompass the natural river corridor.

The following illustrations show the various ways of determining the top of the river bank (designated by arrows in each illustration) and the means of defining the jurisdictional area:

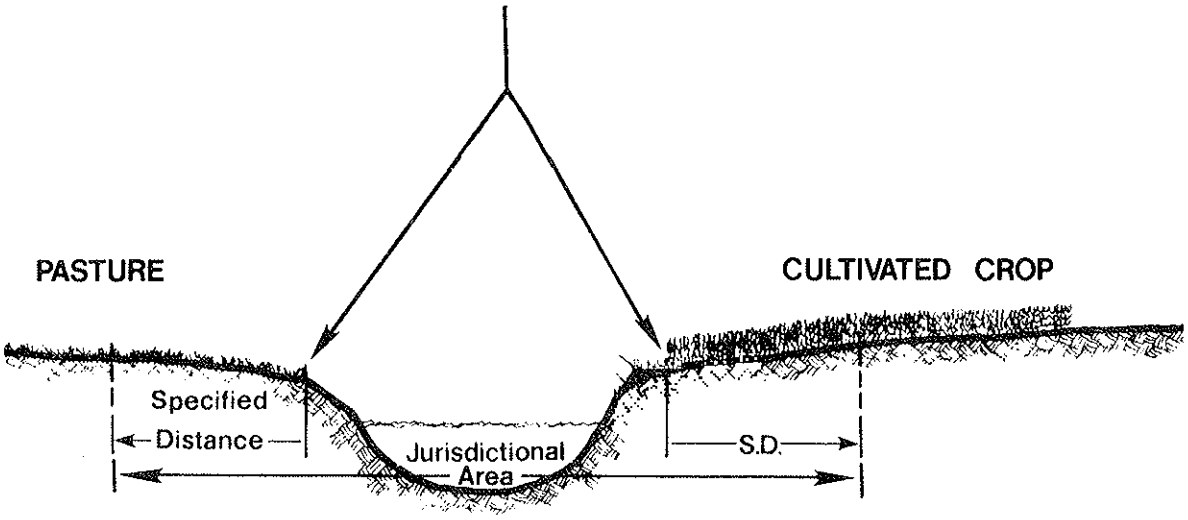
(1) the top of the slope immediately bordering the river's course;



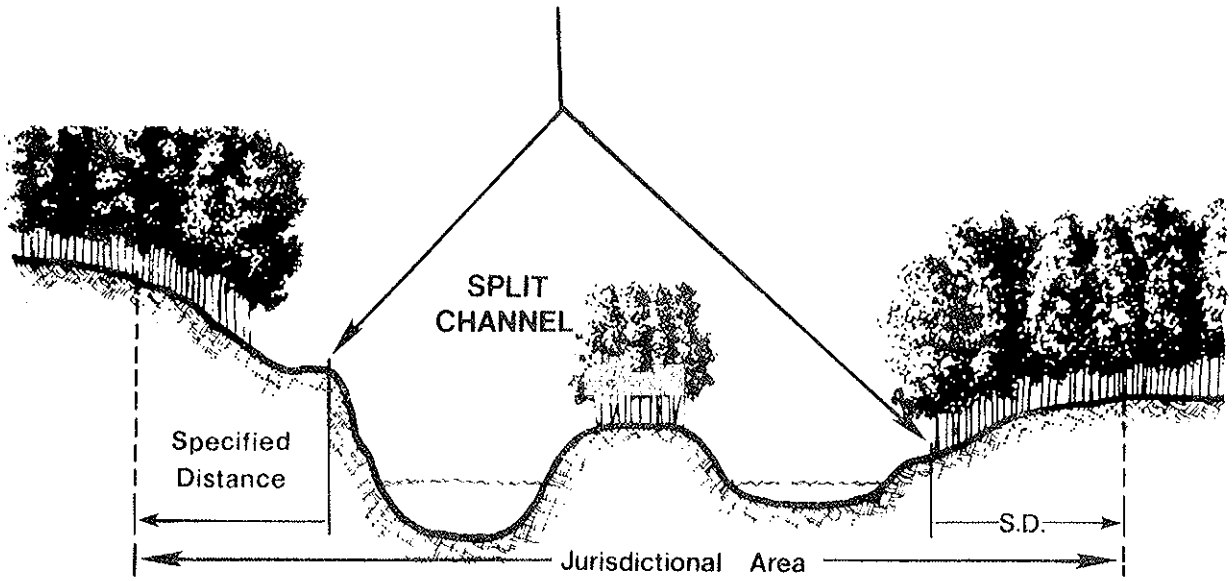
(2) the edge of the permanent woody vegetation, including a case where there is only a fringe of permanent woody vegetation along the river;



(3) the edge of a pasture or cultivated crop, such as corn or tobacco; and



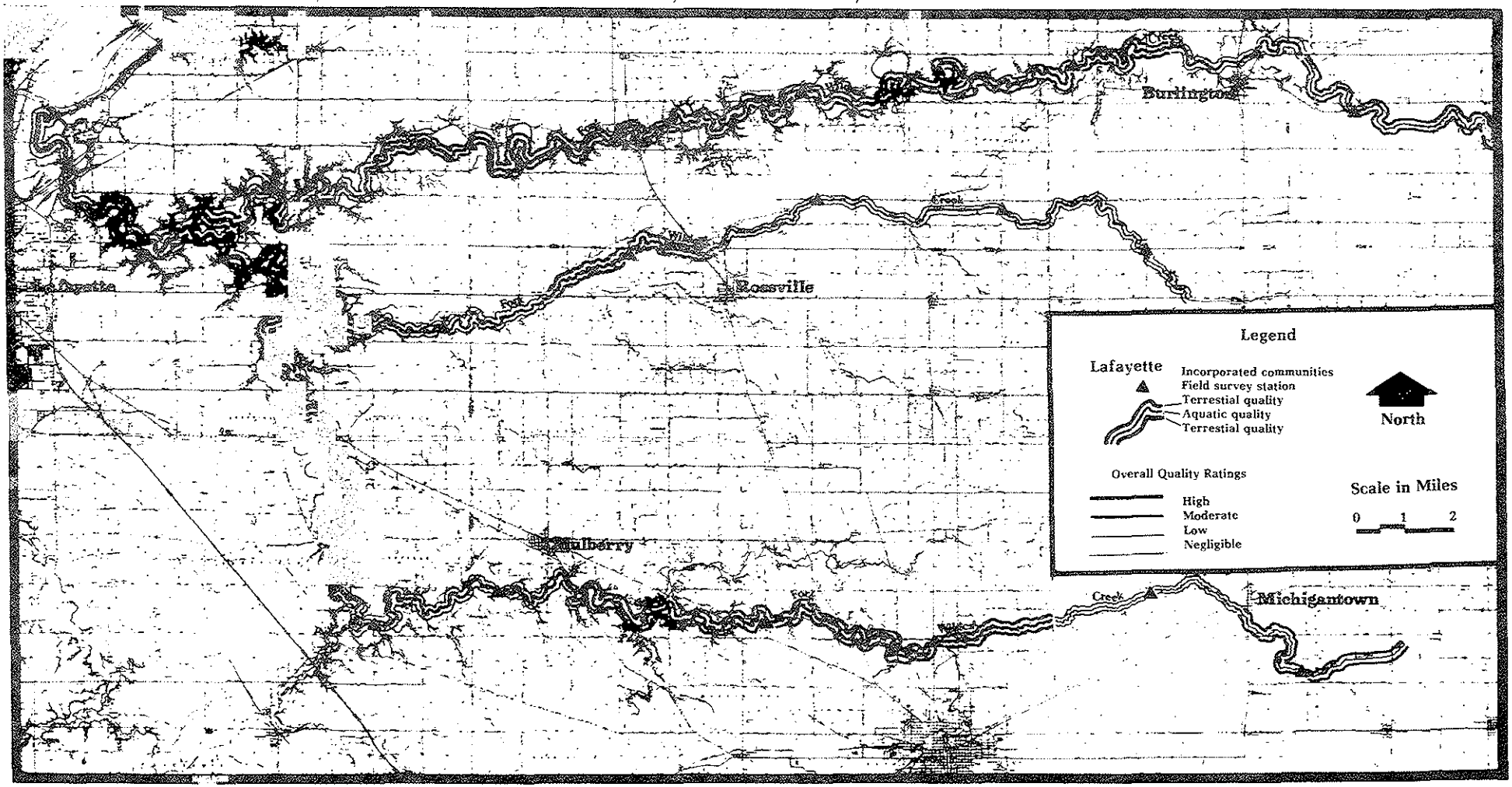
(4) the top of the slope and the edge of the permanent, woody vegetation where the river channel is split creating an in-stream sandbar or island.



APPENDIX D

WILDCAT CREEK HABITAT EVALUATION

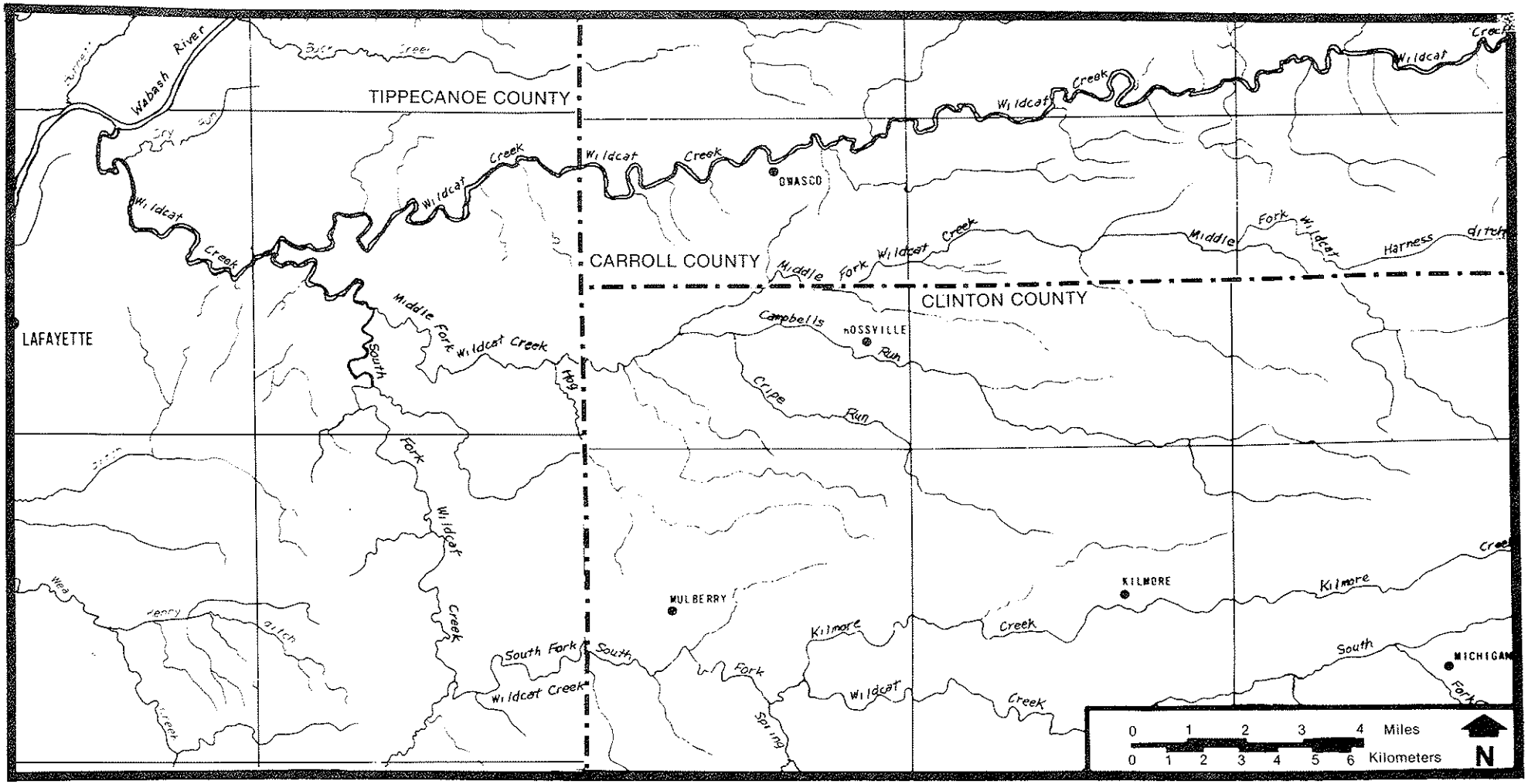
(Source: *An Analysis of the Recreation Potential of Wildcat Creek*, Indiana Department of Natural Resources, Division of Outdoor Recreation, December 1978).



