

## KEUKA LAKE WATERSHED, NEW YORK

### PROBLEM

Approximately 20,000 residents in the Keuka Lake watershed rely on groundwater and the lake for their drinking water. Nearly all of the residents in the watershed also depend on individual wastewater systems that are densely positioned and that discharge to the soil for treatment. However, testing revealed that poorly maintained individual onsite systems were contributing excessive levels of bacteria to the lake and contaminating drinking water wells.

### SOLUTION

Eight municipalities formed a regional watershed cooperative that implemented a uniform permitting and inspection program to identify and repair or replace malfunctioning treatment systems. As a result, Keuka Lake's water quality ranks among the highest of the water bodies in the Finger Lakes region.

Keuka Watershed Improvement  
Cooperative  
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### OVERVIEW

In 1994, eight municipalities—Barrington, Jerusalem, Hammondsport, Milo, Penn Yan, Pulteney, Urbana, and Wayne—

bordering Keuka Lake formed the Keuka Watershed Improvement Cooperative (KWIC) to better manage individual and decentralized wastewater systems in the region. KWIC has instituted a management program that consists of:

- **Uniform regional ordinances**
- **System inspection requirements based on health and environmental risk factors**
- **Maintenance contract requirements for mechanized units**
- **Operating permit requirements for new or modified systems**

### ROUTINE INSPECTIONS AND MAINTENANCE CONTRACTS

Municipalities participating in the KWIC program must adopt a uniform wastewater

management ordinance and hire a coordinator to inspect treatment systems in their communities. All 3,000 wastewater systems within 200 feet of Keuka Lake or its tributaries are inspected at least once every five years. Inspection reports are filed with KWIC. Aerobic and advanced treatment systems are inspected annually, at which time the system owner must show evidence of an active maintenance contract. Systems are also inspected when property is sold.

The regional ordinances require a KWIC operating permit for all new or modified individual wastewater systems. A system that is malfunctioning must be repaired to meet specific performance requirements. Additionally, KWIC could require the system owner to upgrade or replace the malfunctioning system using the best available technology.

KWIC utilizes a computerized database to track inspections and system compliance. KWIC reviews lake water quality information and evaluates the performance of advanced systems. KWIC's enforcement authority includes fines and compliance timetables in addition to corrective actions.

### FUNDING SOURCES

The KWIC program is financed by permit fees and dedicated funds from each municipality's budget. The program's annual budget is \$70,000.

### RESULTS

Water quality monitoring results indicate very good lake conditions, though runoff from stormwater and agricultural sources after storm events can result in high bacteria levels. The relatively clear water in the lake contains low nutrient levels and supports excellent fisheries. Monitoring results from 2005–2009 show lake water quality improving or holding steady for nearly all parameters. The local lake association attributes this progress, in part, to the septic system inspection program.

### References and Resources

- Keuka Lake Association. 2001. Phase II, Keuka Lake Sewage Study. [www.keukalakeassoc.org](http://www.keukalakeassoc.org).
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