

Prudence Island Utility Corp. Pollution Risk Assessment Results

The Prudence Island Utility Corp. (PWSID 1592023) community water system is located on Prudence Island and serves approximately 150 to 500 residents during the winter season and approximately 1800 persons on weekends during the summer. This water system has four active wells: the Army well, two Indian Springs Wells and the Bristol Colony Well. Four other wells on the island are no longer in use. Storage consists of a new 100,000 gallon glass-lined tank. The water is treated to reduce corrosion. The last sanitary survey was July 7, 2001. For further information contact Mark Kimball, President, Prudence Island Utility Corp. at PO Box 250, Prudence Island, RI 02872.

The system is treated to eliminate problematic color and odor. Maintaining iron and manganese in solution prevents oxidation and reduces corrosion.

Sample Summary (for the previous five years)

- ▲ Fecal coliform bacteria were detected once. This resulted in a system violation. Re-sampling revealed that the problem had been corrected.
- ▲ Nitrate levels in groundwater have been consistently low.
- ▲ No violations of the standards for regulated contaminants (excluding bacteria and nitrates) have been identified. However, there have been detections below levels considered acceptable by US EPA. This indicates the need for continued monitoring.

This report summarized assessment results for this water system. The assessment identifies both known and potential sources of pollution occurring in the wellhead protection area, and ranks the well based on the likelihood of future contamination. The goal of this study is to help



Susceptibility To Contamination		
√ Low	Moderate	High
<p>Note: A low rating does NOT mean that the source is free from contamination risk. Without sufficient protection, ANY water supply can become contaminated.</p>		

water supplies, local officials, and residents living in drinking water supply areas to learn more about source water protection. Because groundwater quality is directly related to land use activities, everyone living or working in the wellhead protection area has a role to play in keeping local water supplies safe now and in to the future.

POLLUTION RISKS:

- ▲ A road is located near the Bristol Colony well, increasing the risks for hazardous material spills and road salt contamination.
- ▲ Further residential development is possible.
- ▲ Unmapped historic activities may affect water quality in the future.

PROTECTION OPPORTUNITIES:

- ▲ The majority of the wellhead protection area consists of undeveloped forestland.
- ▲ The town can implement land use controls and programs to protect this wellhead protection area from future high-intensity development.
- ▲ Residents can follow the guidelines on the back to reduce the impact of household contaminants.

Source Water

The focus of these assessments is on public drinking water supply "source" areas—the *wellhead protection area* that recharges a well or the *watershed* that drains to a surface water reservoir. Source water is untreated water from streams, lakes, reservoirs, or underground aquifers that is used to supply drinking water.

Source Water Assessments were conducted by the R.I. Department of Health in collaboration with the University of Rhode Island Cooperative Extension (URI CE) under the Rhode Island Source Water Assessment Program. This is part of a national initiative, established under the 1996 Amendments to the Federal Safe Drinking Water Act (SDWA), to foster more comprehensive protection of drinking water supplies at the local, state, and national levels.

Table 1. High-intensity land uses identified within the source water protection area that have the potential to contaminate drinking water.

Land Use Category	Associated Contaminants ¹	% of Protection Area
% Residential	Nutrients, Pathogens, VOCs, SOCs	15.9%
% Commercial, Industrial, Institutional	VOCs, SOCs, Solvents, Inorganics	1.3%
% Intensive Agriculture	Nutrients, Pathogens, VOCs, SOCs	1.8%

¹Potential contaminants include nutrients (nitrates and phosphorus from fertilizers and human and animal waste), pathogens (bacteria, viruses, and other microorganisms that can cause disease); volatile organic compounds (VOCs) found in fuels and solvents; synthetic organic compounds (SOCs), such as pesticides and plastics; and inorganics, including metals and other substances that can harm human health in high concentrations.

