1939 Historical Aerial Photography of Antioch Quadrangle

Lake County, Illinois and Kenosha County, Wisconsin

Department of Natural Resources
ILLINOIS STATE GEOLOGICAL SURVEY
William W. Shilts, Chief

Illinois Preliminary Geologic Map
IPGM Antioch-AP

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2005

Base map compiled by Illinois State Geological Survey from digital data provided by the United States Geological Survey. PLSS compiled 1960, digital revision 1993.

North American Datum of 1983 (NAD 83)
Projection: Transverse Mercator
10,000-foot ticks: Illinois State Plane Coordinate system, west zone (Transverse Mercator)
1,000-meter ticks: Universal Transverse Mercator grid system, zone 16

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SCALE 1:24 000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

BASE MAP CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Released by the authority of the State of Illinois: 2005

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This Illinois Preliminary Geologic Map (IPGM) is a lightly edited product, subject to less scientific and cartographic review than our Illinois Geological Quadrangle (IGQ) series. It will not necessarily correspond to the format of IGQ series maps, or to those of other IPGM series maps. Whether or when this map will be upgraded depends on the resources and priorities of the ISGS.

The Illinois State Geological Survey, the Illinois Department of Natural Resources, and the State of Illinois make no guarantee, expressed or implied, regarding the correctness of the interpretations presented in this document and accept no liability for the consequences of decisions made by others on the basis of the information presented here. The geologic interpretations are based on data that may vary with respect to accuracy of geographic location, the type and quantity of data available at each location, and the scientific and technical qualifications of the data sources. Maps or cross sections in this document are not meant to be enlarged.

Sources of Data-How This Map Was Made

On May 12, 1933, President Franklin Roosevelt signed into law the Agricultural Adjustment Act, originally administered by the U.S. Department of Agriculture, Agricultural Adjustment Administration (USDA-AAA). Since the mid-1930s, the USDA-AAA (now the USDA Farm Services Agency) has periodically acquired nationwide aerial photography on a county-by-county basis. This aerial photography was first used by the USDA-AAA to assess the nation's agricultural lands and also served as the basis for the first national soil surveys.

First-time statewide coverage in Illinois of USDA-AAA aerial photography was achieved between 1936 and 1941, and it is widely recognized as a unique resource representing the earliest photographic record of the cultural and physical landscape features of the state. Because of deterioration and stability issues, the original 7"×9" and 9"×9" nitrocellulose (silver nitrate) negatives were destroyed at the National Archives in the 1980s, and photographic paper prints are the best remaining documentation of this historical aerial photography.

In Lake County, Illinois, the USDA-AAA aerial photography was acquired during July and August, 1939. The county population was then approximately 120,000, as compared to the present population of over 645,000. All of the nearly 300 paper prints comprising Lake County have been digitized using a high-precision drum scanning system, geometrically corrected to produce digital orthophotography, and mosaicked to form a seamless image map of the Antioch IL-WI Quadrangle.

Utility of This Map

This map provides a view of the landscape as it existed 65 years ago, prior to any significant modification due to the construction of subdivisions and resource extraction. Because it is geometrically corrected, it provides an excellent base upon which more recent changes, such as the extension of transportation networks and residential and commercial areas, can be overlain. Digital information about the current distribution of soils, their parent materials, and patterns of vegetation can also be depicted on this base to study patterns that may now be obscured by urbanization. The change in the distribution of wetlands and their spatial relationship from 1939 to 1998-99 is especially profound. We are using this 1939 image base to locate areas for drilling and mapping the surface and subsurface geology, especially those areas around past marshes where peat may be located in the near subsurface. This map and its companion map, 1998-1999 Digital Orthophotography of Antioch Quadrangle, can be used to examine areas that have undergone significant change during this 60 year period.

Image A is centered over the built-up area between Antioch and Silver Lake in the northwestern portion of the Antioch Quadrangle, and depicts the region as it appeared on July 20, 1939. For comparison, **Image B** is a portion of a U.S. Geological Survey Digital Orthophoto Quadrangle (DOQ) for the same area acquired on March 27, 1999. In 1939, the area was largely characterized by rural land uses, but nearly 60 years later a mixture of urban land uses predominate with only a small portion of the original rural lands remaining.

The planting density of crops in the 1930s was significantly lower as compared to today. As a result, drainage patterns indicative of near-surface geologic processes are clearly visible on USDA-AAA aerial photography acquired during the summer season. The distinctive, elliptical-shaped feature on **Image A** extends approximately 1.7 miles in the east-west and 1.0 miles in the north-south directions, respectively, enclosing Silver Lake. The darker-toned areas denote more saturated surface conditions and are dominated by organic deposits occupying lower topographic positions on the landscape. This depressional feature is most likely the location of a former ice block. Because of urbanization and changes to the surface hydrology, the feature is completely obscured on the DOQ image.

Image C is centered over the present-day location of Lindenhurst, Illinois, in the southeastern portion of the Antioch IL-WI Quadrangle. This USDA-AAA aerial photography shows the area as it appeared on July 20, 1939. It has been enlarged 1.7 times as compared to the adjoining image map for the entire quadrangle for the purpose of showing additional detail. **Image D**, shown at the same enlarged scale, is derived from a U.S. Geological Survey Digital Orthophoto Quadrangle (DOQ) for the same area acquired on April 17, 1998. Lake Linden, small portions of Sand Lake (south margin of image) and Hastings Lake (north margin of image), all of glacial origin, are notable landmarks.

In 1939, the entire area was devoted to agricultural land use. Sixty-five years later, these rural lands have now been almost completely converted to urban land. Lake County experienced rapid development in the 1950s. Lindenhurst, incorporated in 1956, became one of these centers for suburban growth and today has a population of over 12,500. Six decades ago, the area of present-day Lake Linden appeared as a shallow marsh or wet meadow wetland environment. In terms of surficial geology this entire lowland is mapped as organic deposits. The darker image tones delineating this lowland are typical of hydric, saturated soil conditions. Since 1939, the eastern half of this lowland has been converted to a permanent lake, while the western portion remains as a modified wetland supporting hydrophytic vegetation.

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

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ADJOINING QUADRANGLES
1 Silver Lake
2 Paddock Lake
3 Pleasant Prairie
4 Fox Lake
5 Wadsworth
6 Wauconda
7 Grayslake
8 Libertyville

2½° TRUE NORTH MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 2005