APPENDIX E

DRAINAGE NETWORK OF WILDCAT CREEK

(Source: *Drainage Areas of Indiana Streams,* U.S. Department of the Interior, Geological Survey, Water Resources Division, In Cooperation with: State of Indiana Department of Natural Resources, Division of Water, 1975).



APPENDIX F

WILDCAT VALLEY GENERAL SOIL ASSOCIATIONS

(Source: *General Soils Maps and Interpretation Tables for the Counties of Indiana,* November 1971 (Rev. January 1975).

SOIL ASSOCIATIONS

4. *Genessee-Shoals-Eel:* Nearly level, well drained, loamy Genesee, moderately well drained, loamy Shoals in alluvial deposits.

16. *Elston-Wea:* Nearly level, well drained, loamy soils on outwash sand and gravel.

36. *Ockley-Westland:* Nearly level, loamy, well drained Ockley and very poorly drained Westland on outwash sand and gravel.

38. *Ockley-Fox:* Nearly level, well drained, loamy soils on outwash sand and gravel.

64. *Crosby-Brookston:* Nearly level, somewhat poorly drained, clayey Crosby and very poorly drained, loamy Brookston in glacial till.

66. *Fincastle-Ragsdale-Brookston:* Nearly level, somewhat poorly drained, silty Fincastle in wind-blown silts and glacial till, very poorly drained, silty Ragsdale in wind-blown silts and loamy Brookston in glacial till.

73. *Raub-Ragsdale:* Nearly level, somewhat poorly drained, silty Raub in wind-blown silts and glacial till and very poorly drained, silty Ragsdale in wind-blown silts.

81. *Miami-Russell-Fincastle:* Sloping, well drained, loamy Miami in glacial till and silty Russell in wind-blown silts and glacial till and nearly level somewhat poorly drained, silty Fincastle in wind-blown silts and glacial till.

83. *Miami-Crosby:* Sloping, well drained, loamy Miami and nearly level, somewhat poorly drained, clayey Crosby in glacial till.

84. *Miami-Hennepin:* Sloping, well drained, loamy Miami and steep, well drained, shallow, loamy Hennepin in glacial till.

88. *Odell-Chalmers:* Nearly level, somewhat poorly drained, loamy Odell and very poorly drained, loamy Chalmers in glacial till.

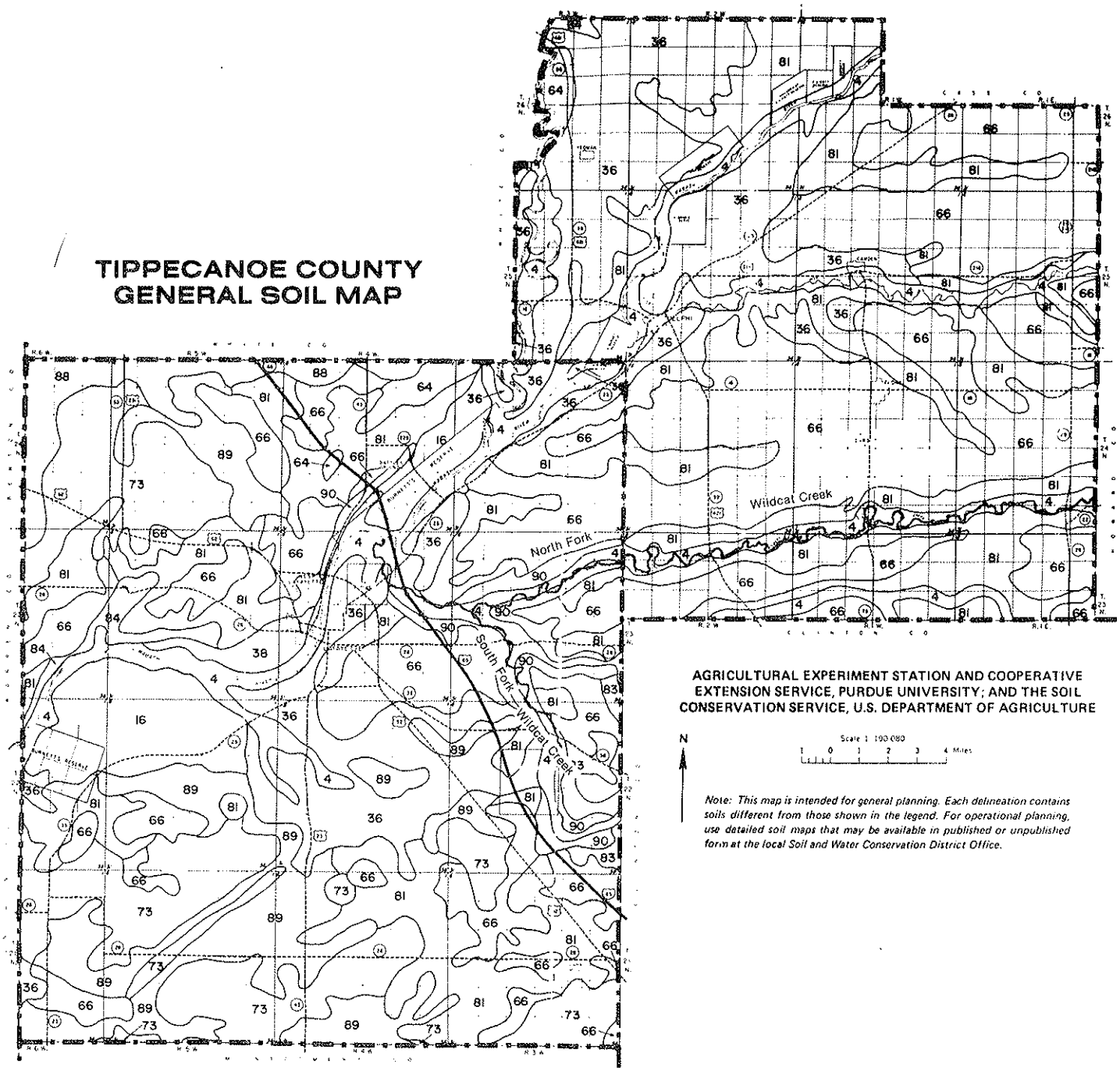
89. *Sidell-Parr:* Sloping, well drained, silty Sidell in wind-blown silts and glacial till and loamy Parr in glacial till.

90. *Hennepin-Rodman:* Steep, well drained, shallow, loamy Hennepin in glacial till and excessively drained, shallow, sandy Rodman on sand and gravel.

WILDCAT VALLEY GENERAL SOILS MAP

CARROLL COUNTY GENERAL SOIL MAP

TIPPECANOE COUNTY GENERAL SOIL MAP



AGRICULTURAL EXPERIMENT STATION AND COOPERATIVE EXTENSION SERVICE, PURDUE UNIVERSITY; AND THE SOIL CONSERVATION SERVICE, U.S. DEPARTMENT OF AGRICULTURE