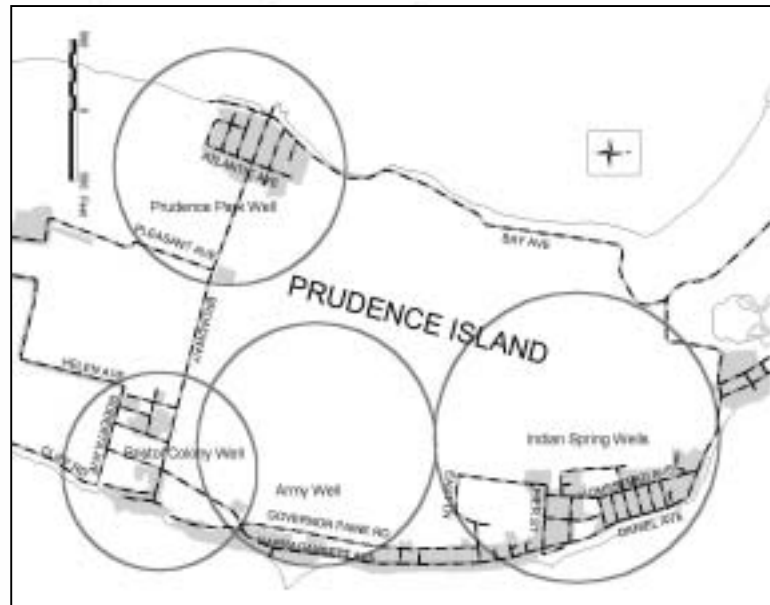
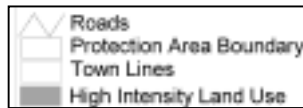


Figure 2. Areas of high-intensity land use are shown in dark gray.



What You Can Do To Protect Water Quality

Public Water Suppliers:

- ▲ Implement all recommendations in the latest Sanitary Survey.
- ▲ Protect undeveloped land within the wellhead or watershed protection area. Work with municipal boards and government as needed to implement land use protection measures and education programs.
- ▲ Post signs alerting public to Wellhead or Watershed Protection Area.
- ▲ Inspect water supply and protection area regularly for potential pollution sources.

Municipal Boards and Government:

- ▲ Develop a groundwater protection plan and ordinance and supporting protective zoning regulations, such as limits of paved surface areas within new developments
- ▲ Incorporate groundwater and source water protection goals into the Comprehensive Plan.
- ▲ Implement on-site wastewater management or sewer maintenance plans and ordinances.
- ▲ Develop programs for land acquisition, conservation easements, or other critical lands protection.
- ▲ Adopt a stormwater management plan and ordinance.
- ▲ Establish a community education and outreach program that promotes residential pollution prevention and best management practices for the Public Works Department.

Residents:

- ▲ Inspect septic systems annually and pump as needed.
- ▲ Replace/repair cesspools and failing septic systems.
- ▲ Reduce fertilizer and pesticide use.
- ▲ Reduce stormwater runoff by limiting paved surface areas and maintaining good vegetative cover.
- ▲ Pick up after your pets.
- ▲ Properly use, store, and dispose of hazardous products.
- ▲ Properly maintain motor vehicles and fuel storage tanks. Consider replacing underground storage tanks with properly contained above-ground tanks.
- ▲ Check all municipal laws that may apply.

Farmers and Landowners: Develop conservation plans on agricultural and forest lands that:

- ▲ Reduce soil erosion, sediment, and stormwater runoff.
- ▲ Address proper nutrient, manure, pest, and irrigation water management.
- ▲ Address proper fuel storage and equipment maintenance.
- ▲ Conserve water, improve soil health, and protect surrounding natural resources.
- ▲ Check all federal and state laws that apply.

Commercial and Industrial Businesses:

Adhere to all laws, regulations, and recommended practices for:

- ▲ Hazardous waste management
- ▲ Above- and underground storage tanks
- ▲ Wastewater discharge
- ▲ Floor drains
- ▲ Proper training for all employees

For More Information

R.I. Department of Health, Office of Drinking Water Quality,
 (401) 222-6867, www.healthri.org/environment/dwq/Home.htm
 URI CE Home*A*Syst Program (401) 874-5398, www.uri.edu/ce/wq
 URI CE Nonpoint Education for Municipal Officials (401) 874-2138, www.uri.edu/ce/wq
 Local Municipal Boards and Government, contact town/city hall
 R.I. DEM Office of Water Resources (401) 222-4700, www.state.ri.us/DEM/programs/benviron/water/index.htm
 USDA Natural Resources Conservation Service and Conservation District Offices,
 (401) 828-1300, www.ni.nrcs.usda.gov

