

1998-1999 DIGITAL ORTHOPHOTOGRAPHY OF ANTIOCH QUADRANGLE

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

LAKE COUNTY, ILLINOIS AND KENOSHA COUNTY, WISCONSIN

Illinois Preliminary Geologic Map
IPGM Antioch-DO

Donald E. Luman
2005

Sources of Data-How This Map Was Made

The adjacent image map has been produced using U.S. Geological Survey Digital Orthophoto Quadrangle imagery (DOQ). USGS DOQs typically encompass 3.75" of latitude in the north-south extent and 3.75" of longitude in the east-west extent. When four DOQs are mosaicked, the resulting image is coincident with a standard USGS 1:24,000-scale topographic quadrangle map, for example, the Antioch IL-WI Quadrangle. Aerial photography acquired as part of the National Aerial Photography Program (NAPP) or NAPP-like aerial photography are the primary imagery used in the production of USGS DOQs.

USGS DOQs are geometrically corrected imagery and conform to a standard cartographic map projection. Orthophotography combines the image characteristics of traditional aerial photography with the geometric qualities of a map. Distortions due to relief displacement, camera lens, and aircraft attitude have been removed such that all surface features are shown in their correct ground positions. This makes possible a true image map, permitting the direct measurement of detailed positions of ground features, many of which may be omitted or generalized on traditional maps. As such, orthophotography is a unique information source that provides an ungeneralized portrayal of physical and cultural landscapes.

First-time statewide coverage of USGS DOQs has recently been completed for Illinois. These data are available at the Illinois State Geological Survey on compact disc media or via the Internet at: <<http://www.isgs.uiuc.edu/isd/home/>>.

Utility of This Map

Most individuals can quickly orient themselves when viewing aerial photographs once they have located a familiar landmark such as a building, lake, or highway intersection. This map, because of its properties, allows for the measurement of distances and areas, and provides a large geographic area for viewing the distribution of various cultural features. When used as a base upon which features such as roads, subdivisions, and other landscape modifications are depicted, it provides a visual appeal that can not be as easily presented using standard topographic maps which are more generalized. This map and its companion map, 1939 Historical Aerial Photography of Antioch Quadrangle, can be used to examine the many changes that have occurred in this area during the last 60 years. As new NAPP photography is acquired and newer DOQs are produced, the rapidly changing cultural landscape of this region can continue to be studied and mapped.



Image A is centered over the north-central portion of the quadrangle and depicts the Deer Lake-Red Wing Slough area as it appeared on July 20, 1939. For comparison, **Image B** is derived from a U.S. Geological Survey DOQ and shows the same area as it looked on April 17, 1998. When the aerial photography was acquired in 1939, Red Wing Slough was a high-quality sedge meadow wetland. Sedge meadows are situated in low-lying areas near rivers and streams and typically contain a few inches of water during the spring season. During the remainder of the year, sedge meadows rarely have standing water. The soil is saturated most of the time, however, allowing for the abundant growth of a specific type of grass called a sedge.

As a result of water control structures being emplaced at the northern margins of Red Wing Slough and Deer Lake, Red Wing Slough now maintains a permanent water depth of approximately 1 to 3 feet. Because of the change in surface hydrology, it has changed over time from a high-quality sedge meadow to a mixed palustrine shallow marsh and lacustrine open water wetland. The deeper, northern portion of Red Wing Slough surrounding Deer Lake is now a palustrine deep marsh. Red Wing Slough is also listed on the Illinois Natural Areas Inventory as a Category II Natural Area.

