

POTENTIOMETRIC SURFACE MAP OF THE UNCONSOLIDATED AQUIFERS OF SPENCER COUNTY, INDIANA

Spencer County, Indiana is located in the southwest part of the state and is within the Ohio River Basin throughout most of the county excluding a small part of the north-central area which is within the Patoka River Basin.

The mapped potentiometric surface contours represent lines of equal elevation relative to the measured groundwater levels in wells. In general, wells completed in a confined aquifer system are bound by impermeable layers and will have static water levels under hydrostatic pressure causing the water level to rise above the elevation of the aquifer resource. In contrast, an unconfined aquifer system is not bound by impermeable layers; therefore, the water level will not be under hydrostatic pressure and will not rise above the aquifer resource.

Static water level measurements in individual wells used to construct the potentiometric surface map are indicative of the water level at the time of well completion. Therefore, current site-specific conditions may differ due to local or seasonal variations in measured static water levels.

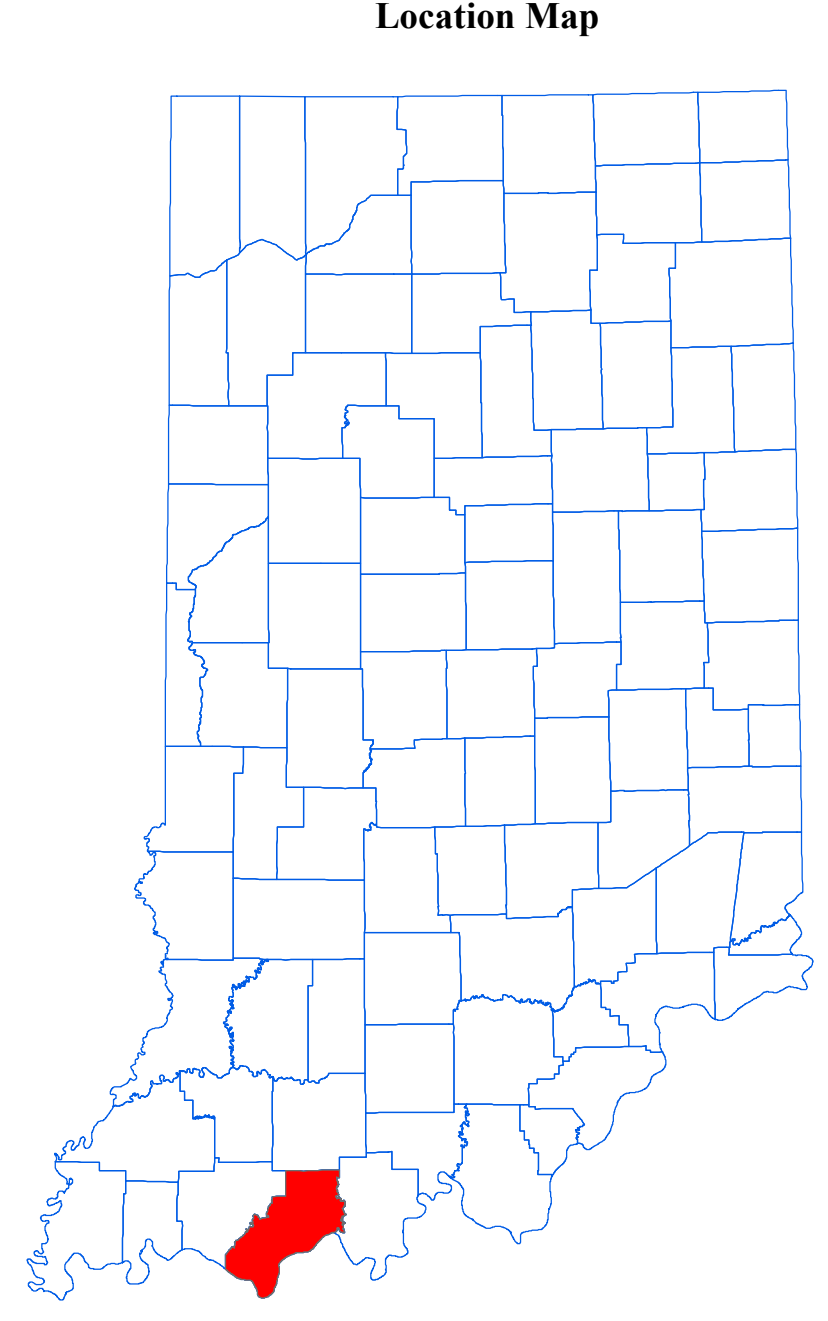
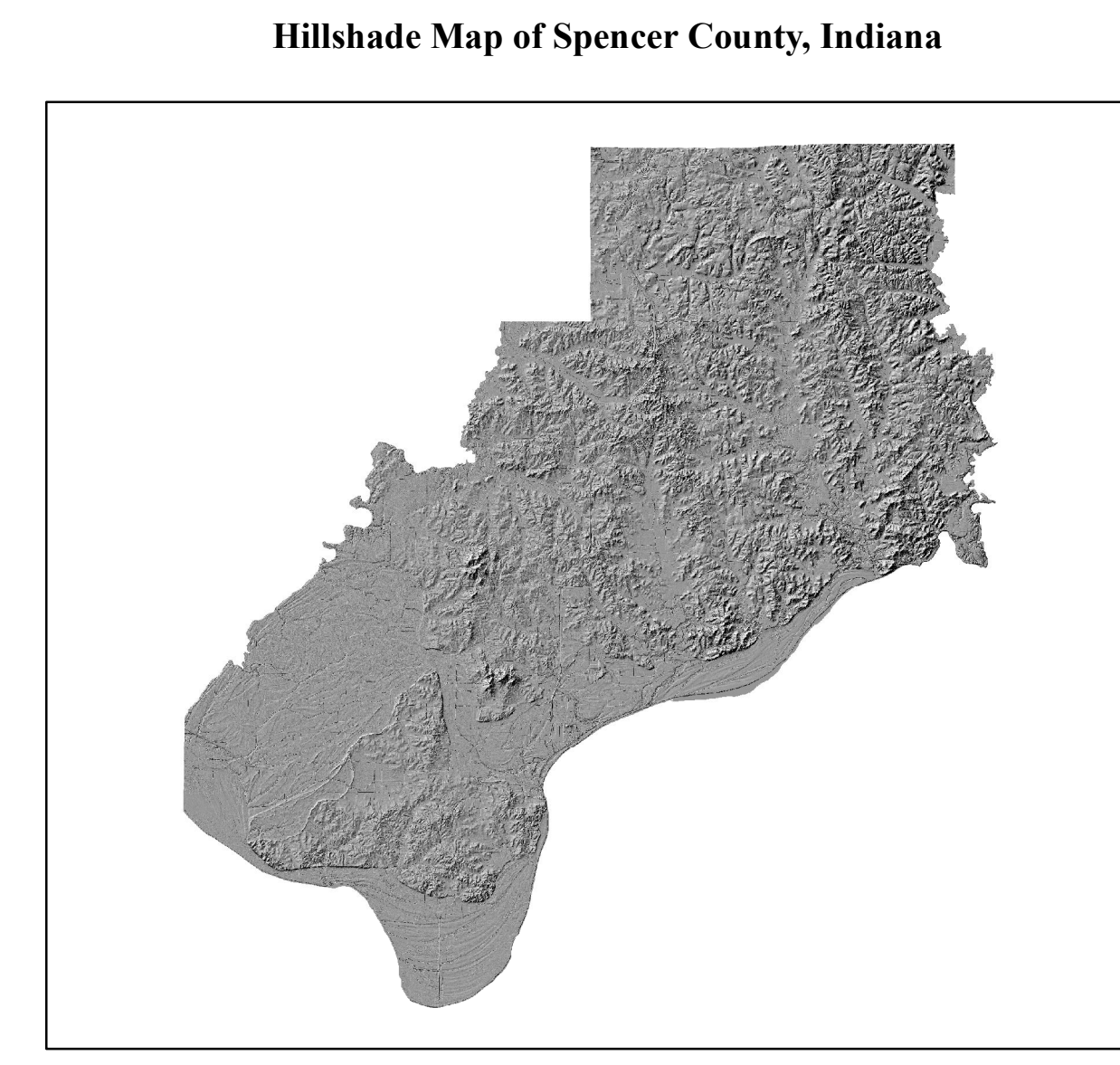
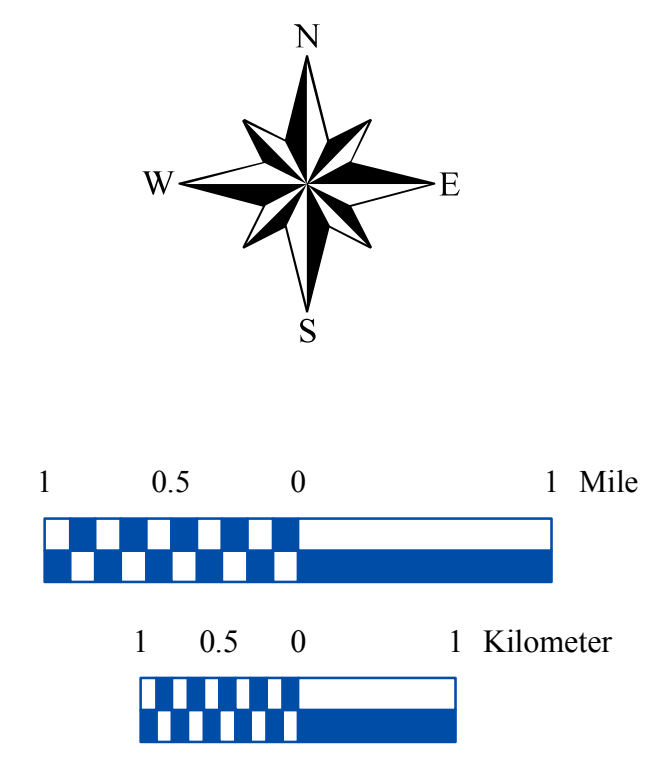
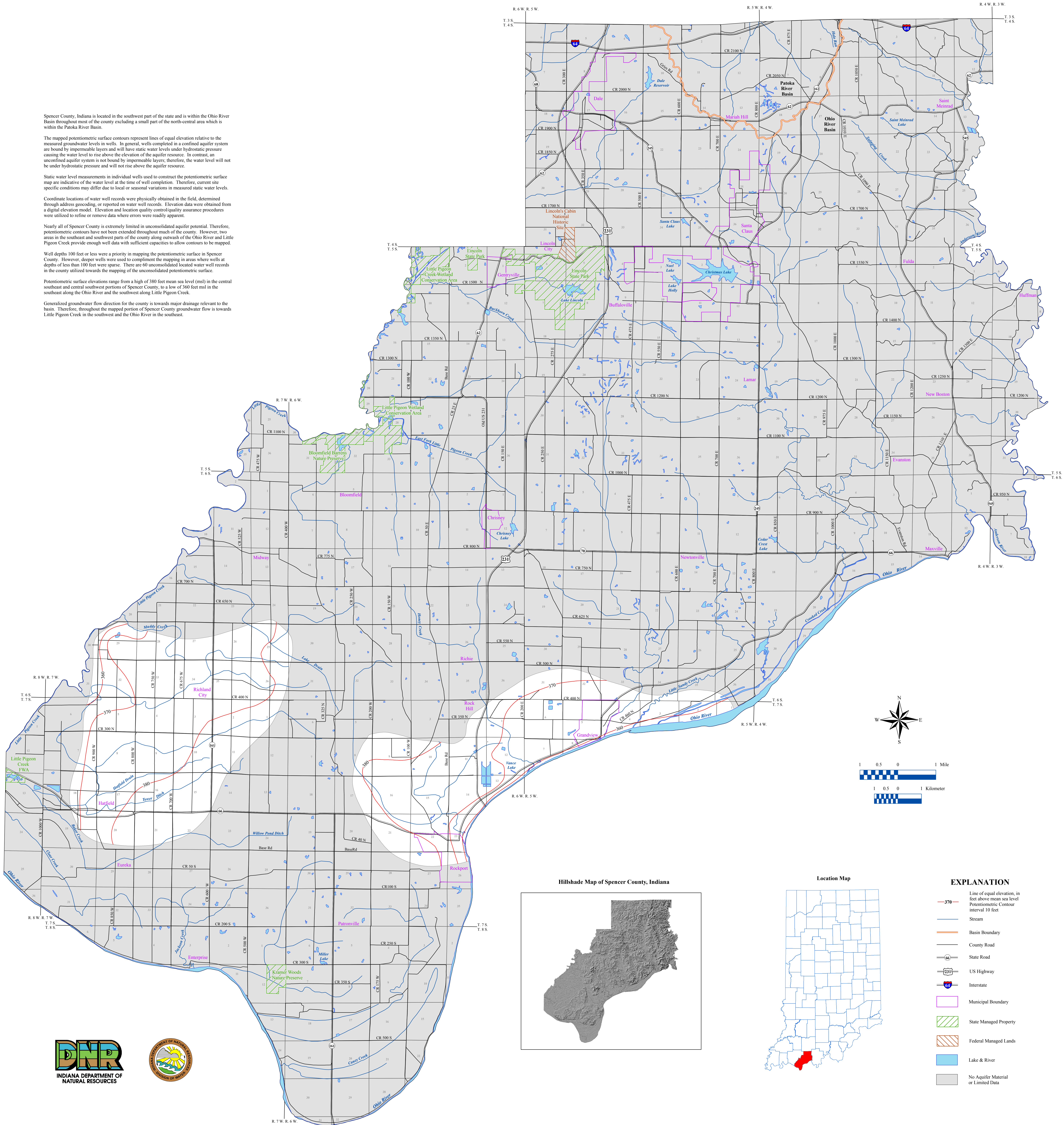
Coordinate locations of water well records were physically obtained in the field, determined through address geocoding, or reported on water well records. Elevation data were obtained from a digital elevation model. Elevation and location quality control/quality assurance procedures were utilized to refine or remove data where errors were readily apparent.

