

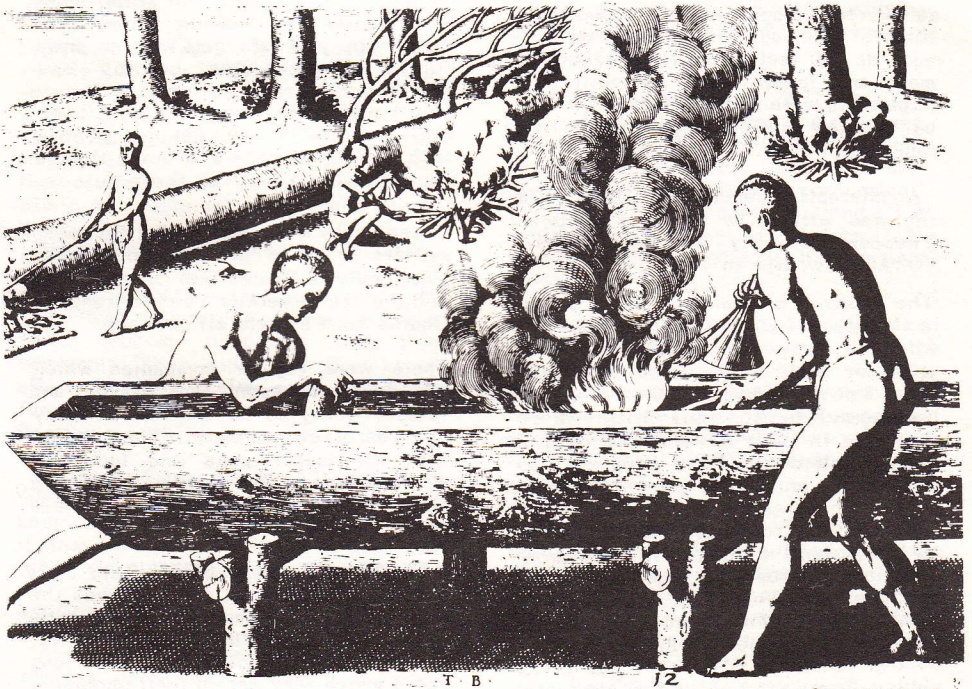
# INDIANA WATERWAYS

Volume II, Issue 3: February, 1983



*John Nuck '83  
 from '82 photograph  
 by T. Nuck*

**Early navigation structures?  
 Wing dams in Cedar Creek, Allen County, Indiana  
 (see page 5)**



(engraving published 1590 by T. de Bry)

## Some Other Boats Used on Indiana Waterways

by Ben W. Meek

**BARK CANOES;** These were made of birch bark by the Indians who lived around the Great Lakes. They were ten or twelve feet long, the frames were made of white cedar, and also the ends. (This is a tough, light wood.) Birch bark was cut off the trees in strips about three feet long and one-sixteenth inch thick. Canoes for the French trading companies were called *Canot du Maître*, or Master's Canoe, and were as long as 35 to 40 feet with a six-foot beam. They could carry a crew of 14 and as much as four tons of cargo. These boats had sides rounded inward toward the gunwales and the bows high and curved. Thwarts were placed fore and aft just below the gunwales and served as seats for the paddlers. The men in the middle of the boat sat two abreast with short paddles, while the bowmen and steermen sat higher with longer paddles. It took at least four men to portage the empty canoe.

Another type was the *Canot du Nord*; about 25 feet long, which could carry one-and-one-half tons. The *Canot Batard* was used at trading posts and on the eastern rivers. Also known as the half canoe, it carried four men and about one ton of cargo.

The larger canoes were built by guilds of Indians. The raw materials: spruce roots, cedar wood, spruce gum, bear grease, moose hide and bark. White birch was probably not native to Indiana, but elm bark could be used as a substitute. At any rate, the streams of Indiana must have been traveled by many of these boats during the trapping era.

The paddlers of the large canoes were mostly Frenchmen, and were called *Voyageurs*. They had a hard life, working as many as eighteen hours a day and eating cold food such as leached corn and buffalo lard.

### DUGOUT CANOES or PIROGUES:

A more common type of canoe in Indiana waters was the dugout. It was made of

a cottonwood log and could be as long as 70 feet, though most were shorter. Some of the huge cottonwoods were as much as 100 feet to the first branch, so most any length could be built. The large ones were a family or tribal effort, but a small one could be built by four men in four days.