N

Scale 1 190 080

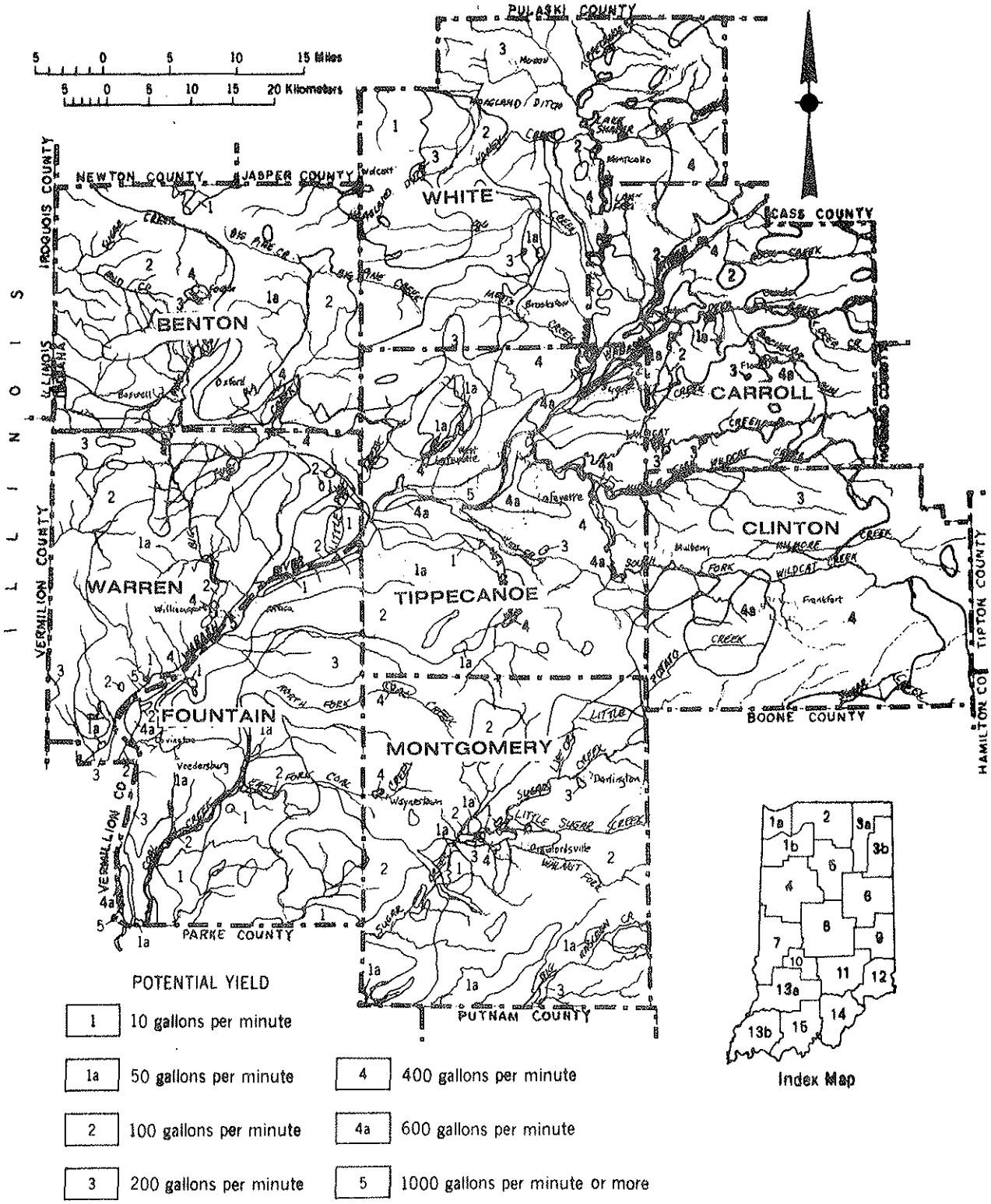
1 0 1 2 3 4 Miles

Note: This map is intended for general planning. Each delineation contains soils different from those shown in the legend. For operational planning, use detailed soil maps that may be available in published or unpublished form at the local Soil and Water Conservation District Office.

APPENDIX G

GROUND-WATER AVAILABILITY FOR INDIANA PLANNING REGION 4

(Source: *Indiana's Existing and Projected Water Uses and Needs - Preliminary Phase I Report to the Governor's Water Resource Study Commission.* June 1978).



