

LAKE PANORAMA, IOWA

PROBLEM

Residential growth is a challenge in unsewered resort communities like Lake Panorama, Iowa, due to the need to protect lake water quality from septic system impacts. Lake Panorama is one of the largest private lake resort communities in Iowa. Installing conventional, soil-discharging wastewater systems is difficult in this community because of steep slopes, ravines, low-permeability soils, and small and oddly shaped lots.

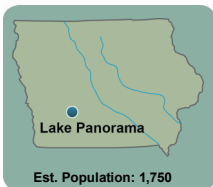
SOLUTION

The community created a management district to accommodate growth and protect water resources through the use of advanced, clustered, and innovative onsite wastewater treatment systems.

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OVERVIEW

In 1980, the Lake Panorama Association and the Guthrie County Board of Health worked together to create the Lake Panorama Onsite

Wastewater Management District. A county ordinance authorized the district's formation, which operates under the supervision of the Guthrie County Health Department. The program consists of:

- **Routine inspection requirements for treatment systems**
- **Maintenance contract requirements and service reminders sent from the management district**
- **Licensing requirements for system inspectors and septic tank pumpers**
- **System inventories to track installations, repairs, and replacements**

ROUTINE INSPECTIONS AND MAINTENANCE CONTRACTS

The Lake Panorama Onsite Wastewater Management District manages six clustered systems, 17 sand filter facilities, 25 aeration units, 25 aeration/drip dispersal systems,

one mound unit, and one gray water collection/treatment system.

Inspections are authorized through the homeowners' association and performed by the county sanitarian. Individual systems are inspected every three years for full-time residents and every six years for part-time residents.

Maintenance contracts with manufacturer-certified technicians are required for mechanical aerobic systems. Inspections are conducted quarterly for those systems, and reports are filed with the county. Owners are responsible for system maintenance, including pumping and repairs. The district has the authority to request that the homeowners' association terminate water service for owners with noncompliant systems.

FUNDING SOURCES

Guthrie County Health Department funds the program through the collection of annual fees. The annual fee for conventional system owners ranges from \$5 to \$10, plus any repair or pumping costs. The fee for permitting a system is \$225, and the inspection fee is \$30. Tank pumping averages \$225. Cluster system users are billed at a rate of \$50 a year.

RESULTS

The management programs for Lake Panorama have likely provided ongoing protection for Lake Panorama as indicated by water quality monitoring results. Bacteria concentrations at the Lake Panorama outlet are lower than that of other reaches of the Raccoon River system. Over the past few years, the district has logged only one aeration treatment unit malfunction annually, out of more than 1,000 homes on line. Additionally, system costs—though a bit higher initially—are lower than previous totals overall, as costs focus more on routine maintenance than replacement of malfunctioning systems.

The communities of Lake Panorama now better understand their onsite systems and can manage these systems appropriately to accommodate growth in the area.

References and Resources

- Mancil, K. 2000. National Onsite Demonstration Program Case Study Report: Lake Panorama, Panorama, Iowa. Prepared for the National Onsite Demonstration Program, West Virginia University, Morgantown, WV.
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- Mancil, K., and Patterson, S. 2001. Twenty Years of Success in Septic System Management. In Proceedings of the 9th National Symposium for Individual and Small Community Sewage Systems, American Association of Agricultural Engineers, St. Joseph, MI. March 11-14, Fort Worth TX.
- Population data—Lake Panorama Association. <http://www.lakepanorama.org/home.asp>