An interesting description of boat building was written by an early explorer, **Theodore de Bry** in his **GRANDE VOYAGES** written in 1590:

**The Manner of making their Boates** in Virginia is very wonderful, for whereas they want instruments of yron, or others like unto ours, yet they know how to make them as handsomely, to sail with where they list in their Rivers, and to fish withall as ours. First they choose some long and thick tree, according to the higness of the boate which they would frame and make a fyre on the ground about the roots thereon, kindling the same by little and little by dried moss of trees and chips of woode, that the flame should not mount up to highe and burn to muche of the lente of the tre. When yt is almost burnt through and ready to fal, they make a new fyre, what they suffer to burn until the tree fal of owne accord, Their burnings of the topp and boughs of the tree in such wyse that the bodie of the same may retagne his just lengthe.

They raise yt upon poles laid over crosswise vpon forked posts at such a reasonable heighte as they may handsomely worke vpon yt.

Then they take of the barke with certayne shells, they reserve the intermost part of the lengthe, for the nethermost parte of the boate, on the other side they make a fyre according to the lengthe of the bodie of the tree saving at both ends. That which they think is sufficiently

burned they quenche and scrap away with shells and making a new fyre they burn yet agayne, and so they continus sometymes burning and sometymes scrapinge, until thr boate has sufficient bouthomes. Thus God indueth these savage people with sufficient reason to make thyngs necessarie to serve their turnes.

These boats were used by the European settlers to move all sorts of goods. They could be divided into compartments and the center section used to transport liquids such as bear oil or honey.

There were regular companies which ran boats between Fort Wayne and Toledo, going as far as Detroit. Many of the early settlers came in the pirogues with all their trunks and furniture. William Rogers, who lived near Antwerp, Ohio was famed as a builder of these boats.

**KEELBOATS** These boats could carry more freight than the dugouts when the water was deep enough. They took seven men to run them up the current, three to each side of the boat with long poles which they set on their shoulders and walking on cleats nailed along the deck, they pushed the boat upstream. The seventh crew member was the steersman. The keelboats generally had a cabin so that the cargo could be kept dry.

- 1 Archaeology of the Boat Basil Greenhill 1976 p. 124
- 2 Bark Canoes and Skin Boats of North America E.T. Adney & H.J. Chapelle
- 3 Canoe Route of the Voyageurs 1968
- 4 Early American Boats Robert Carse; 1968 The World Publishing Co.
- 5 The pageant of America Ralph Henry Gabriel; Yale Press Vol. 1, p. 20
- 6 Reminiscences of A.C. Comparet Allen County-Fort Wayne Historical Society, 1962 p. 4
- 7 ibid. p. 5

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#### CANAL SOCIETY OF INDIANA OFFICERS:

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46804

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**INDIANA CANALS, 1972 Purdue University Studies, W. Lafayette, Ind.**

Paul Fatout, author of *Indiana Canals*, died in 1982 in West Lafayette. He retired in 1965 as Professor Emeritus of English at Purdue University, where he taught for thirty-eight years.

His carefully researched and documented study of Indiana's half-century of canal building is lively and informative. The first chapter, *Agitation at Ohio Falls 1800-26* concludes with this comment: 'Thus ended the first canal efforts in Indiana, after much sound and fury signifying nothing capable of floating a boat.'

Professor Fatout captures the spirit of Indiana and its people in the early statehood years when education and communication were poor, but expectations were high, and grandeloquence was the manner of speaking in newspapers and politics.

His descriptions of men influential in Indiana canal development are vivid and enlightening. Among them, Gov. James Brown Ray: pompous, egocentric and irascible; John Tipton, outspoken and hard-headed, a hero or a scoundrel according to his friends or enemies; General Cass, old Revolutionary veteran, a supporter of speculators and traders. These men negotiated with the Potawatomie and Miami Indians on the transfer of reservation lands along the proposed Wabash and Erie Canal.

On being told by the surveyor about the canal, one Miami, Chapine, said: 'Can't do it; won't rain enough to fill it; White Man a fool; the Great Spirit made the rivers.' How prophetic!

Canal agitation rose to fever pitch after the granting of federal lands for sale, but Fatout mentions the 'treadmill behavior of the Assembly, which created a pleasing impression of action, but did not arrive anywhere.'