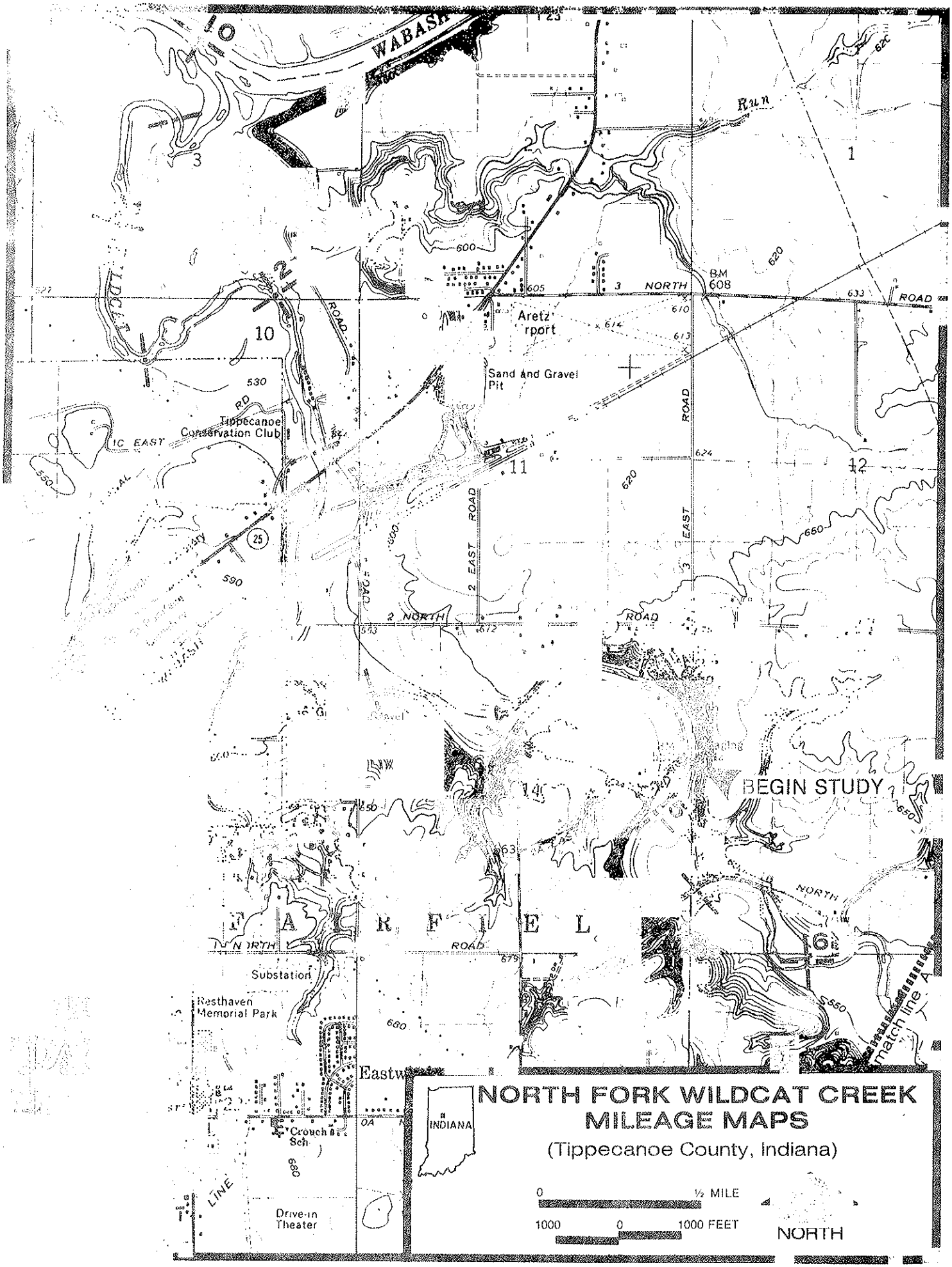
APPENDIX H

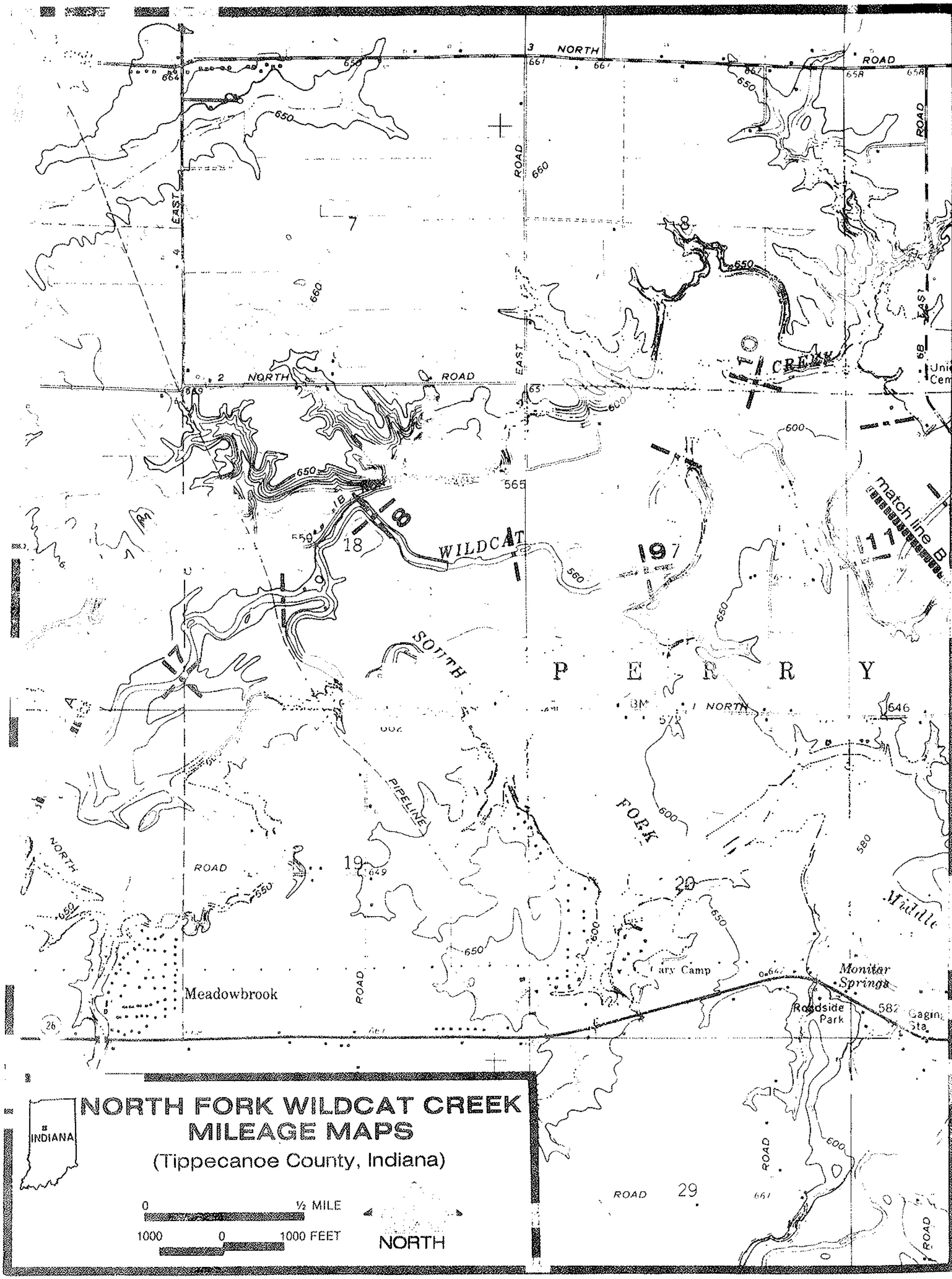
NORTH FORK WILDCAT CREEK MILEAGE MAPS

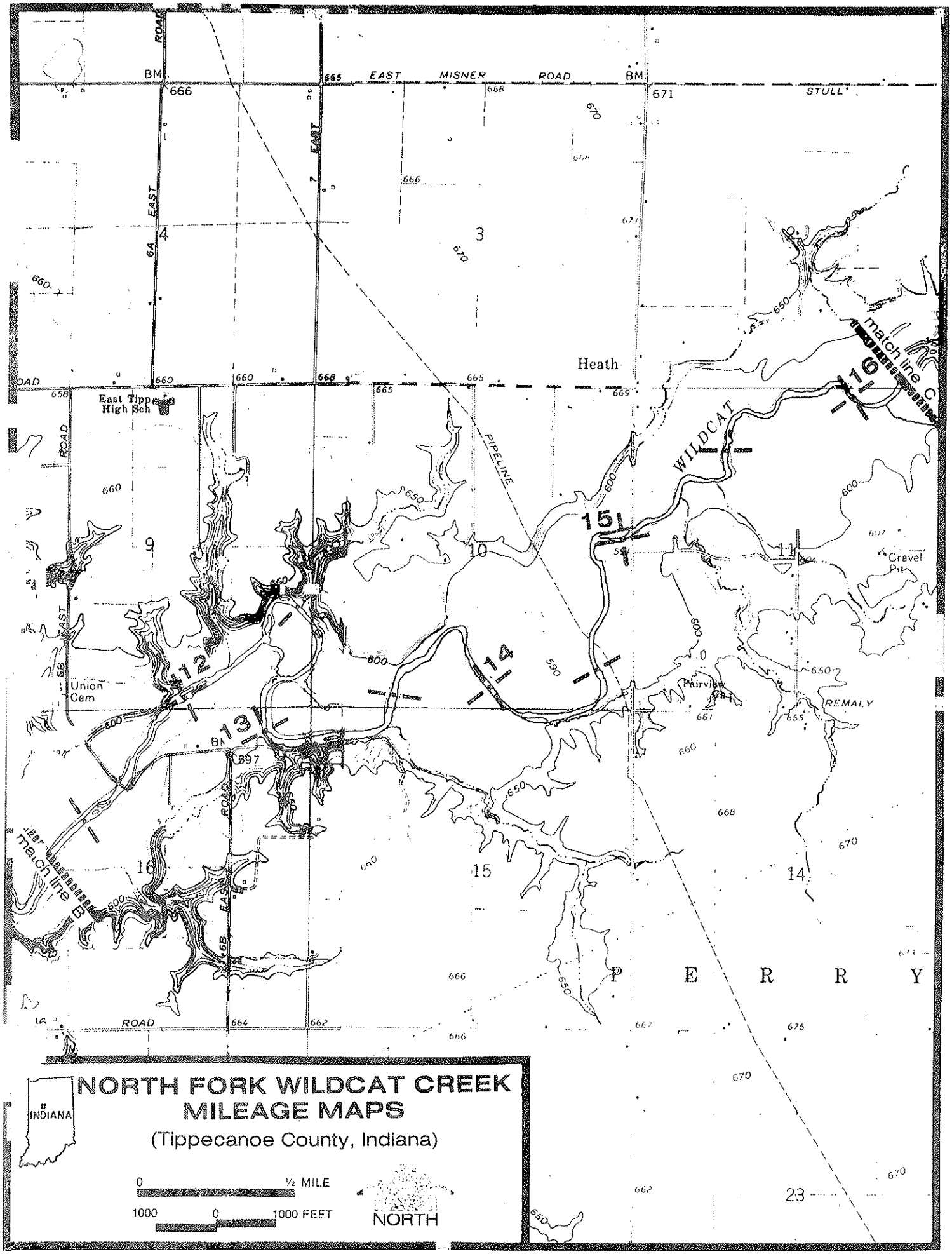
(Basin #10, computed 6/13/63)

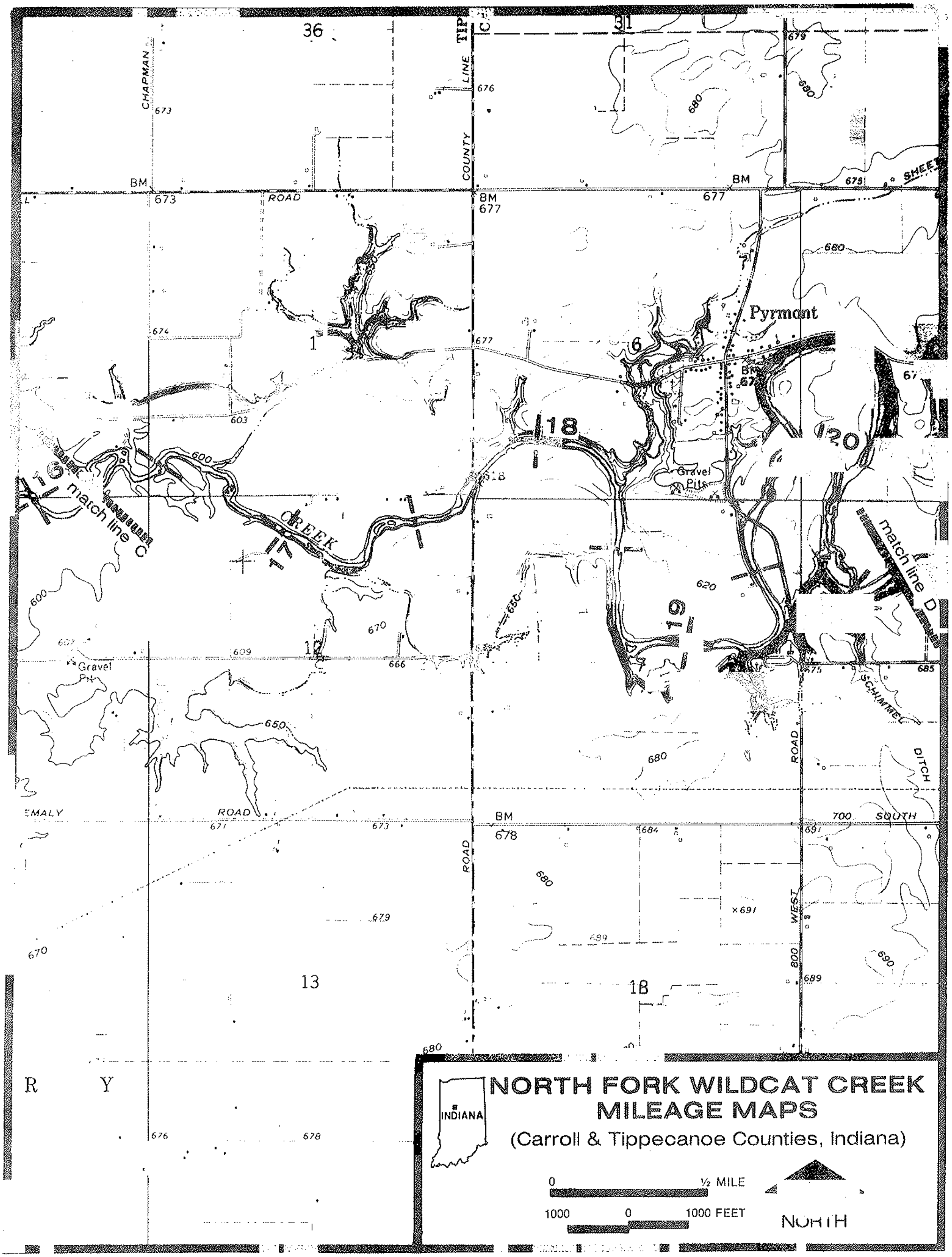
	STREAM FEATURE	STREAM MILEAGE
	Confluence with Wabash River	0.00
	Dry Run, R.B.	1.96
	Canal, L.B.	2.33
	State Road 25 Bridge	2.57
	Abandoned R.R. Bridge	2.70
	Wabash Railroad Bridge	2.90
	Tributary, L.B.	3.14
	Gaging Station	4.82
Beginning of Study Area	2A East Road Bridge	4.82
	Tributary, R.B.	4.93
	Tributary, L.B.	5.40
	Tributary, L.B.	6.56
	Pipeline Crossing	7.47
	South Fork Wildcat Creek, L.B.	7.62
	Tributary, R.B.	9.69
	Tributary, L.B.	9.97
	Tributary, R.B.	10.24
	Tributary, L.B.	11.29
	6B East Road Bridge	11.65
	Tributary, R.B.	12.17
	Cutoff, L.B.	12.30
	Tributary, R.B.	12.51
	Cutoff, L.B.	12.81
	Tributary, L.B.	13.39
	Pipelines Crossings	14.60
	Wolfe Road Bridge	15.05
	Tributary, L.B.	15.23
	Tibutary, L.B.	15.39
	Tributary, L.B.	16.13
	Tributary, R.B.	16.26
	Tributary, R.B.	16.67
	County Line (Tippecanoe & Carroll)	17.74
	County Line Road Bridge	17.75
	Tributary, R.B.	18.31
	Tributary, L.B.	19.17
	Schimmel Ditch, L.B.	19.33
	800 West Road Bridge	19.66
	Pyrmont, Ind., R.B.	19.70
	Slough, R.B.	19.94
	Tributary, R.B.	20.78
	Tributary, L.B.	20.91
	Tributary, R.B.	21.19
	Tributary, R.B.	21.68
	Tributary, L.B.	22.12
	Tributary, L.B.	22.27
	Gaging Station	23.05
	600 West Road Bridge	23.06
	U.S. 421 Bridge	23.14
	Tributary, L.B.	23.14
	Tributary, R.B.	23.14
	Monon Railroad Bridge	23.50
	Tributary, R.B.	23.60
	Owasco, Ind., L.B.	24.00
	Tributary, L.B.	24.31
	500 West Road Bridge	24.61
	Tributary, R.B.	25.02
	Tributary, L.B.	25.27
	Tributary, L.B.	25.36
	Tributary, L.B.	25.44
	Tributary, R.B.	25.63
	Tributary, L.B.	26.71
	Tributary, R.B.	26.78
	Prince William Road Bridge	27.22
	Tributary, L.B.	30.49
	Tributary, R.B.	31.55
	State Road 75 Bridge	31.70
	Cutler, Ind., L.B.	32.10
	Pennsylvania Railroad Bridge	32.46
	D.S. End of Cutoff thru Adams Mill, L.B.	33.17
	Tributary, R.B.	33.37
	50 East Road Bridge	33.40
	Tributary, R.B.	34.15
	Dam	34.37
	U.S. end of cutoff thru Adams Mill, L.B.	34.38
	Tributary, L.B.	35.16
	Tributary, R.B.	35.65
	Tributary, L.B.	36.24
	Tributary, R.B.	36.43
	Tributary, R.B.	36.96
	Tributary, L.B.	37.22
	Tributary, R.B.	37.23
	Tributary, R.B.	37.43
	Tributary, R.B.	38.12
	350 East Road Bridge	38.23
	Tributary, R.B.	38.64
	Hurricane Creek, L.B.	39.61
	Tributary, L.B.	39.78
	500 East Road Bridge	40.80
	Tributary, L.B.	41.25
	Tributary, R.B.	41.34
	Tributary, R.B.	41.52
	Tributary, L.B.	42.27
	Burlington, Ind., L.B.	43.10
End of Study Area	State Road 29 Bridge	43.11
	Tributary, L.B.	43.16
	Tributary, R.B.	43.88
	County Line (Carroll & Howard)	44.60

