PREPARED IN COOPERATION WITH THE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

LAND USE

Land use can affect water quality because the water table is shallow (typically 3 to 15 ft below land surface) and the soils above the water table tend to be highly permeable. The aquifer is susceptible to contamination from surface sources such as sludge and waste from industrial and commercial facilities, fertilizers and pesticides from farms, sewage from residential areas, and vehicle emissions. Eight land-use categories pertinent to the aquifer system are delineated. The land-use classification is based on data published as Land Use and Natural Resources Inventory (LUNR) maps constructed from aerial photographs by Cornell University (1968). Modifications have been made in accordance with a field survey conducted in 1988. Because land use is constantly changing, and because open land is difficult to differentiate from farmland on aerial photographs, the land use in some areas may differ from that indicated on the map.

Approximately 74 percent of the aquifer is overlain by areas in which the land uses may be potentially detrimental to water quality. Of the total land area, 2 percent is industrial, 3 percent is commercial, 5 percent is transportation corridors, 14 percent is residential, and 50 percent is farmland. Industrial, commercial, and most residential areas are centralized primarily around Hornell and, to a lesser extent, Canisteo, Arkport, and Almond. The major transportation corridors are Interstate 17, New York State Route 36, and a railroad yard south of Hornell. Most farmland is concentrated to the north of Arkport in a former marsh area that has been drained. Farming practices may be of special concern because of the shallow water table, and farming in this area is intensive. Other farmland is dispersed throughout the area on flat land overlying the aquifer. The remainder of the aquifer is overlain by areas in which the land uses are generally not considered harmful to water quality, including 11 percent open land, 11 percent forests, and 4 percent open water.

REFERENCE

Cornell University, 1968, Land use and natural resource inventory (LUNR), New York State map series, Hornell, Arkport, and Canisteo quadrangles: New York State Cooperative Extension, scale 1:24,000.

EXPLANATION

- 1 INDUSTRIAL AND EXTRACTIVE--Manufacturing plants and quarries
- 2 COMMERCIAL AND SERVICES--Commercial strip development, facilities without extensive grounds, such as shopping centers, hotels, motels, hospitals, municipal and government buildings, schools and universities, and sewage-disposal and treatment areas
- 3 TRANSPORTATION--Limited-access highways, airports, and train yards
- 4 FARMLAND--Active and inactive agricultural areas
- 5 FORESTLAND--Forested private, public, and recreational areas, and brush- and scrub-covered land
- 6 RESIDENTIAL--Residential areas, trailer parks, apartment complexes, and rural villages
- 7 OPEN LAND--Unforested land and open recreational and public areas such as golf courses, hospital grounds, campuses, and cemeteries
- 8 WATER AND WETLANDS--Ponds, lakes, reservoirs, and swamps
- LAND-USE BOUNDARY
- AQUIFER BOUNDARY--Dashed where full extent of aquifer is not shown
- GROUND-WATER DIVIDE
- BOUNDARY OF STUDY AREA

Base from New York State Department of Transportation, Arkport, NY, 1978; Canaseraga, NY, 1976; Canisteo, NY, 1978; and Hornell, NY, 1978

Classification from Land Use Natural Resources (LUNR) maps, Cornell University (1968); modified by W.S. Silcox, 1988

GEOHYDROLOGY OF THE SURFICIAL AQUIFER IN THE HORNELL AREA, IN STEUBEN AND ALLEGANY COUNTIES, NEW YORK

By
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LAND USE