Nearly all of Spencer County is extremely limited in unconsolidated aquifer potential. Therefore, potentiometric contours have not been extended throughout much of the county. However, two areas in the southeast and southwest parts of the county along outwash of the Ohio River and Little Pigeon Creek provide enough well data with sufficient capacities to allow contours to be mapped.

Well depths 100 feet or less were a priority in mapping the potentiometric surface in Spencer County. However, deeper wells were used to complement the mapping in areas where wells at depths of less than 100 feet were sparse. There are 60 unconsolidated located water well records in the county utilized towards the mapping of the unconsolidated potentiometric surface.

Potentiometric surface elevations range from a high of 380 feet mean sea level (msl) in the central southeast and central southwest portions of Spencer County, to a low of 369 feet msl in the southeast along the Ohio River and the southwest along Little Pigeon Creek.

Generalized groundwater flow direction for the county is towards major drainage relevant to the basin. Therefore, throughout the mapped portion of Spencer County groundwater flow is towards Little Pigeon Creek in the southwest and the Ohio River in the southeast.



EXPLANATION

- 370 — Line of equal elevation, in feet above mean sea level
- — Potentiometric Contour interval 10 feet
- — Stream
- — Basin Boundary
- — County Road
- — State Road
- — US Highway
- — Interstate
- — Municipal Boundary
- — State Managed Property
- — Federal Managed Lands
- — Lake & River
- — No Aquifer Material or Limited Data



Map Use and Disclaimer Statement

We request that the following agency be acknowledged in products derived from this map: Indiana Department of Natural Resources, Division of Water. This map was compiled by staff of the Indiana Department of Natural Resources, Division of Water using data believed to be reasonably accurate. However, a degree of error is inherent in all maps. This product is distributed "as is" without warranties of any kind, either expressed or implied. This map is intended for use only at the published scale.

This map is created from several existing shapefiles. Township and Range Lines of Indiana (line shapefile, 20020621), Land Survey Lines of Indiana (polygon shapefile, 20020621), and County Boundaries of Indiana (polygon shapefile, 20020621) are all from the Indiana Geological Survey and based on a 1:24,000 scale. Roads (TIGER and NDOT) (line shapefile, 2005) is from the Indiana Department of Transportation and based on a 1:100,000 scale. System (line shapefile, 2005) is from the Indiana Department of Transportation and based on a 1:24,000 scale. Incorporated Boundaries in Indiana (polygon shapefile, 20060501) is from the Graphics and Engineering Section, Indiana Department of Transportation. Hydrography, Streams (NHD) (line shapefile, 20081218), Rivers (NHD) (polygon shapefile, 20081218), and Lakes (NHD) (polygon shapefile, 20081218) are from the U.S. Geological Survey and based on a 1:24,000 scale. Managed Lands IDNR IN (polygon shapefile, 20100920) is from the Indiana Department of Natural Resources and based on a 1:24,000 scale. The Hillshade image is derived from the Indiana Ortho LIDAR Statewide Collection Program (2013). Spencer County Unconsolidated No Aquifer Material or Limited Data (polygon shapefile, Maier, 2018) and Potentiometric Surface Contours of the Unconsolidated Aquifers of Spencer County, Indiana (line shapefile, Maier, 2018) are based on a 1:24,000 scale.

Potentiometric Surface Map of the Unconsolidated Aquifers of Spencer County, Indiana

by
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