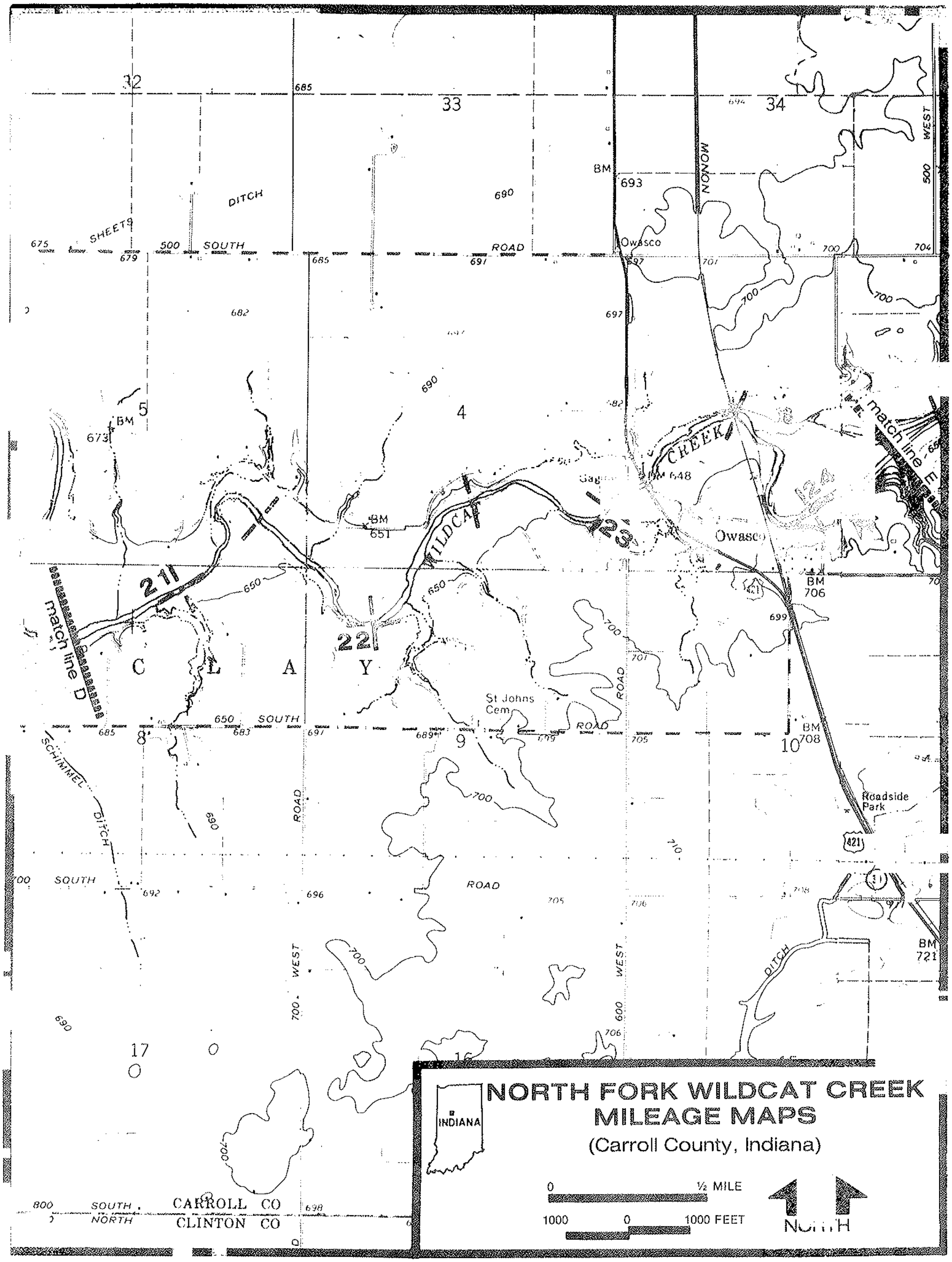
(Source: Indiana Department of Natural Resources, Divison of Water, *Master Set of Maps and Stream Features Tabulation.*)

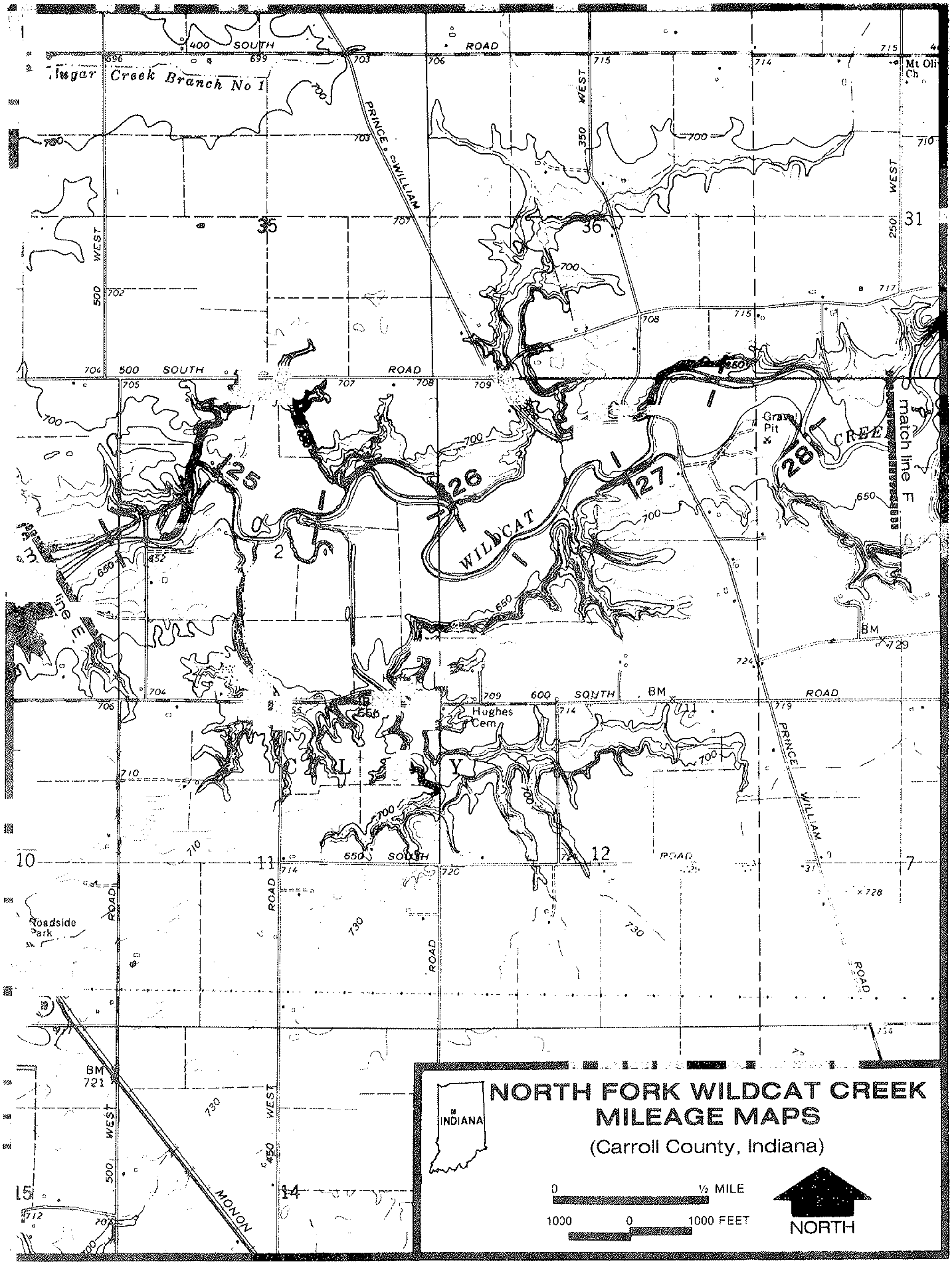

WABASH
Run
BM 608
Aretz rport
Sand and Gravel Pit
Tippecanoe Conservation Club
ROAD
2 EAST
3 EAST
2 NORTH
3 NORTH
BEGIN STUDY
Substation
Resthaven Memorial Park
Crouch Sch
Drive-in Theater
match line A
NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Tippecanoe County, Indiana)
INDIANA
0 ½ MILE
1000 0 1000 FEET
NORTH