At last a comprehensive act was passed in 1832, with commissioners empowered to borrow money and start work on internal improvements. Fatout details the efforts of the commissioners to borrow money in New York (after a harrowing ten-day trip) and their inept handling of the funds later. The clerk, Dr. Isaac Coe, of Indianapolis, proved

to be altogether unscrupulous, amassing for himself over \$100,000; a fortune in those days.

Under construction in 1837 were 217 miles of canals, turnpikes and railroads. The *INDIANAPOLIS SENTINEL* called the widely separated jobs, 'A simultaneous, concentrated scatteration.' The nine supervisors were rushing off in all directions to look at the jobs, then dashing back to Indianapolis for more money.

Indiana was fast moving toward bankruptcy, with Milton Stapp, successor to Dr. Coe, selling bonds on credit, dealing naively with shysters and insolvent banks. 'As George Ade said, when a not-very-bright person of good intentions sets out to do his duty, somebody must take the consequences.'

Canal buffs and students of Indiana history do not realize that Indiana was practically bankrupt already in 1840, when the canal was still unfinished from Lafayette to Fort Wayne. The failure to recognize the future of railroads, and the futility of extending the canal to Evansville, were unbelievable folly, as we see it from hindsight. But, as Fatout points out, a canal believer could see right through a hill, if he wanted to.

Fatout writes not only of the confused financial dealings of the state, but also the human weaknesses, stupidity, and fanaticism of many people at that time.

His chapter, *The Raging Canawl 1840s-50s* is an excellent social history of that period in Indiana. However, the chief value of his book is the comprehensive overview of canal development and financing, made interesting by his picturesque details.

**Roseland McCain; Delphi, 1983**

(Mrs. McCain is a member of the Board of Directors of the Carroll County Wabash & Erie Canal Assn. and also serves on the Board of the Canal Society of Indiana.)

## Whitewater Canal Clean-Up Project

The Whitewater Canal State Memorial is an historic, cultural, and recreational resource which is enjoyed by many people, and in many different ways. The highlight of the State Memorial is, of course, the several miles of the canal which is maintained by the state in a watered condition.

As we learned during the Fall Tour of the Canal Society in October, the canal is somewhat choked with brush, fallen logs and other stuff that doesn't belong there. This has two unfortunate results: First, it pretty effectively closes the canal to canoeing, and second, but more important in the long run, is the fact that materials obstructing the waterway will slow the water flowing through it and cause silting-up at a much faster rate than would occur if the channel were clean.

As we are informed by Mr. Walter Johnson, the Manager of the Whitewater Canal State Memorial, the current staff of the Memorial is barely enough manpower to perform the tasks of operation, with little to spare beyond the most urgent and necessary maintenance tasks. Clearing brush from the canal is simply not on the agenda, and anyone who thinks it likely that the State of Indiana will increase its budget for canal maintenance in 1983 is sorely out of touch with economic realities. Needless to say, the same probably goes for 1984 and 1985 as well. In fact, barring the discovery of a diamond mine on the Statehouse lawn, we should probably not look to the State of Indiana for any practical canal upgrading at all in the foreseeable future. Sad, but true.

Would the State of Indiana object if a group of Canal Society of Indiana members were to go to the Feeder Dam area and spend a weekend or two pulling logs and stuff out of the water? Walter Johnson says no. We would be required to each sign a legal waiver exempting the State of Indiana and the Department of Natural Resources from legal responsibility in case of accident, and the Canal Society would also have to be exempt, since we have no insurance for such things. In other words, we'd each be on our own legally, but otherwise, we are welcome.

Here is a chance for the Canal Society to do something visible, which will benefit not only Society members, but others, as well. It's also a chance for us to show that we are serious about restoration by putting our muscle where our mouth is. But the best part is that the canal will be opened up for canoeing and will also be less prone to silting-up.

This is not a job for everybody, however. We will have to wade around in cold water while moving heavy and awkward things out of that water and up the high and often steep banks of the canal. Let's not kid ourselves; it will be hard work, but it will be lightened by the pleasure of good company and the knowledge that something useful is being accomplished. There are five of us already. Who else is game?

Tools required will be work gloves for all (These are a must!), the highest waterproof boots you can bring would be helpful, but not an absolute necessity. Hatchets, perhaps an axe, bucksaws and similar tools will be needed. A block-and-tackle might prove invaluable if we have to deal with any real big 'uns. A chainsaw, if accompanied by a skilled operator, would be welcome, but remember that you'll have to carry it a long way.

