Ground-Water Resources of the Clifton Park Area, Saratoga County, New York

Abstract

Ground water is the sole source of public water supply for Clifton Park, a growing suburban community north of Albany, New York. Increasing water demand, coupled with concerns over ground-water quantity and quality, led the Clifton Park Water Authority in 1990 to initiate a cooperative study with the U.S. Geological Survey to update and refine the understanding of ground-water resources in the area.

Ground-water resources are largely associated with three aquifers in the eastern half of the area. These aquifers overlie or encompass the Colonie Channel, a north-south-oriented bench-Channel that rises primarily with lacustrine glacial deposits. The three aquifers are: (1) an unconfined lacustrine sand aquifer, (2) the Colonie Channel aquifer, which is confined within the deepest part of the channel and is confined and unconfined within the shallower, peripheral channel areas, and (2) an unconfined alluvial aquifer which fills the shallowest part of the channel. The Colonie Channel aquifer is underlain by the underlying lacustrine aquifer, and there are areas of the Colonie Channel aquifer that are underlain by the underlying alluvial aquifer. The Colonie Channel aquifer is underlain by the lacustrine aquifer and the underlying alluvial aquifer. The Colonie Channel aquifer is underlain by the lacustrine aquifer and the underlying alluvial aquifer.

The chemical composition of ground water within the Clifton Park area varies widely in response to hydrogeologic setting, geology, and contamination from human activities. These chemical differences reflect the different geologic settings and the interactions of ground water with different geologic materials.

The map symbols are defined as follows:

- Alluvial deposits:
  - Sand or sand and gravel
  - Clay or silt
  - Sand or gravel
- Lacustrine deposits:
  - Clay
  - Silt
  - Sand
- Glacial deposits:
  - Clay
  - Silt
  - Sand
- Till:
  - Sand or sand and gravel
  - Clay
  - Silt
- Ground water within the Clifton Park area is used for domestic and agricultural purposes. The water quality is generally satisfactory for domestic use, but there are areas where the water is contaminated by industrial and agricultural activities. The water quality in these areas is not suitable for domestic use without treatment.

The map symbols are defined as follows:

- Ground-water units:
  - Confined
  - Unconfined
- Water quality:
  - Good
  - Poor
- Source of contamination:
  - Chemical contamination
  - Industrial contamination
  - Agricultural contamination
- Source of contamination:
  - Ground water
  - Surface water
- Ground water levels:
  - Low
  - High

The map symbols are defined as follows:

- Ground-water level:
  - Low
  - High
- Source of contamination:
  - Chemical contamination
  - Industrial contamination
  - Agricultural contamination
- Ground-water flow direction:
  - East
  - West
  - North
  - South
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