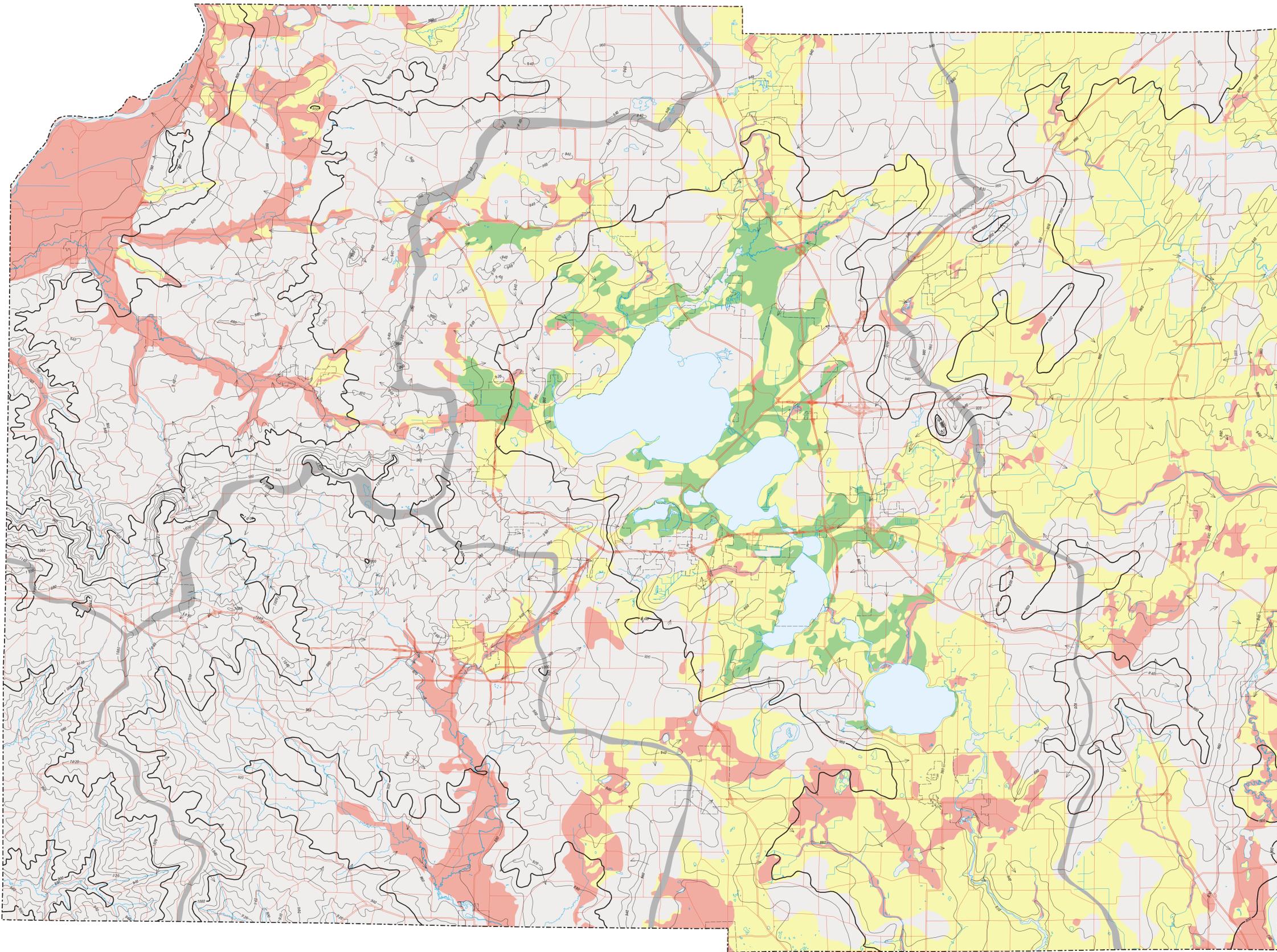


Plate 1: Water-table Elevation and Unlithified Aquifers in Dane County, Wisconsin



EXPLANATION

Aquifer Type

- Type 1 - Unconfined
Well sorted sand and gravel deposited as stream sediment
- Type 2 - Unconfined
Poorly sorted sand, gravel and silt deposited as diamicton or well sorted offshore glacial lake sediment
- Type 3 - Confined or partially confined
Well to moderately well sorted sand and gravel overlain by silty or clayey lake sediments
- Area is not considered an unlithified surficial aquifer
- Water
- Contours of equal elevation of the water table, in feet above sea level; contour interval 20 feet; every 100 ft. contour is bold
- General direction of shallow groundwater flow.
- Approximate location of groundwater divides; width indicates interpreted uncertainty.

Water-table elevation

This map depicts the approximate elevation of the shallow water table in Dane County. The water table represents top of the saturated zone and is usually the elevation of the shallowest groundwater encountered by wells drilled in the county. Each contour line connects points of equal water table elevation. The water table elevations shown on this map are an approximate average of water levels over many years, and ignore seasonal waterlevel fluctuations.

Arrows on the map indicate, in a general way, the direction of shallow groundwater flow, which is assumed to be perpendicular to lines of equal water table elevation. The accuracy of the interpretation varies throughout the county, increasing with greater data density.

Groundwater divides connect points along the crest of water table highs where the water table slopes in opposite directions along each side of the crest. Groundwater cannot pass beneath a groundwater divide, and so groundwater divides represent natural boundaries to groundwater flow systems.

This map is intended for use at the scale of 1:100,000 and should not be considered definitive for site-specific applications. It was beyond the resources of this study to fieldcheck the locations and water levels given on all of the Department of Natural Resources well constructors reports that were used to construct this map.

Unlithified surficial aquifer type

Shaded areas on this map indicate the approximate locations of shallow unlithified aquifers in Dane County. These aquifers are composed of sand and gravel and can transmit and yield enough water to supply shallow domestic wells. The upper surface of these aquifers is either the water table (for type 1 and type 2 aquifers) or a confining unit composed of silt or clay (type 3 aquifers). The lower surface of these aquifers is the top of bedrock. Unlithified materials in unshaded regions of this map also can contain groundwater, but materials in these areas are usually composed of silt or clay and cannot transmit enough water to be considered aquifers.

SOURCES OF DATA

This map was constructed using existing waterwell elevations available from:

- Wisconsin Department of Natural Resources well constructor's reports (1936-1991),
- Wisconsin Geological and Natural History Survey published and unpublished geologic logs (1874-1991),
- Wisconsin Geological and Natural History Survey Open File Report WOFR 924, Water Table Map of the Upper Black Earth Creek Watershed,
- Wisconsin Department of Natural Resources monitoring well data, selected surfacewater elevations from United States Geological Survey quadrangles (7.5minute series, topographic; 1969-82).

Wisconsin Geological and Natural History Survey Open-File Report 1999-04
Plate 1