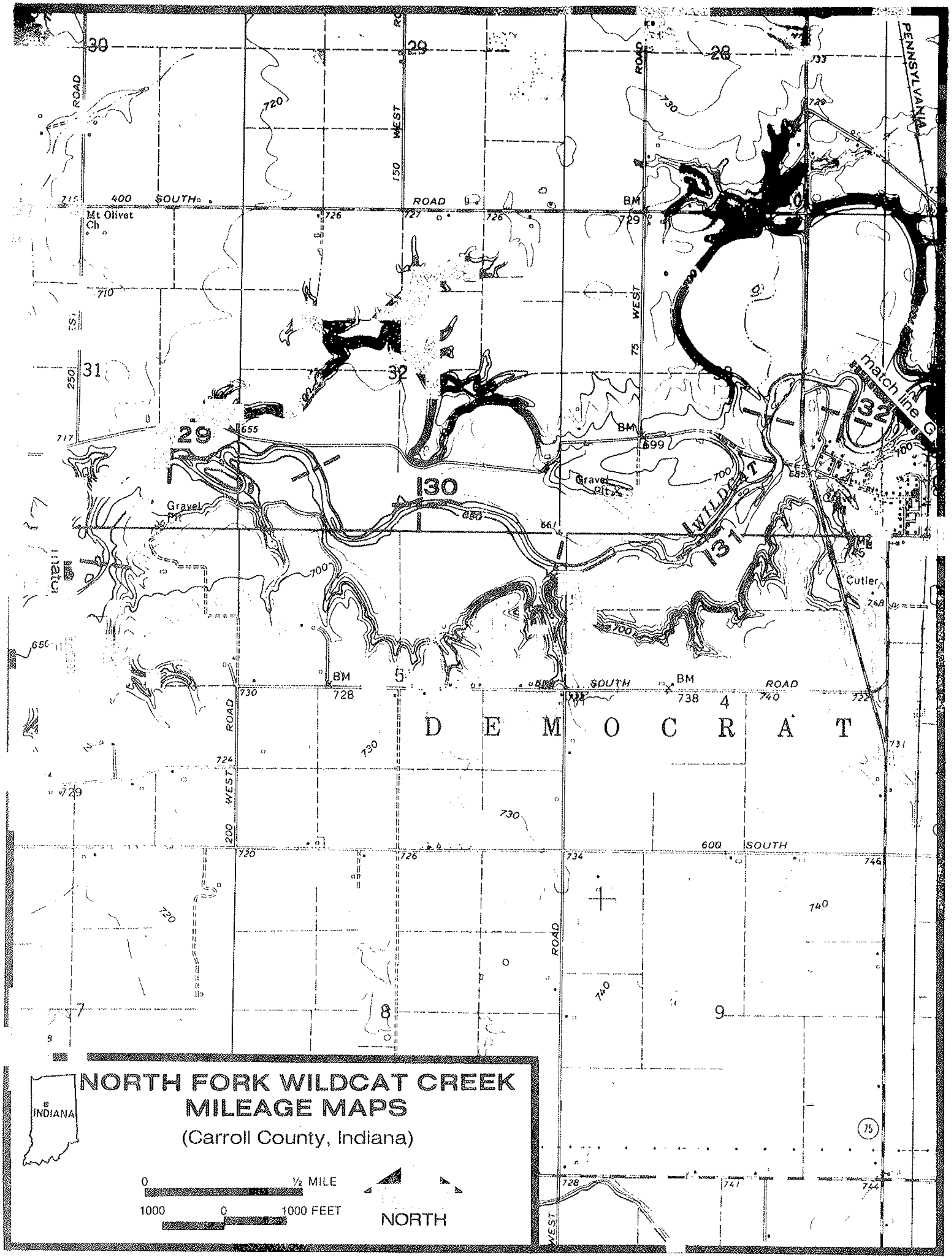

NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Tippecanoe County, Indiana)
INDIANA
0
½ MILE
1000
0
1000 FEET
NORTH
NORTH ROAD
EAST
ROAD
WILDCAT
SOUTH
FORK
PERRY
PIPELINE
Meadowbrook
Cary Camp
Monitor Springs
Roadside Park
Gaging Sta.
match line B
CREEK
Middle

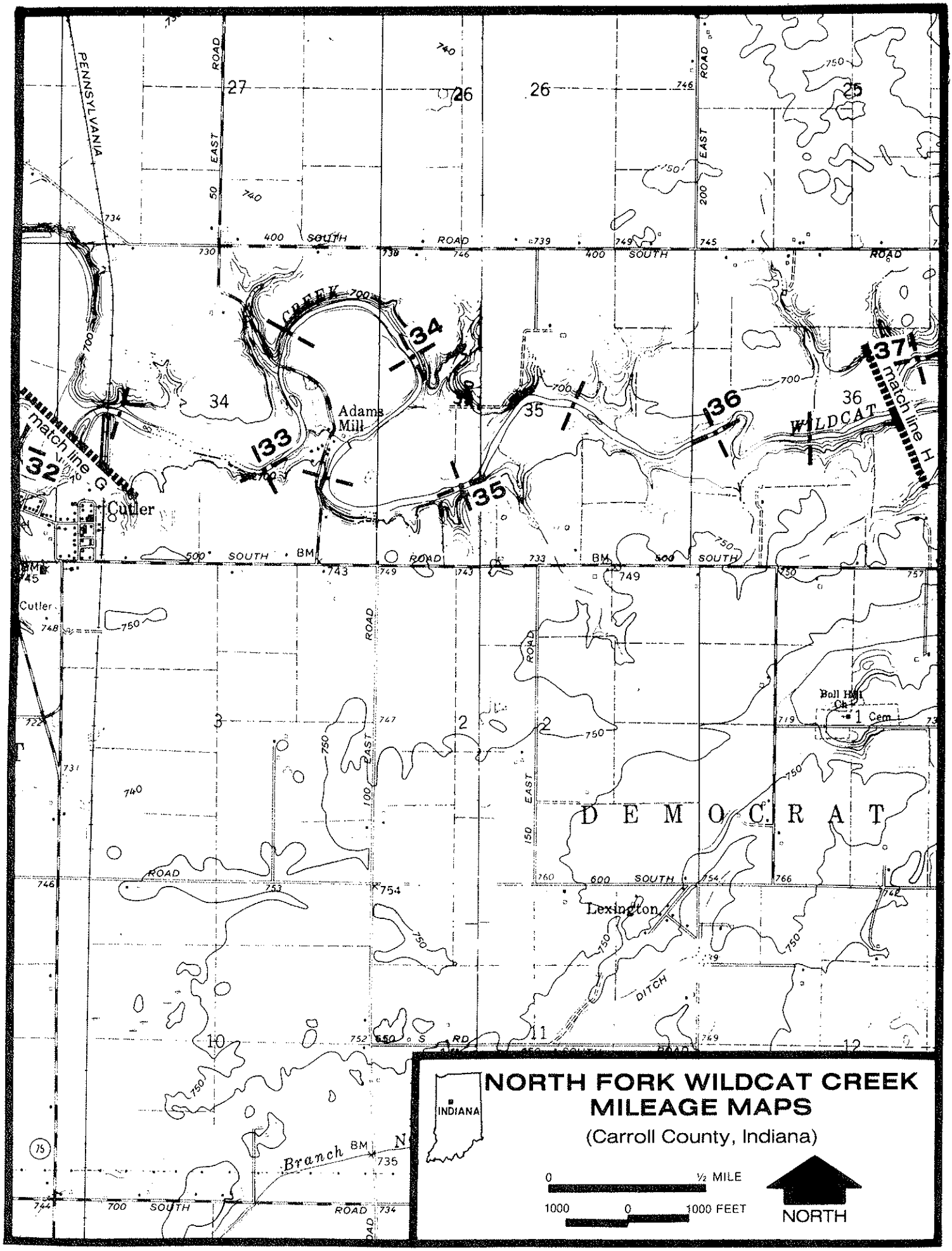

EAST MISNER ROAD
STULL
Heath
East Tipp High Sch
WILDCAT
PIPELINE
match line C
match line D
Union Cem
Fairview Ch
REMALY
Gravel Pit
PERRY
ROAD
EAST
INDIANA
NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Tippecanoe County, Indiana)
0 ½ MILE
1000 0 1000 FEET
NORTH

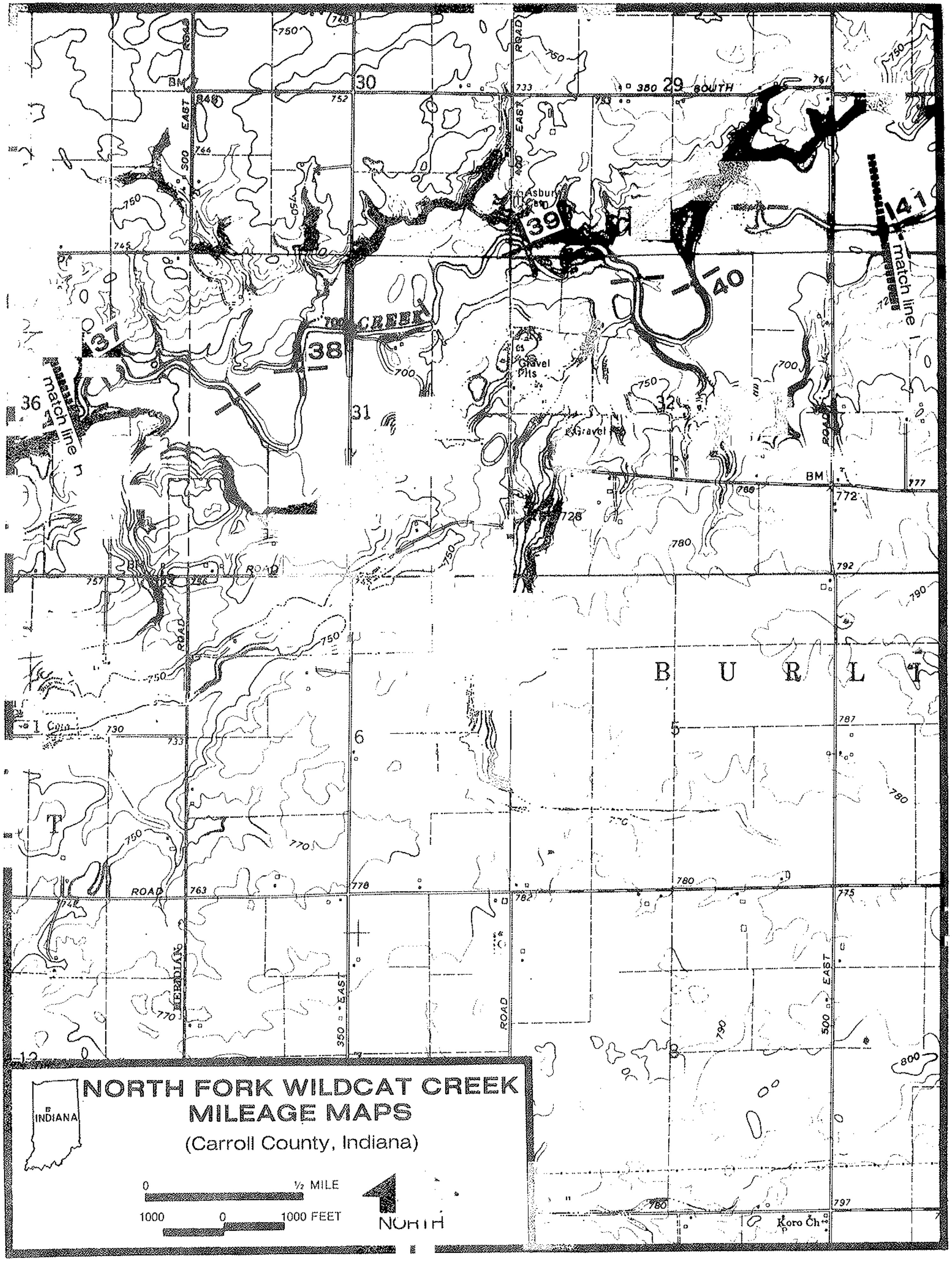

NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Carroll & Tippecanoe Counties, Indiana)
INDIANA
0
½ MILE
1000
0
1000 FEET
NORTH
Pyrmont
CREEK
match line C
match line D
16
17
18
19
20
Gravel Pits
Gravel Pit
COUNTY LINE
CHAPMAN
ROAD
EMALY
ROAD
700 SOUTH
800 WEST
ROAD
CHIMNEY DITCH
SHEET
BM
36
31
1
6
12
13
18
R
Y