Still interested? If so, write to:

Thomas & Julia Meek  
7029 Adams Center Road  
Fort Wayne, Indiana  
46816

The date has not been set as yet, but it looks like some time in April would be safe, weather-wise. If you are interested, let us know when you would like to go, and we'll try to work out some dates.

As we mentioned earlier, this is not an activity for everyone. It will be hard work, and under not-too-pleasant conditions, but it may prove to be fun of a rugged sort, and will be a chance to do something you'll feel good about for a long time.

## Canal Culverts Article Published by Indiana Magazine of History

An article was carried in the December, 1982 issue of the **INDIANA MAGAZINE OF HISTORY** which may prove to be of interest to Canal Society of Indiana members: **Water Over Water: Hoosier Canal Culverts 1832-47** by Dennis K. McDaniel.

In this article, Mr. McDaniel discusses some of the technological aspects of the stone-arch type of canal culvert used in Indiana during the period covered.

The main focus of the study is the portion of the Wabash & Erie Canal between the Ohio State Line and Lodi (Waterman) Indiana.

Culvert Number 100, otherwise known as the Bunnett's Creek Arch in Carroll County is discussed in some detail, and the article includes several photographs of this arch in its present condition.

Although McDaniel glosses over the whole subject of wooden culverts without giving many actual details of their construction, and does not even mention the existence of the three other surviving stone arch culverts (Civt.#45, about four miles West of Huntington; Civt.#73, 2est of Peru, and Civt.#88, West of Logansport) on the Wabash & Erie Canal, or the Butler Run Culvert on the Whitewater Canal near Brookville (For a description of this culvert, see *Ind. Waterways*, June, 1982), the article is fairly informative and is certainly worth the time spent in reading it.

Many readers are members of the Indiana Historical Society, and will already have the December, 1982 issue. For those who are not, the single issue price is \$3.00. Write: Editor, **INDIANA MAGAZINE OF HISTORY**, Indiana University, Bloomington, Indiana 47405.

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### A Possible Navigation Structure on a Small Stream in Northern Indiana

by Thomas Meek

In the Northwest quarter of Section 10, Perry Township, Allen County, Indiana (UTM 566679 HUNTERTOWN, IND.) in the bed of Cedar Creek, lies a stone structure which I believe to be a navigation aid with the purpose of easing the passage of canoes and other small boats over a shallow section of the stream.

The structure consists of two straight, parallel rows of stones extending at right angles to the banks of the stream and reaching about to the middle of the creek. The height of the structure is about eighteen inches from the bottom of the creek.

The stones are from about six to about eighteen inches in diameter, with the larger sizes predominating. Their origin seems to be the creek-bed itself, as many such stones have been eroded out of the glacial moraine through which Cedar Creek has cut a passage.

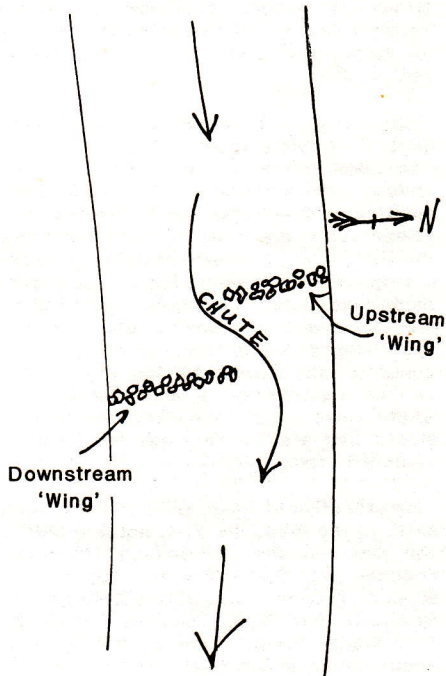


Diagram (not to scale) showing general layout of wing dams on Cedar Creek.

As may be seen in the diagram, the left-hand (North) 'wing' is about ten feet upstream of the right-hand 'wing', so that the current flowing through the space between the two is deflected into an S-shaped course. Also, by partially obstructing the natural flow of water, the structure has the effect of raising the water-level for some distance upstream.

As regards the origin of the structure itself, both the uniformity of the stones' sizes and the straightness of the rows argue strongly for its being of artificial origin.

