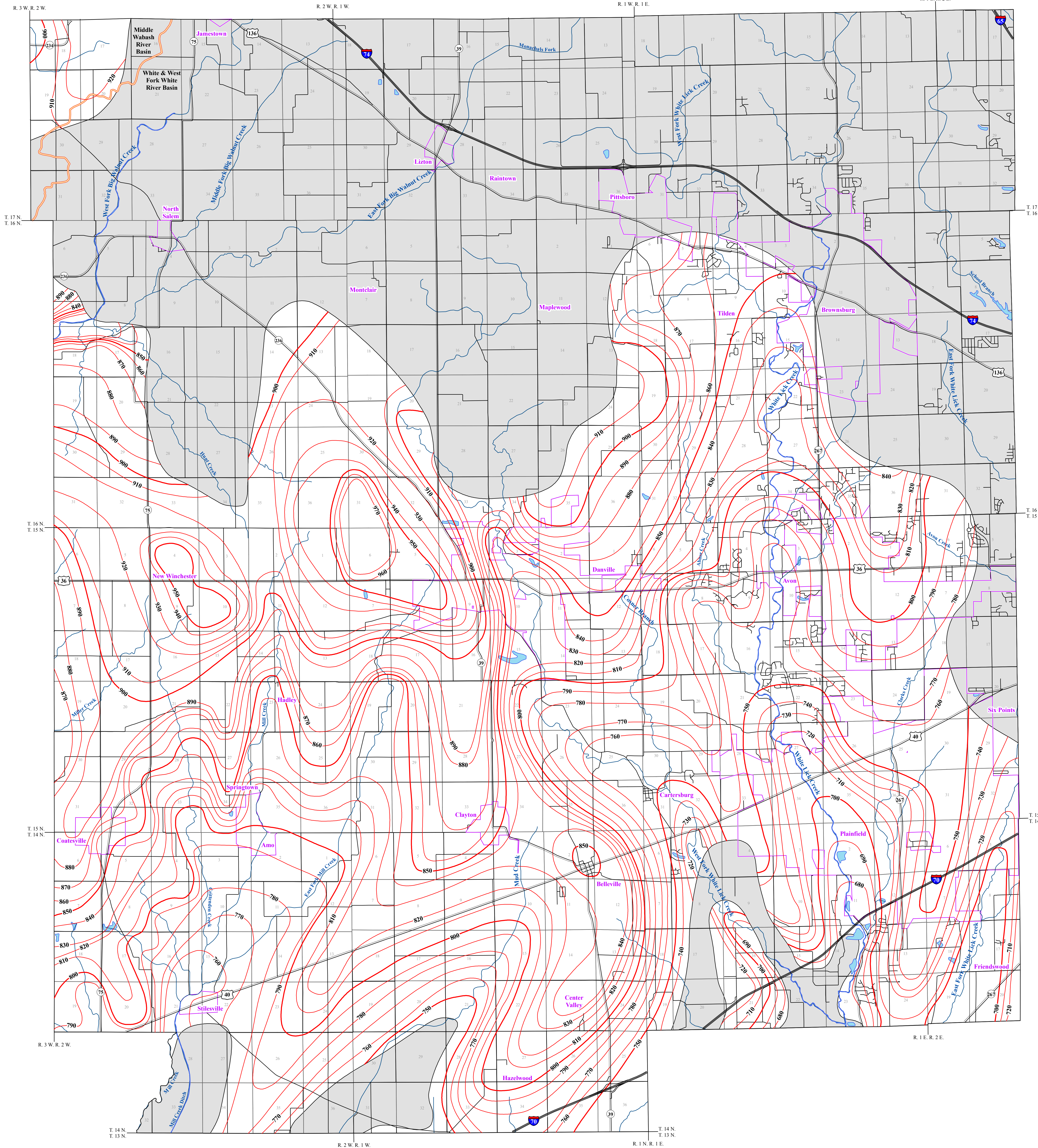


POTENTIOMETRIC SURFACE MAP OF THE BEDROCK AQUIFERS OF HENDRICKS COUNTY, INDIANA



Hendricks County is located in the central portion of the state and is bounded by Putnam, Montgomery, Boone, Marion, and Morgan counties to the west, northwest, north, east and south. The majority of the county is situated in the White and West Fork White River Basin with the remaining portion in the northwest corner within the Middle Wabash River Basin.