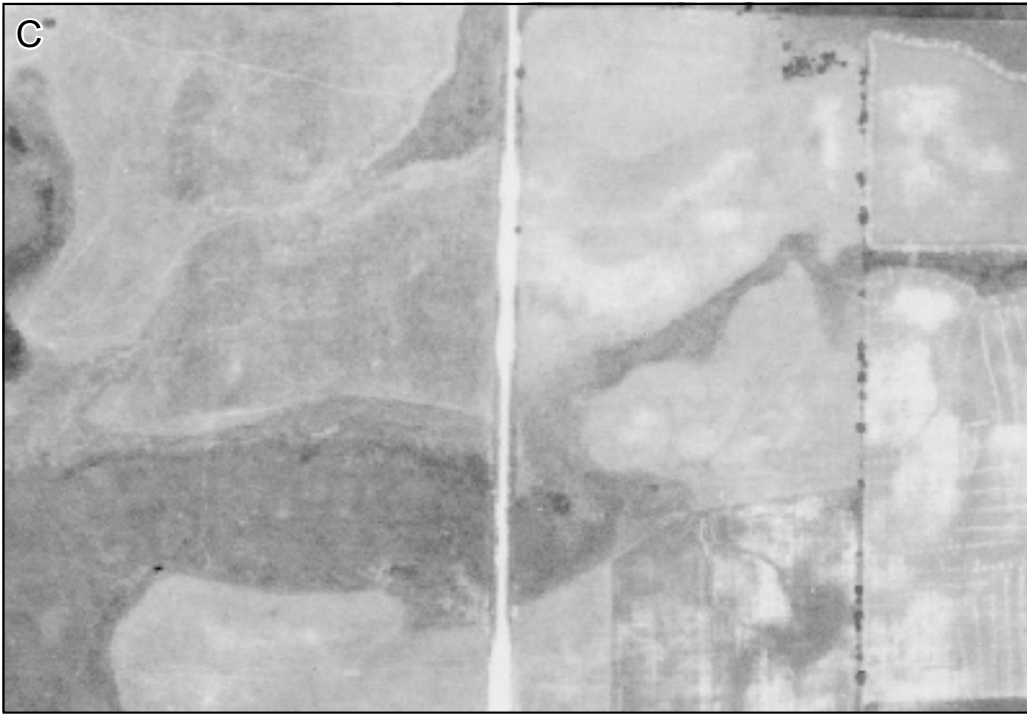
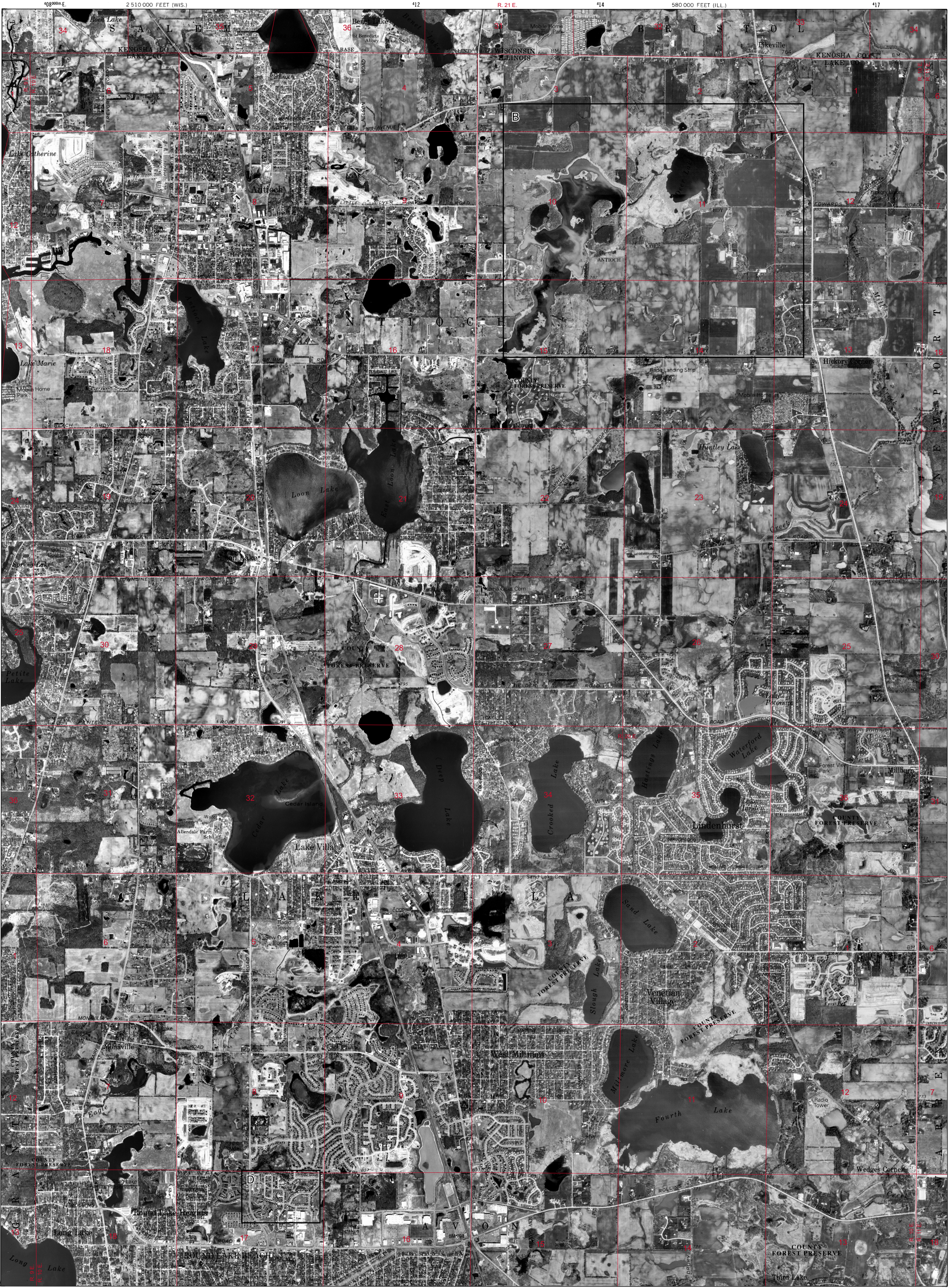