I found the structure while canoeing on Cedar Creek during a period of low water in September of 1982. I was searching for the remains of three Nineteenth-century mill dams which I had learned of in perusal of *History of Allen County, Indiana* by T.B. Helm (1880) and *Water-Powered Mills of Allen County* by Roy Bates (1942). I was able to positively identify the sites of all three mill dams, and these proved to be in close agreement with the sources.

These mill dams appear to be variations of a type of timber-and-stone 'crib' or 'frame' dam which was common for small mill dams in the Nineteenth century.<sup>2</sup>

Typically, the remains of these dams consist of fairly loose piles of stones from about six inches diameter to about sixteen inches diameter, often with some smaller gravel and earth intermixed. These ruins are most often evident on the banks of the stream, the centers having usually been eroded by the scour of ice and other floating debris. They are, however, most easily identified by the timbers and pilings used in their construction. This was the case with two of the mill dams on Cedar Creek, where rows of piles underwater in the stream-bed are the only easily detected evidence remaining.

Several other of these old mill dam ruins exist in the area, the most notable being: the dam on the St. Joseph River at Spencerville; Rudisill's Mill dam on the St. Joseph, just South of the State Street Bridge in Fort Wayne, and the Wabash & Erie Canal Feeder Dam on the St. Joe about seven miles North of the city of Fort Wayne. The ruins of these timber-and-stone mill dams may be found in many other localities as well.

A rather striking and well-preserved example of a timber frame dam may be seen on the St. Joseph River in the city of Fort Wayne, near the point where Delaware Avenue intersects St. Joe Blvd. This dam was built in about 1907 to raise the water level of the river to provide cooling water for the generators of the Spy Run Electric Power Plant built by the Jenney Electric Company and later operated by the Indiana Public Service Company (as a powerplant for the IPSC's Interurban light rail lines). The power plant was operated by Indiana and Michigan Electric Company for some years and was finally demolished in 1960.<sup>3</sup>

When the Hosey Dam was built on the Maumee River near Anthony Blvd. in 1925, it raised the water level, submerging the wooden dam and preserving its timbers from rot until the opening of the Hosey Dam roller-wiers as a flood control measure in 1981.

This digression has taken us a long way from the little stone dam on Cedar Creek, but through it I have attempted to illustrate an important point: All of the historic mill dams we have located and examined contain the remains of the timbers used in their construction. The stone dam on Cedar Creek shows no evidence that timbers were used. What is more, the structure can not be associated with any of the known mills of the area.

The dam is, in form, most like a type of structure called a 'wing dam'; so called because it consists of one or two separate 'wings' extending part way across the stream. These wing-dams were sometimes used to supply water to a mill, but only in places where the water supply is very plentiful and reliable. An exceptionally long race is also required, as a wing-dam cannot raise the water level sufficiently to provide a usable 'head' of water by itself. Cedar Creek has neither a large nor a very steady flow, and no trace of a race could be found or even considered likely in the narrow confines of Cedar 'Canyon' in the vicinity. Thus, I think that we may safely conclude that the structure in question is not a mill dam.

Having engaged your attention this far in speculation about what this rather unimpressive little structure is not, I would like to hazard a guess as to what it might be.

There is a type of structure, of which a number of examples are known, called an 'Indian fish-dam' or 'Indian fish-wier'; a V-shaped structure of stones placed across a stream or river with its point downstream and open at the center, that is, at the point of the V. It is believed that these were built by the Indians, who placed large baskets in the openings to catch fish which they frightened into the trap; or alternately, that the wiers were built as aids to navigation, deepening the water upstream, and were passed easily in a downstream direction by running through the 'chute' in the center, and upstream more laboriously, fighting the swift current of the 'chute' for awhile, but with the boats, at least, afloat rather than dragging over the shallows.

(For a discussion of fish-dams and other pertinent structures--mostly focusing on sites in Virginia and other Eastern states, see: HISTORIC SITES IN STREAM BEDS by William E. Trout, III in *American Canals*: August, 1975. also reprinted in *Indiana Waterways* December, 1981 issue)

As mentioned earlier, I found the dam while canoeing on Cedar Creek during a period of low water. The fall of the creek-bed tends to be gradual for some distance upstream of the dam, and the water there tends to be shallow.

