



Illinois State Geological Survey  
William W. Shilts, Chief  
Champaign

# Bedrock Topography of Lee County, Illinois

Christopher S. McGarry

1999

State of Illinois  
Department of Natural Resources

## EXPLANATION

The map of bedrock topography shows the elevation of the top surface of the consolidated rocks that lie at or beneath the land surface. Elevations are expressed in feet above mean sea level. Stream erosion has carved many of the topographic features present in the bedrock surface and additional erosion, directly by glaciers or streams formed while the glaciers melted, further shaped the bedrock surface (Berg et al. 1984). In some parts of the county, such as along the Rock River and numerous roadcuts in and around Dixon, bedrock is exposed and visible at the ground surface. In areas where unconsolidated Quaternary deposits are generally less than 25 feet (7.6 m) thick, such as the northwest portion of the county, the bedrock topography closely mimics the land surface topography. In much of the county, the bedrock surface is buried by thick Quaternary deposits obscuring the surface expression of major bedrock topographic features.

Two major features of the bedrock surface are the Rock and Troy Bedrock Valleys (see inset map). These valleys represent the preglacial landscape which formed during the time between deposition of the bedrock units and the advance of continental glaciation. The Rock Bedrock Valley trends north-northeast to south-southwest through the eastern edge of Lee County. The elevation of the base of this valley reaches lows of 450 feet (137 m) (Larson et al. 1995). East of the Rock Bedrock Valley, the Troy Bedrock Valley trends across the southeast corner of Lee County. Both these valleys continue north into Wisconsin. The confluence of these valleys is south of Lee County and forms the Paw Paw Bedrock Valley. The broad low area to the southwest is the northern edge of the Princeton Bedrock Valley.

This map was created to assist in determining of the thickness of Quaternary deposits and the subtop expression of bedrock units beneath the younger, unconsolidated Quaternary deposits. The difference between the bedrock elevation and surface elevation is the thickness of the unconsolidated Quaternary deposits. See "Thickness of Quaternary Deposits of Lee County, Illinois" by R.J. Nagy and "Bedrock Geology of Lee County, Illinois" by C.S. McGarry for more details.

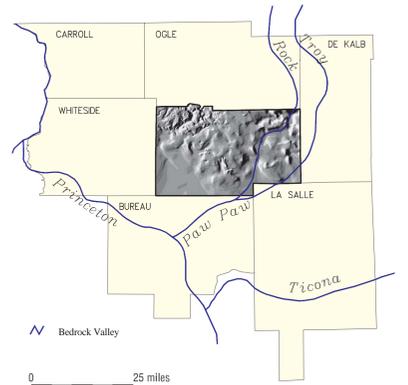
Data used to create this map were compiled from ISGS well logs, Illinois Department of Transportation borings, United States Department of Agriculture soil survey maps, United States Geological Survey topographic quadrangle maps, field observations, and exploratory drilling conducted specifically for the Lee County project. See "Locations of Data Points of Lee County, Illinois" by R.J. Nagy for more details.

### References

Berg, R.C., J.P. Kempton, and A.N. Stecyk (1984) Geology for Planning in Boone and Winnebago Counties; Illinois State Geological Survey, Circular 531, 69p.  
Bristol, H.M. and T.C. Bushbach (1973) Ordovician Galena Group (Trenton) of Illinois - Structure and Oil Fields; Illinois State Geological Survey, Illinois Petroleum 99, p. 1.  
Larson, D.R., B.L. Herzog, R.C. Vaiden, C.A. Chenoweth, Y. Xu, and R.C. Anderson (1995) Hydrogeology of the Green River Lowland and Associated Bedrock Valleys in Northwestern Illinois; Illinois State Geological Survey, Environmental Geology 149, 20 p.  
McGarry, C.S. (1999) Bedrock Geology of Lee County, Illinois; Illinois State Geological Survey, Open File Series 1999- 1e, scale 1:62,500.  
Nagy, R.J. (1999) Locations of Data Points of Lee County, Illinois; Illinois State Geological Survey, Open File Series 1999- 1a, scale 1:62,500.  
Nagy, R.J. (1999) Thickness of Quaternary Deposits of Lee County, Illinois; Illinois State Geological Survey, Open File Series 1999- 1g, scale 1:62,500.

- Greater than 800
  - 750 - 800
  - 700 - 750
  - 650 - 700
  - 600 - 650
  - 550 - 600
  - 500 - 550
  - 450 - 500
  - Less than 450
- Contour Interval 50 Feet  
Elevations in feet above mean sea level
- US Highway
  - State Highway
  - Interstate Highway
  - Other Roads
  - Railroad
  - Well location
  - Quarry
  - Bedrock observation from soil maps

Buried Bedrock Valleys in North-Central Illinois  
modified from Bristol and Bushbach, (1973)



Bedrock Valley

0 25 miles

Scale 1:62,500  
1 inch equals approximately 1 mile  
Lambert Conformal Conic Projection



This map was prepared by the Illinois State Geological Survey, in cooperation with the Illinois Department of Commerce and Community Affairs and the Lee County Board. It is part of a suite of maps created to assist local government in addressing geologic questions concerning capable sites for landfill development. Maps produced for this study are intended for regional land use planning purposes. More detailed mapping is needed for site specific considerations. This map has been reviewed for scientific accuracy and has been edited to meet the quality standards of maps in the ISGS Map Series.