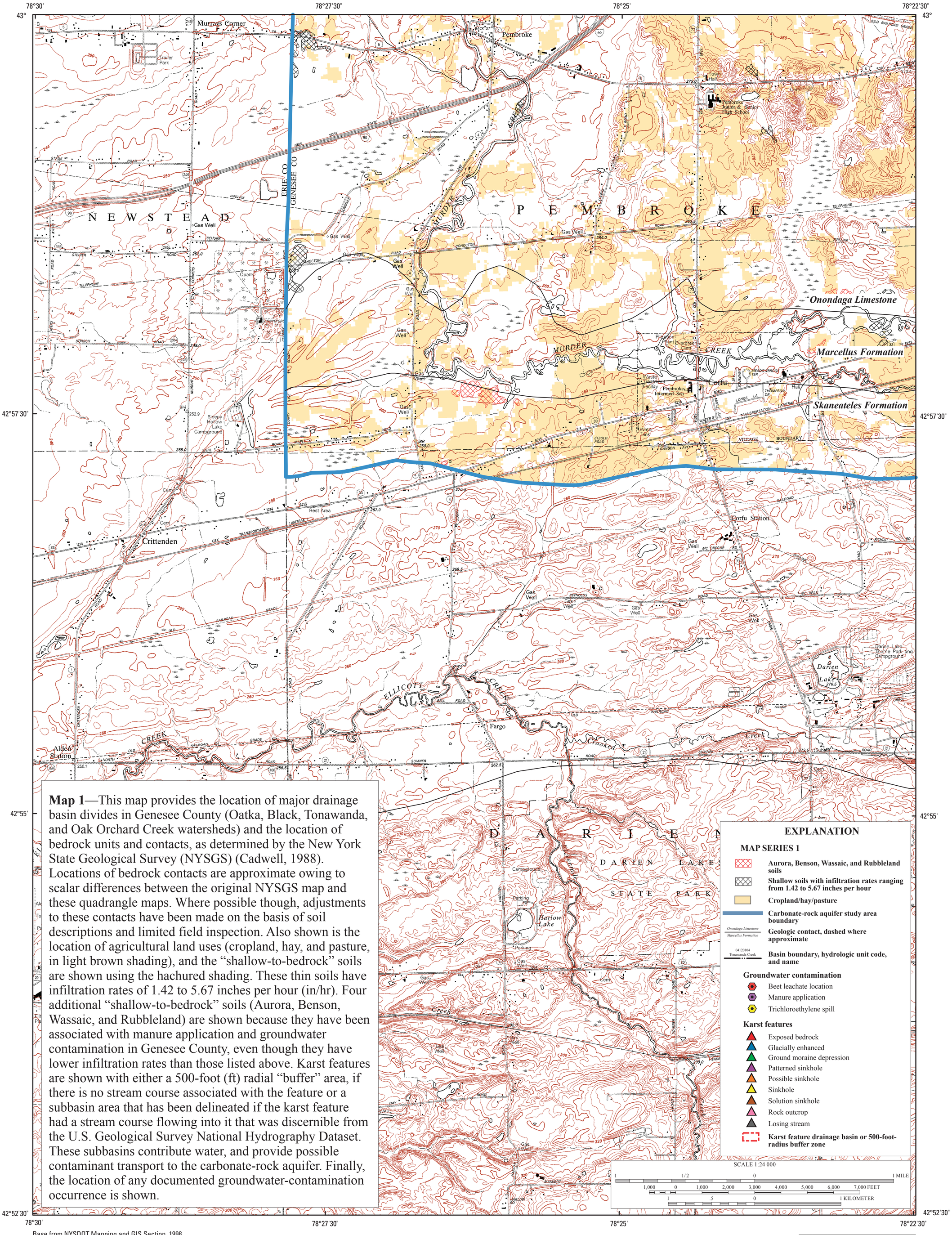
U.S. Department of the Interior
U.S. Geological Survey
science for a changing world

Prepared in cooperation with the
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SCIENTIFIC INVESTIGATIONS MAP 3132

Geology, land use, and contaminant spills, Corfu, Genesee County, NY—PLATE 10, MAP 1

Reddy, J.E., and Kappel, W.M., 2010, Hydrogeologic and geospatial data for the assessment of focused recharge to the carbonate-rock aquifer in Genesee County, New York; U.S. Geological Survey, Scientific Investigations Map 3132, 20 plates, 1:24,000 scale.



Map 1—This map provides the location of major drainage basin divides in Genesee County (Oatka, Black, Tonawanda, and Oak Orchard Creek watersheds) and the location of bedrock units and contacts, as determined by the New York State Geological Survey (NYSGS) (Cadwell, 1988). Locations of bedrock contacts are approximate owing to scalar differences between the original NYSGS map and these quadrangle maps. Where possible though, adjustments to these contacts have been made on the basis of soil descriptions and limited field inspection. Also shown is the location of agricultural land uses (cropland, hay, and pasture, in light brown shading), and the "shallow-to-bedrock" soils are shown using the hachured shading. These thin soils have infiltration rates of 1.42 to 5.67 inches per hour (in/hr). Four additional "shallow-to-bedrock" soils (Aurora, Benson, Wassaic, and Rubbleland) are shown because they have been associated with manure application and groundwater contamination in Genesee County, even though they have lower infiltration rates than those listed above. Karst features are shown with either a 500-foot (ft) radial "buffer" area, if there is no stream course associated with the feature or a subbasin area that has been delineated if the karst feature had a stream course flowing into it that was discernible from the U.S. Geological Survey National Hydrography Dataset. These subbasins contribute water, and provide possible contaminant transport to the carbonate-rock aquifer. Finally, the location of any documented groundwater-contamination occurrence is shown.

EXPLANATION

MAP SERIES 1

- Aurora, Benson, Wassaic, and Rubbleland soils
- Shallow soils with infiltration rates ranging from 1.42 to 5.67 inches per hour
- Cropland/hay/pasture
- Carbonate-rock aquifer study area boundary
- Onondaga Limestone / Marcellus Formation — Geologic contact, dashed where approximate
- 04120104 Tonawanda Creek — Basin boundary, hydrologic unit code, and name

Groundwater contamination

- Beet leachate location
- Manure application
- Trichloroethylene spill

Karst features

- Exposed bedrock
- Glacially enhanced
- Ground moraine depression
- Patterned sinkhole
- Possible sinkhole
- Sinkhole
- Solution sinkhole
- Rock outcrop
- Losing stream
- Karst feature drainage basin or 500-foot-radius buffer zone

SCALE 1:24 000

1 1/2 0 1 MILE
1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 FEET
1 .5 0 1 KILOMETER

Base from NYSDOT Mapping and GIS Section, 1998 accessed in 2009 at http://www.nysgis.state.ny.us/gisdata/

Land use from National Land Cover Data 2001, Resolution 1 arc-second (approx. 30m)

Bedrock Geology from New York State Museum, 1:250,000

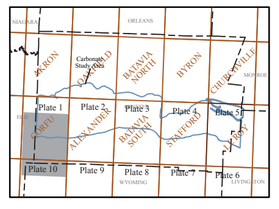
Soils from United States Department of Agriculture, Soil Survey Geographic (SSURGO) Database accessed in 2009 at http://soildatamart.nrcs.usda.gov

State Plane Coordinate System, Zone 3103, North American Datum 1983

Hydrogeologic and Geospatial Data for the Assessment of Focused Recharge to the Carbonate-Rock Aquifer in Genesee County, New York

By
James E. Reddy and William M. Kappel

2010



CORFU, NY