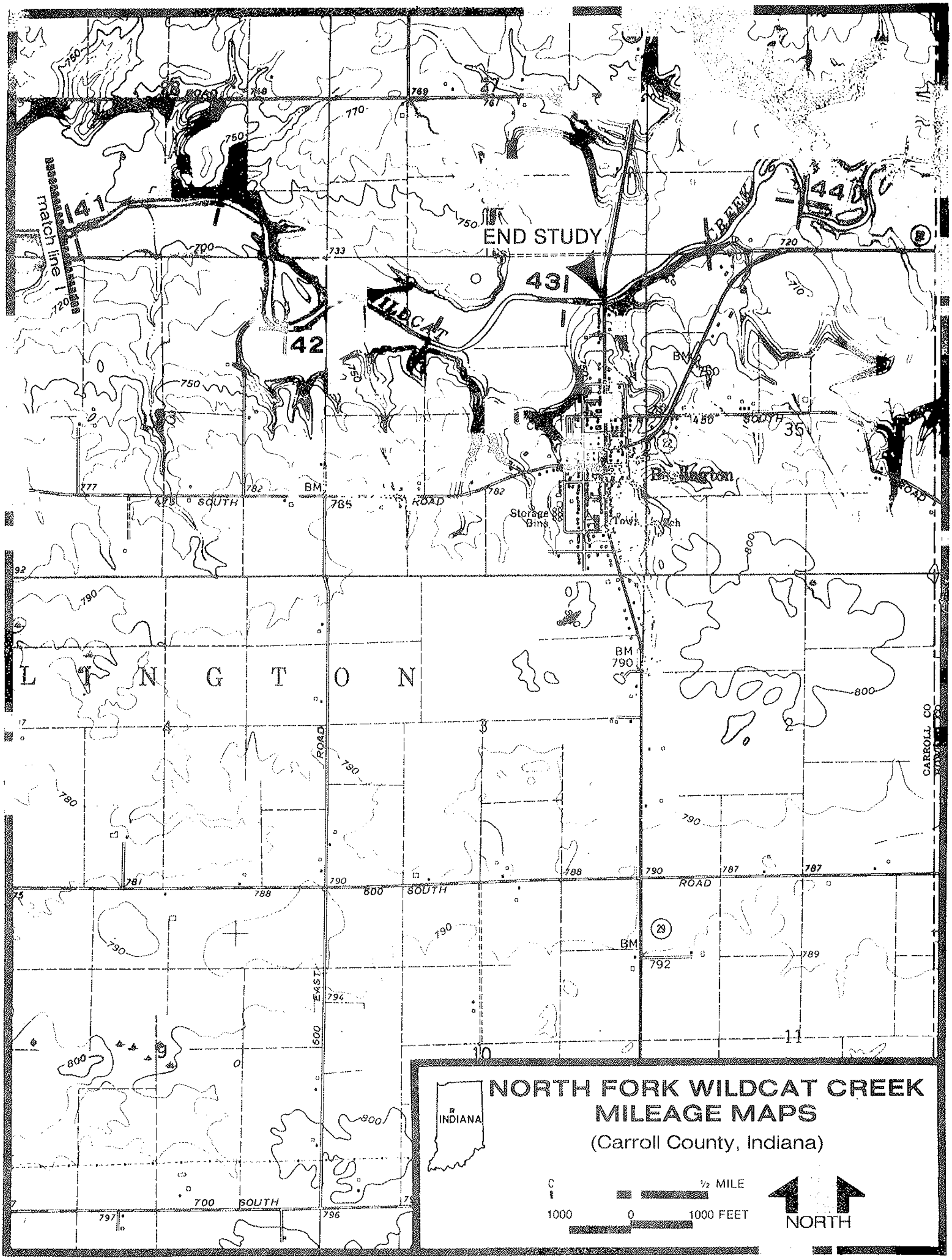

NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Carroll County, Indiana)
INDIANA
0
½ MILE
1000
0
1000 FEET
NORTH
32
33
34
5
4
8
9
10
17
16
C L A Y
SHEETS DITCH
500 SOUTH ROAD
650 SOUTH ROAD
700 SOUTH ROAD
800 SOUTH
NORTH
CARROLL CO
CLINTON CO
700 WEST ROAD
600 WEST ROAD
500 WEST
MONON
SCHIMMEL DITCH
DITCH
WILDCAT CREEK
Owasco
St Johns Cem
Roadside Park
match line D
match line E
21
22
23
24
421
BM
693
673
651
648
706
708
721
685
675
679
683
682
690
691
697
694
699
700
701
704
705
710
650
689
692
696
698


NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Carroll County, Indiana)
INDIANA
0
½ MILE
1000
0
1000 FEET
NORTH
Sugar Creek Branch No 1
400 SOUTH
ROAD
500 SOUTH
ROAD
600 SOUTH
ROAD
650 SOUTH
ROAD
500 WEST
350 WEST
250 WEST
450 WEST
PRINCE WILLIAM
PRINCE WILLIAM
ROAD
WILDCAT
CREEK
Gravel Pit
Hughes Cem
Mt Olive Ch
Roadside Park
MONON
match line F
match line E
25
26
27
28
35
36
31
2
10
11
12
7
15
14
BM
BM
BM
721
729


NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Carroll County, Indiana)
INDIANA
0
½ MILE
1000
0
1000 FEET
NORTH
DEMOCRAT
PENNSYLVANIA
match line G
WILDCAT
Mt Olivet Ch
Gravel Pit
Cutler
400 SOUTH ROAD
600 SOUTH
SOUTH ROAD
150 WEST
75 WEST
200 WEST ROAD
250
BM
29
130
131
132
30
28
31
32
5
4
7
8
9
75


NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Carroll County, Indiana)
INDIANA
0 ½ MILE
1000 0 1000 FEET
NORTH
Cutler
Adams Mill
Lexington
DEMOCRAT
WILDCAT
match line G
match line H
PENNSYLVANIA ROAD
400 SOUTH ROAD
500 SOUTH ROAD
600 SOUTH ROAD
700 SOUTH ROAD
50 EAST
100 EAST
150 EAST
200 EAST
Branch
DITCH
Boll Hill Ch
Cem


NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Carroll County, Indiana)
INDIANA
0
½ MILE
1000
0
1000 FEET
NORTH
36
37
38
39
40
41
match line
match line
CREEK
Asbury
Gravel Pits
Gravel Pit
B U R L I
T
SOUTH
EAST
ROAD
MERIDIAN
30
29
31
32
6
5
8
BM
750
700
780
790
770
800
Koro Ch


NORTH FORK WILDCAT CREEK
MILEAGE MAPS
(Carroll County, Indiana)
INDIANA
END STUDY
match line
41
42
43
44
WILDCAT
CREEK
425 SOUTH ROAD
600 SOUTH ROAD
700 SOUTH
600 EAST ROAD
Storage Bins
Town Hall
CARROLL CO
L I N G T O N
1/2 MILE
1000 0 1000 FEET
NORTH