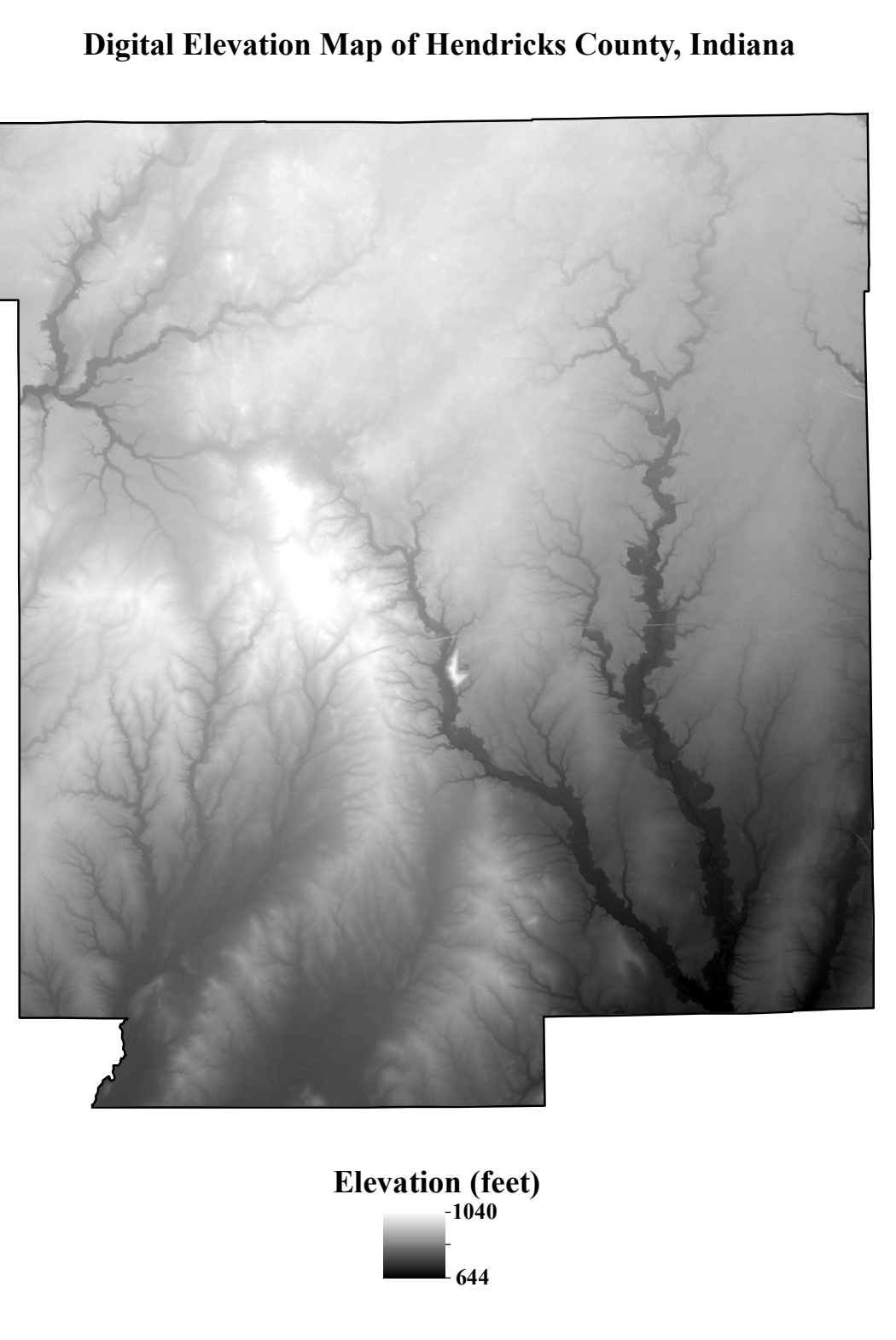
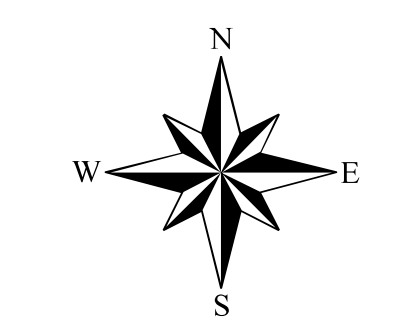
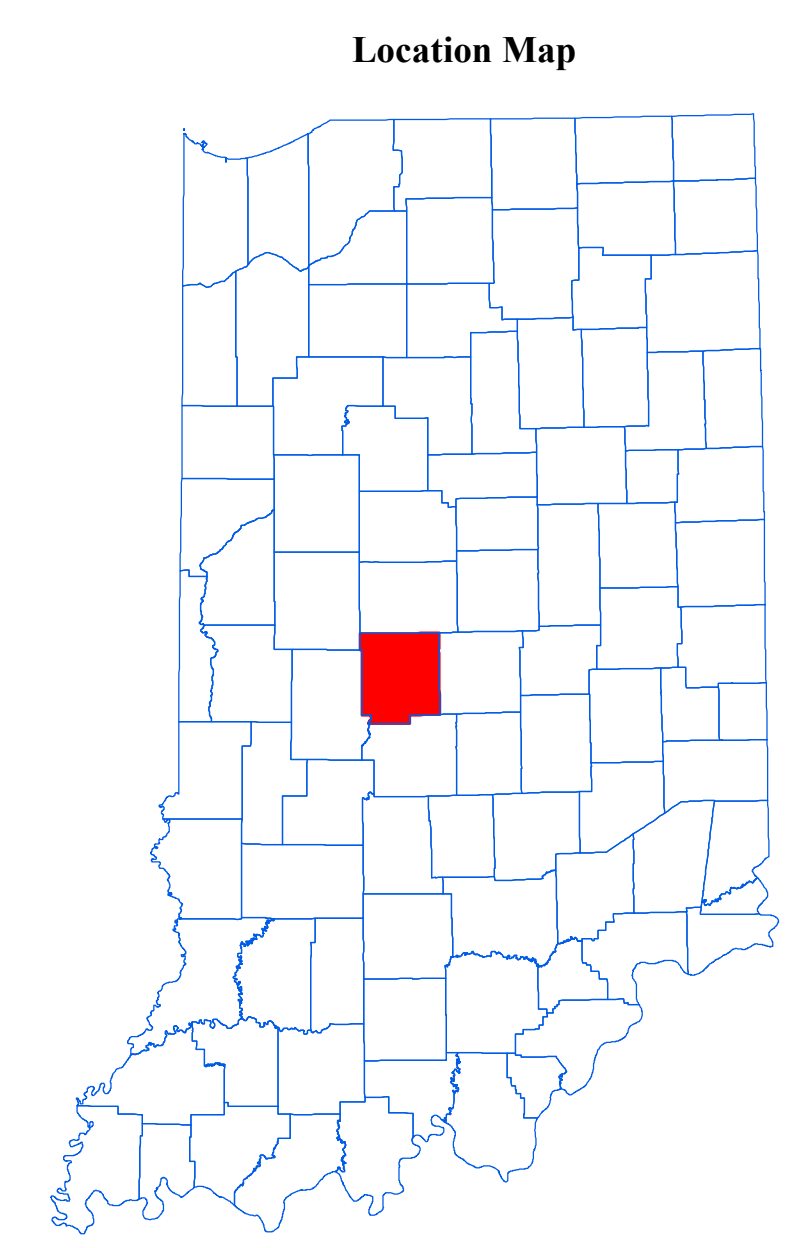
The potentiometric surface is a measure of the pressure on groundwater in a water bearing formation. Wells are completed in aquifers at various depths, and typically, under confined conditions (bounded by impermeable layers above and below the water bearing formation). However, some wells are completed under unconfined (not bounded by impermeable layers) settings. Water in a confined aquifer, which is under hydrostatic pressure, will rise in a well above the top of the water bearing formation. In contrast, groundwater in an unconfined aquifer, which is at atmospheric pressure, will not rise in a well above the top of the water bearing formation.