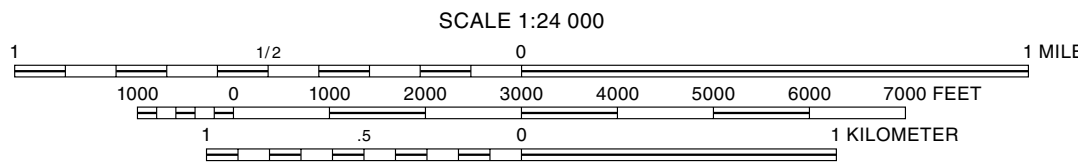
Image C is centered over the present-day location of Round Lake Beach and Round Lake Heights, Illinois, near the southwest margin of the Antioch Quadrangle. This image is a portion of a USDA-AAA aerial photograph acquired over the area on July 20, 1939. It has been enlarged approximately 4 times as compared to the adjoining image map. **Image D** is derived from a U.S. Geological Survey DOQ and shows the area as it appeared on March 27, 1999.

Round Lake Beach was incorporated as a village in 1937. In 1939, the entire area shown on **Image C** was devoted to agricultural land use, with the exception of a tongue-shaped lowland area as delineated by the darker image tones. This is probably a sedge meadow wetland. Sixty years later, these rural lands have now been completely converted to a mixture of multi-family and single-family residential land use (**Image D**). The wetland area has experienced changes to its surface hydrology and has been converted to a palustrine deep marsh.



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

Released by the authority of the State of Illinois: 2005

Digital cartography by D. Lund, Illinois State Geological Survey.

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.

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For more information contact:
Illinois State Geological Survey
615 East Peabody Drive
Champaign, Illinois 61820-6964
(217) 244-2414
<http://www.isgs.uiuc.edu>



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



APPROXIMATE MEAN DECLINATION, 2005