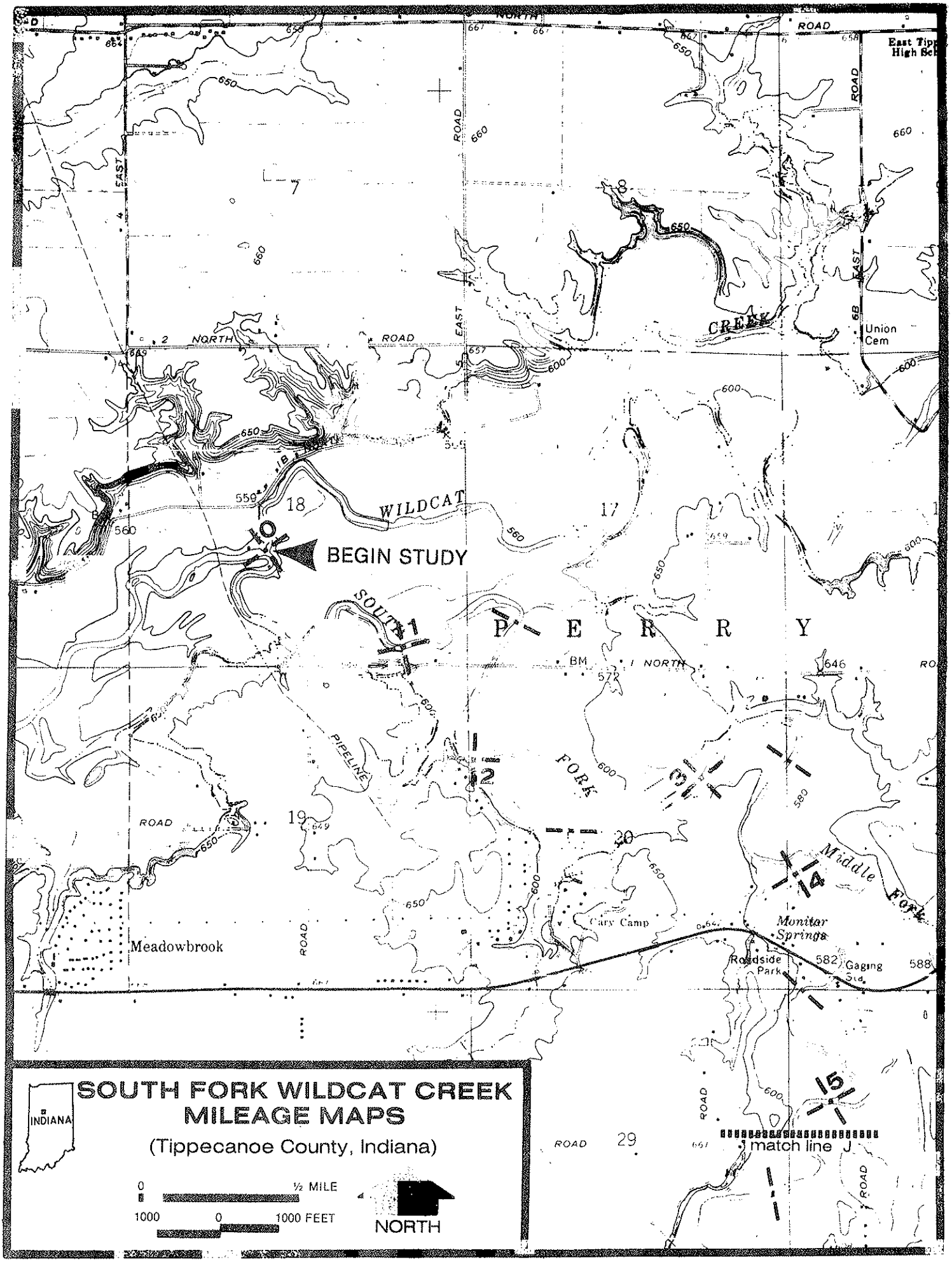
APPENDIX I

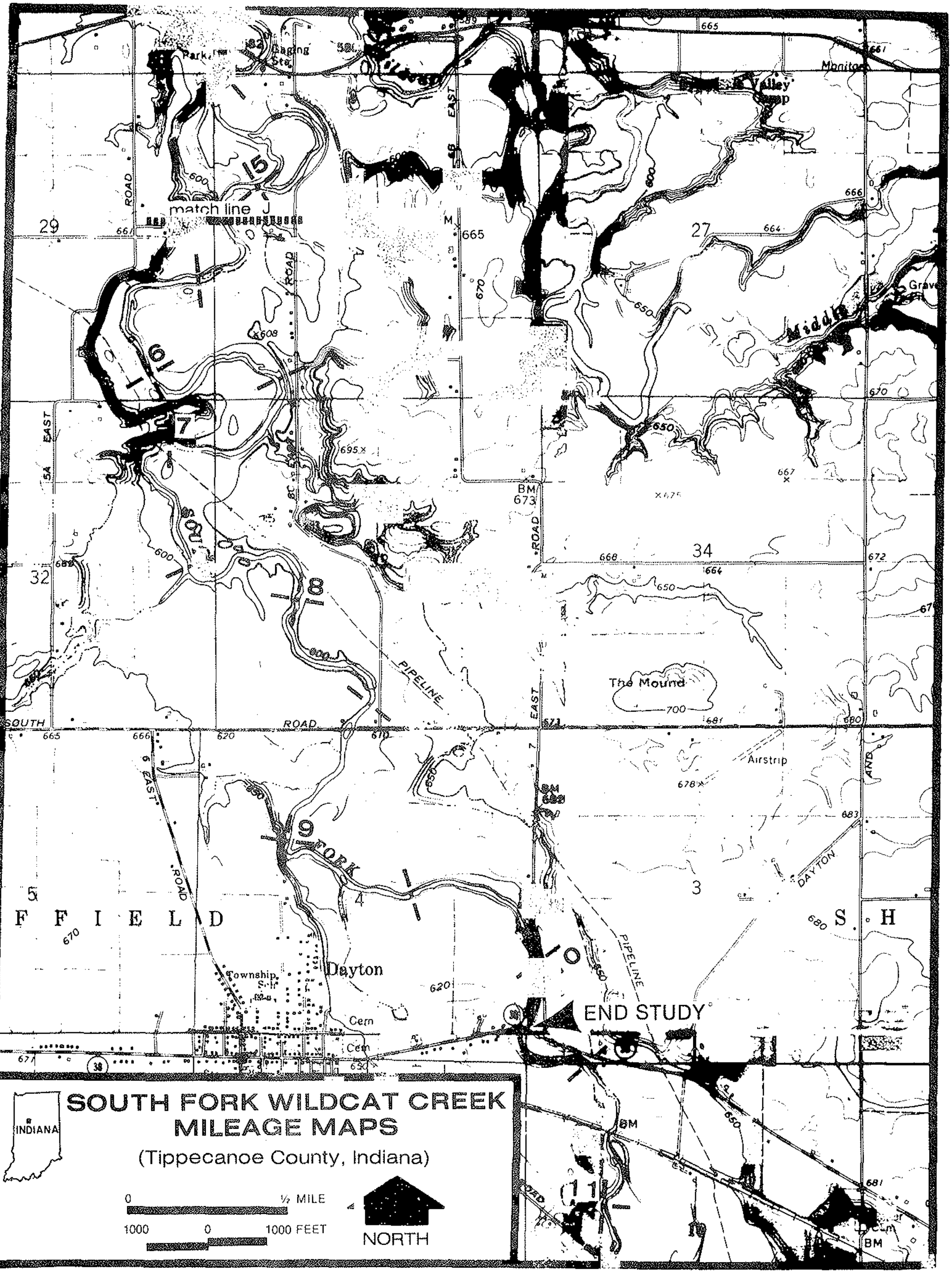
SOUTH FORK WILDCAT CREEK MILEAGE MAPS

(Basin #10, computed 7/20/68)

	STREAM FEATURE	STREAM MILEAGE
Beginning of Study Area	Confluence with Wildcat Creek	0.000
	Tributary, R.B.	1.465
	1 North Road Bridge	1.660
	Tributary, L.B.	2.525
	Tributary, L.B.	3.855
	Middle Fork Wildcat Creek, R.B.	3.950
	Power Line	4.030
	State Road 26 Bridge	4.385
	USGS Gaging Station	4.400
	Cutoff, Downstream, R.B.	4.740
	Tributary, R.B.	4.740
	Cutoff, Upstream, R.B.	4.990
	Tributary, R.B.	6.680
	Pipeline	7.040
	Tributary, L.B.	7.515
	2 South Road Bridge	8.600
	Tributary, L.B.	8.800
End of Study Area	Tributary, L.B.	9.270
	State Road 38 Bridge	10.215
	N.Y., Chicago, St. Louis R.R. BR.	10.750

(Source: Indiana Department of Natural Resources, Division of Water, *Master Set of Maps and Stream Features Tabulation.*)


BEGIN STUDY
WILDCAT
CREEK
SOUTH FORK
PERRY
EAST
ROAD
NORTH
PIPELINE
Union Cem
Meadowbrook
Cary Camp
Monitor Springs
Roadside Park
Gaging Sta.
Middle Fork
match line J
SOUTH FORK WILDCAT CREEK
MILEAGE MAPS
(Tippecanoe County, Indiana)
INDIANA
0 ½ MILE
1000 0 1000 FEET
NORTH


SOUTH FORK WILDCAT CREEK
MILEAGE MAPS
(Tippecanoe County, Indiana)
INDIANA
0
½ MILE
1000
0
1000 FEET
NORTH
match line J
END STUDY
The Mound
Airstrip
Dayton
PIPELINE
SOUTH
ROAD
EAST
DAYTON
Cem
27
29
32
34
3
5
15
16
17
18
19
F F I E L D
S H
665
670
650
600
700

BIBLIOGRAPHY

1. *An Analysis of the Recreation Potential of Wildcat Creek,* Indiana Department of Natural Resources, Division of Outdoor Recreation, Dec., 1978.

2. *A Plan for the Preservation and Management of Sugar Creek: Indiana Natural, Scenic, and Recreational Rivers System Study,* Indiana Department of Natural Resources, Division of Outdoor Recreation, Sept., 1977.

3. *A Plan for the for the Preservation and Management of Whitewater River: Indiana Natural Rivers System Study,* Indiana Department of Natural Resources, Division of Outdoor Recreation, July, 1979

4. Bleuer, N., Personal Interview, Indiana Geological Survey, Bloomington, Indiana, January 22, 1980.

5. *Cedar Creek, Natural, Scenic, and Recreational Rivers Study,* Indiana Department of Natural Resources, Division of Outdoor Recreation, Nov. 3, 1975.

6. *1970 Census of Population,* Washington, D.C.: U.S. Department of Commerce / Bureau of the Census, Dec., 1970.

7. *Drainage Areas of Indiana Streams,* U.S. Department of the Interior, Geological Survey, Water Resources Division, In Cooperation with: State of Indiana Department of Natural Resources, Division of Water, 1975.

8. *Environmental Study - Lafayette Lake, Lafayette, Indiana,* Stanley Consultants, Prepared for Department of the Army, Louisville District Corps of Engineers, Sept.16, 1974.

9. *General Soils Maps and Interpretation Tables for the Counties of Indiana,* Agricultural Experiment Station / Cooperative Extension Service, Purdue University and the Soil Conservation Service, U.S. Department of Agriculture (Purdue Extension Publication AY-50). Nov., 1971 (Rev. Jan., 1975).

10. Gredesky, M.L., Knudson, D.M., *Wildcat Creek, Evaluation for Suitability for the Indiana Natural Streams System,* 1974.

11. *Indiana Canoe Guide,* Indiana Department of Natural Resources, Division of Outdoor Recreation, 1979.

12. *1979 Indiana Outdoor Recreation Plan,* Indiana Department of Natural Resources, Division of Outdoor Recreation, July, 1979.

13. *Indiana's Existing and Projected Water Uses and Needs - Preliminary Phase I Report to the Governor's Water Resources Study Commission, Indiana Department of Natural Resources,* June 22, 1978.

14. Lindsey, Alton, A. (ed), *1816-1966 - Natural Features of Indiana,* Indiana Academy of Science, 1966.

15. *North Fork Wildcat Creek Mileage Maps and Stream Features Tabulation -Master set of Maps and Stream Features Tabulation,* Indiana Department of Natural Resources, Division of Water, Mileage Maps-June 29,1965, Stream Features - June 13, 1963.

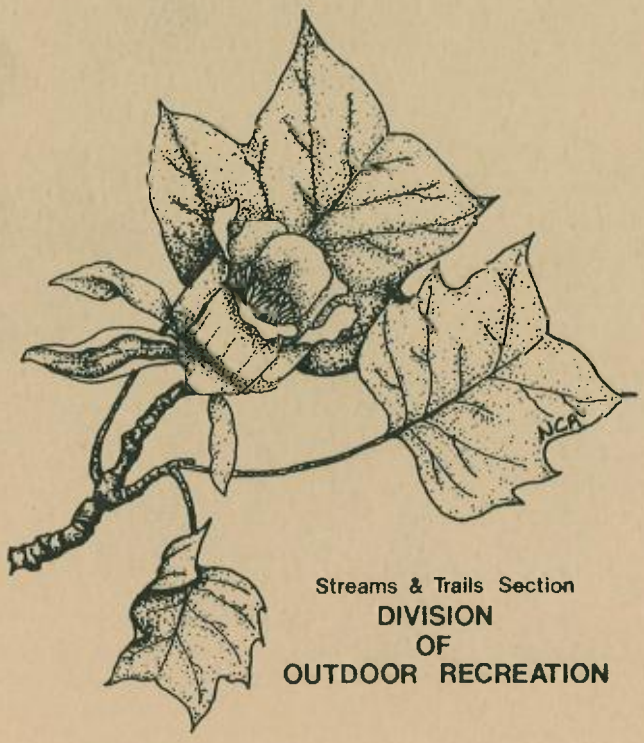
16 *Ohio River Division - Water Resources Development,* U.S. Army Corps of Engineers in Indiana, Jan., 1979.

17 *Regional Analysis of the Revised (1978) Indiana County Population Projections 1980-2000 for Indiana's 18 State Planning Regions,* Indianapolis: State Planning Services Agency, 1978.

18. *Report of Committee on Water Availability and Quality - Governor's Water Resources Study Commission, Indiana Department of Natural Resources,* June, 1978.

19. *South Fork Wildcat Creek Mileage Maps and Stream Features Tabulation -Master set of Maps and Stream Features Tabulation,* Indiana Department of Natural Resources, Division of Water, Mileage Maps - March 1, 1968, Stream Features - July 20, 1968.

20. *Wildcat Creek Stream Survey Report,* Indiana Department of Natural Resources, Division of Fish and Wildlife, 1974.



Streams & Trails Section
DIVISION
OF
OUTDOOR RECREATION