Static water-level measurements obtained from individual wells used to construct county Potentiometric Surface Maps (PSM) are indicative of the water-level at the time of well completion. The groundwater level within an aquifer constantly fluctuates in response to rainfall, evapotranspiration, groundwater movement and pumping. Therefore, measured static water-levels in an area may differ due to local or seasonal variations. Because fluctuations in groundwater are typically small, static water-levels can be used to construct a generalized PSM. As a general rule, but certainly not always, groundwater flow approximates the overlying topography and intersects the land surface at major streams.

The potentiometric surface map of the bedrock aquifers was mapped by contouring the elevations of 1363 static water-levels reported on well records received primarily over a 50 year period. Universal Transverse Mercator (UTM) coordinates, used in locating the water wells, were either physically obtained in the field, determined through address geocoding, or reported on water well records. The location of the majority of the water well records used to make the PSM were field verified. Elevation data were obtained from a digital elevation model. Quality control/assurance procedures were utilized to refine or remove data where errors were readily apparent.

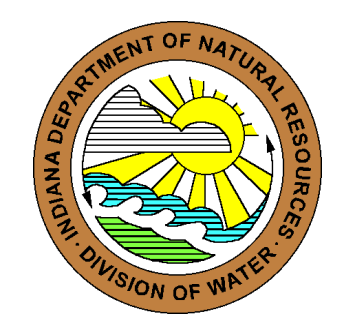
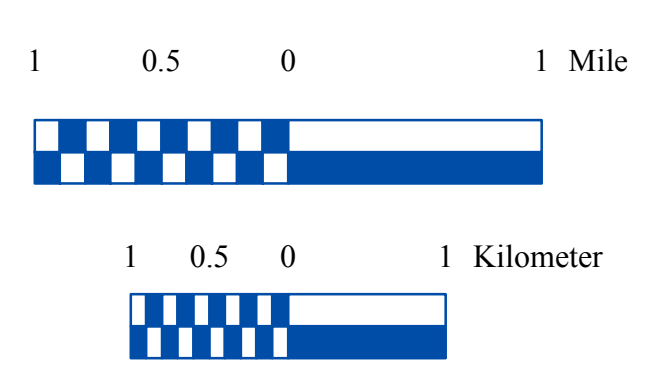
Potentiometric surface elevations range from a high of 1022 feet mean sea level (msl) in the west-central section of the county, to a low of 527 feet msl in the southeastern portion. Groundwater flow direction in the northwestern section of the county is toward West Fork White Walnut Creek. In the eastern portions of the county, groundwater flow is generally toward White Lick Creek, and in the southwest, groundwater flow is to the south-southwest.

The county PSM can be used to define the regional groundwater flow path and to identify significant areas of groundwater recharge and discharge. County PSM's represent overall regional characteristics and are not intended to be a substitute for site-specific studies.



EXPLANATION

- 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
- DNR Managed Lands
- Lake & River
- No Aquifer Material or Limited Data



Map Use and Disclaimer Statement

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Potentiometric Surface Map of the Bedrock Aquifers of Hendricks County, Indiana

by
 Robert K. Schmidt
 Division of Water, Resource Assessment Section
 September 2012

This map has been 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 from the Indiana Geological Survey and based on a 1:24,000 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. Basin boundaries are modified from the Watershed Boundary Dataset (polygon shapefile, 2008) from the Natural Resource Conservation Service. Managed Lands DNR IN (polygon shapefile, 20100920) is from the Indiana Department of Natural Resources and based on a 1:24,000 scale. Digital Elevation Model image is derived from the Indiana OrthoLIDAR Statewide Collection Program (2013). Hendricks County Bedrock No Aquifer Material or Limited Data (polygon shapefile, Schmidt, 2012; modified 2016), and Potentiometric Surface Map of the Bedrock Aquifers of Hendricks County, Indiana (line shapefile, Schmidt, 2012; modified 2016) are based on a 1:24,000 scale.