In my canoe, I found that I was able to pass downstream by following the S shaped curving path of the water as it rushed through the opening between the ends of the two 'wings'. What amazed me was the ease with which I was able to pass back upstream. By paddling along the left (North) bank of the creek, I was able to enter the fairly quiet water just below the left-hand or upstream wing. Then, by paddling in a direction roughly perpendicular to the line of the stream, and parallel to the wings, I was able to cut across the strong current in the 'chute' and enter the quiet water just upstream of the lower wing, and turning to my right, to continue upstream.

The fact that the structure serves the purpose of easing the passage of canoes both up and downstream does not, in itself, constitute proof that this was its intended purpose, but it is rather compelling in view of other evidence.

Cedar Creek does provide a shortened route between the upper St. Joseph River and the headwaters of the Eel River in western Allen County, and could have been used by the Indians, who may have

built the dam. The question, of course arises, when ascribing the structure to the Indians, as to how much travel and cargo-moving was carried out by these people. For purposes of communication between the villages, runners could make better time than canoes.

The early European settlers, however, had need of transporting heavy and bulky cargoes, such as farm and forest products, and although the notion of the dam having been built by the Indians is somewhat more romantic, there is a strong possibility that it dates from the early-to-mid Nineteenth Century and is the work of the enterprising pioneer farmers of that period.

According to Wabash & Erie Canal Toll records in the Allen County-Fort Wayne Historical Society library, canoes and pirogues were being used to transport grain from the upper St. Joseph River area as late as 1846.

I am not an archeologist, and cannot presume to either date the structure, or to name, with any certainty, the people who built and used it. The purpose of this essay has been to call attention to some possibilities which have been largely overlooked by students of local history in hopes that further study might be carried out.

It also seems important to mention that there is presently a sizable movement afoot whose object is the 'channelization' of many of the small rivers and streams. This process has the effect of completely obliterating any sort of structure which might lie in the stream bed. Therefore, it is important that we search out and, at least, record the locations of these traces of a long-gone transportation network before the bulldozers and backhoes take them from us forever.

- 1 Jason Hatch Mill 1834-1853  
UTM 579 672 CEDARVILLE, IND.  
Gloyd's Mills 1839-1900  
UTM 583 667 CEDARVILLE, IND.  
Van Zile's Mill 1858-1876  
UTM 615 650 CEDARVILLE, IND.
- 2 James Leffell-CONSTRUCTION OF  
MILL DAMS-Jas. Leffell & Co.  
Springfield, Ohio 1881
- 3 George K. Bradley FORT WAYNE'S  
TROLLEYS Owen Davis Co.  
Chicago, 1963
- 4 Leffell-ibid.



--We hope so! **Indiana Waterways** has a new look, thanks to improved typesetting equipment. **DANDELION**, the publishers of **Indiana Waterways**, have acquired the use of a VariTyper composing machine. This is made possible through a very generous sales agreement made between Dandelion and Mr. & Mrs. Ralph Clark, Canal Society members. (Mr. Clark is a dealer in rare and used books at **Chanticleer Books**, 1120 Michigan Ave. Fort Wayne).

In addition to improved legibility, this equipment enables us to use different type-faces much more easily than before, and also will automatically 'justify' columns, which eliminates all of that ghastly and boring counting and measuring we used to do.

We hope that you will find these changes to be improvements, and we will continue to try to make **Indiana Waterways** an enjoyable, informative publication.

Thomas & Julia Meek  
Editors/Publishers

The **Indexing Committee** is getting underway with a canal index and structure inventory. We now have a solid core of good workers, but there's always room for more. If you're interested, drop a line to Paul Baudendistel, CSI Index Committee, P.O.Box 83, Metamora, IN.

The **Markers Committee** has not yet achieved any concrete results, such as any markers erected, but progress is being made. It appears that the Indiana State Highway Department will co-operate with us regarding signage on the State highways. County highway departments must be dealt with individually, but the 'feelers' we have put out seem to be indicating favorable conditions, at least in general. Does anyone know where we can get steel sign posts real cheap? Write: Markers Committee, Thomas Meek, 7029 Adams Center Road, Fort Wayne, Indiana, 46816

**Editors:** Thomas Meek, Julia Meek  
**Artwork:** Julia Meek **Layup and Typing:**  
Thomas Meek **Circulation:** Write:  
**CANAL SOCIETY OF INDIANA**  
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Fort Wayne, Indiana  
46802

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