

Outdoor Indiana.

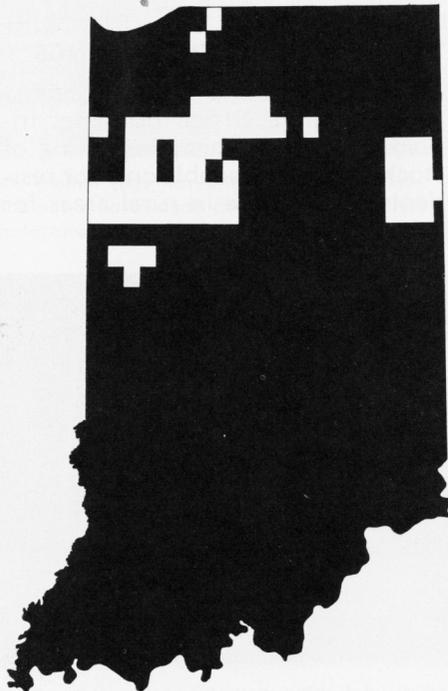


TOPOGRAPHIC MAPPING

Over 75 per cent of Indiana is now Mapped for your use.

by CHARLES H. BECHERT

THE NEED for maps is universal. Maps are required in all military operations, engineering enterprises, agricultural and industrial developments, geologic explorations and the conservation, utilization and development of all natural resources — soil and minerals, forests, waters and wildlife. Like so many things in life, one does not fully appreciate the true value of maps until it becomes necessary to solve land related problems without them.



Black indicates areas of the state which have been mapped.

There are many kinds and types of maps, but there is one kind in particular that is useful to people in most all walks of life. That is the topographic map. Topographic maps are those that graphically represent, at an established scale, a part of the earth's surface, showing important natural and man-made features in their correct position relative to a reference system and to each other. They also portray, by means of lines, the shape and elevation of the terrain. These lines are called contour lines and are usually drawn to represent a difference in elevation between lines of five, ten or twenty feet. A portion of a typical topographic map is shown below.

Not until shortly before the turn of the century was any part of Indiana mapped topographically. The first quadrangle to be mapped in Indiana was in 1889 when the Illinois-Indiana Calumet quadrangle was mapped. About eight years later the Danville-Indiana Illinois quadrangle was mapped and both of these maps were to a scale of 1:62,500 and comprised only 45 square miles of Indiana area.

The Mount Carmel and New Harmony 15-minute quadrangles, which also contained portions of Illinois and Indiana, were mapped in 1901 and 1902. Other early mapping along the Illinois border and also the Kentucky border were the New Harmony, Mt. Carmel, Tolleston, Newbury, Owensboro, St. Meinrad and Tell City quadrangles, all to a scale of



Survey party in the field.

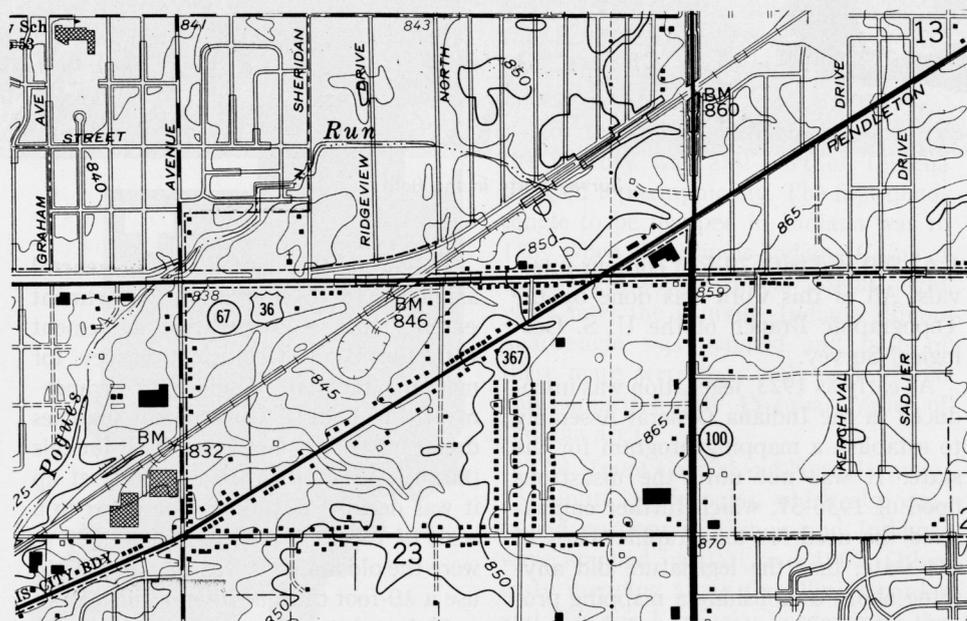
1:62,500 and with 20-foot contour intervals. All of this work was done by the Topographic Branch of the U. S. Geological Survey.

