

JAMESTOWN, RHODE ISLAND

PROBLEM

Jamestown is a small, island town dependent on private drinking water wells and individual wastewater systems. Poorly maintained onsite wastewater systems on undersized lots with high seasonal water tables were affecting groundwater quality. Studies revealed that 32% of the wastewater treatment systems in the area were contributing to nutrient and pathogen problems in private water wells (Legislative Press and Public Information Bureau, 2006).

SOLUTION

Jamestown adopted an ordinance requiring routine inspections of individual wastewater systems. A High Groundwater Table District also guides future development to protect drinking water quality.

Town of Jamestown
44 Southwest Avenue
Jamestown, RI 02835
www.jamestownri.net

CONTACT

Justin Jobin
p: (401) 423-7193
e: justin@justinjobin.com



OVERVIEW

Jamestown is located on a small island situated in the middle of Narragansett Bay in Rhode Island. It is approximately nine miles long and one mile

wide. In 2001, Jamestown passed an ordinance to better accommodate growth and manage individual wastewater systems to protect its fresh water supplies. The program consists of:

- Routine inspections
- Maintenance reminders
- Web-based system database
- Siting and installation rules
- Designation of a High Groundwater Table District

MAINTENANCE INSPECTIONS AND WEB-BASED TRACKING

Jamestown's program provides a framework for the inspection, maintenance, and repair of individual wastewater systems. The town conducted an initial round of inspections in 2003 aimed at identifying and evaluating the condition of 1,608 individual systems. Jamestown then began a routine maintenance inspection program in 2006

under which systems are inspected every three or five years based on size, type of system, and water use. Inspectors record the inspection information in the town's web-based database. The town has the authority to pump tanks at the owner's expense and, if necessary, can place liens on property for failure to reimburse the town for the pump-out.

HIGH GROUNDWATER OVERLAY ZONE AND IMPERVIOUS LAYER DISTRICT

Jamestown adopted a High Groundwater Overlay Zone and Impervious Layer District Ordinance in 2003. The ordinance applies to designated areas in the town that have substandard-sized lots served by private wells. Provisions of the ordinance include a total impervious surface area limit of 15% (calculated for individual lots and excluding wetlands), a requirement to control runoff volume—using low-impact techniques—to maintain predevelopment infiltration for a 25-year storm, and a mandate to use advanced wastewater treatment technologies capable of 50% nitrogen removal.

FUNDING SOURCES

Jamestown's program is funded through an annual user fee of \$30 paid by system

owners. The fee funds the town's part-time wastewater management specialist.

RESULTS

- To date, 94% of all septic systems have had an initial maintenance inspection.
- Of the systems inspected:
 - 35 failed (2%)
 - 85 (5%) were found to be substandard systems (e.g., cesspools, systems with steel tanks)
 - 1,488 passed (93%)
- Since 2003, 50 systems have been subject to repair/replacement actions initiated by the town.

Property owners are responsible for ensuring that their system is operating properly and that it is maintained in good repair. Systems that do not meet applicable performance requirements can be subject to a repair or replacement order. Addressing malfunctioning systems helps to reduce nitrogen and pathogen pollution that pose threats to Jamestown's drinking water sources.

References and Resources

- Jamestown Source Water Assessment and Wastewater Needs Analysis. University of Rhode Island Cooperative Extension. http://www.uri.edu/ce/wq/RESOURCES/dwater/Assessments/PDFs/James_Chapters%203,4.pdf. Accessed August 9, 2010.
- Legislative Press and Public Information Bureau. 2006. Senate passes Paiva Weed bill stemming from Jamestown well contamination. State of Rhode Island, General Assembly. Providence, RI.
- Rhode Island Department of Environmental Management. 2008. Rules Establishing Minimum Standards Relating to Location, Design, Construction, and Maintenance of Onsite Wastewater Treatment Systems. Town of Jamestown. High Groundwater Ordinance. www.jamestownri.net/plan/hgwt.html. Accessed March 31, 2010.
- Population data—Town of Jamestown, Rhode Island. <http://www.jamestownri.net/>