As early as 1923, legislation was introduced in the Indiana General Assembly to establish a mapping program for the state. It was not until the disastrous flood of 1936-37, which further emphasized the need for topographic maps of the state, that the legislature did anything about establishing a mapping program. A law was then passed that provided an annual appropriation of \$25,000 for a ten year period commencing July 1, 1937.

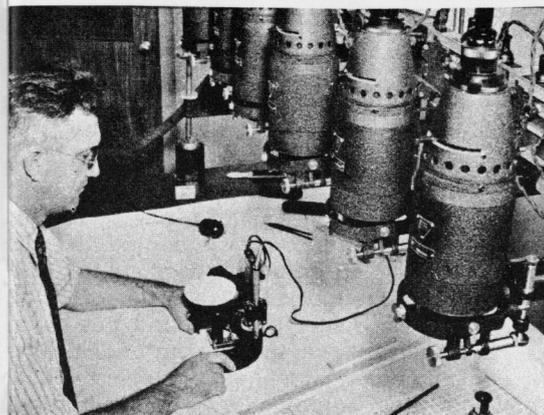
Following this action of the general assembly, the Conservation Department entered into a cooperative agreement with the U. S. Geological Survey for mapping the state. Under this arrangement, the Federal Government matches dollar for dollar state funds used for this purpose. When this program was set up it was decided to publish the maps to a scale of 1:24,000 instead of 1:62,500 as were the old maps. It was also decided to use a 10-foot contour interval instead of a 20-foot interval as was used on the older maps. It was felt that the larger scale map, with a closer contour interval, would be much more useful.



Aerial photograph used in the preparation of map shown below.



A portion of the Indianapolis East, Indiana, quadrangle map. Scale 1:24,000. Contour interval 5 feet. Mapped in 1959.



Multiplex, a method of transferring vertical relief from aerial photographs to a printing plate by the third dimension principle.

In 1947, ten years after the first mapping bill was passed, the legislature amended the original law and increased the annual appropriation to \$50,000 for a ten year period. This was done to speed up the mapping of the state and to offset some of the increased costs of mapping.

In 1955, two years before the second ten year mapping program had expired, it became apparent that at the rate the state was being mapped it would take thirty or forty years to complete the job. Because of the rapid growth in population and the attendant expansion of industrial and suburban developments after the war, the lack of adequate maps to keep pace with the expanding economy became a significant factor. Realizing this situation, the legislature again increased the appropriation that year to \$200,000 and launched a program to finish mapping the state by the year 1965.

The accelerated program has continued since that time and as a result about 75 per cent of the state is now covered with modern topographic maps. Mapping of the remaining 25 per cent is ahead of schedule and, barring unforeseen difficulties, the entire state should be mapped by June 30, 1963. This does not mean that all maps will be published by that

date, but only cartography and printing of the unpublished maps will remain to be done. By the early part of 1964, finished maps should be available for all of Indiana.

Topographic maps are published by quadrangles. A quadrangle covers an area approximately seven miles wide and eight miles long or about 57 square miles. It will require from seven or eight to fifteen or sixteen quadrangles to cover a county, depending on the size of the county.

Last year, the department sold 16,790 topographic maps and the demand for them continues to increase. Not only are these maps used for the purposes listed above, but they are used by people in all walks of life and for a multiplicity of purposes. Individuals use them for selecting suburban home sites. Boy Scouts use them for charting canoe trips, locating camp sites and supply points. Students and others interested in Indian relics use these maps to locate former Indian camps and burial grounds. Salesmen use them for laying out rural sales routes. Those interested in locating lakes in strange territory find these maps to be very helpful. Fishermen, who prefer streams, use topographic maps to locate sharp bends and hidden fishing holes as well as to locate roads and paths to hard-to-get-to places. These are just a few of the innumerable uses to which these maps are put.

The state map accompanying this article shows the areas of the state that have been mapped and for which either published or preliminary maps are available. The Division of Water Resources, Room 609 State Office Building, carries a supply of all of these maps and they sell for 30 cents each. The Division will be glad to send to anyone, upon request, an index which shows the names of all the maps that have been published. The index map is free. △