

Bedrock Water Quality Map

NORTHBRIDGE

Arsenic Probability

This map is intended to complement the USGS Scientific Investigations Report 2011-5013, *Arsenic and Uranium in Water from Private Wells Completed in Bedrock of East-Central Massachusetts: Concentrations, Correlations with Bedrock Units, and Estimated Probability Maps*. That report presents the results of a statistical study of bedrock water quality based primarily on 478 samples from private wells. This is a relatively small number of samples for such a large and diverse study area. The confidence intervals around probabilities used here are broad. Users are urged to carefully read the original report.

The geologic map underlying this work is at a scale of 1:250,000 or about 4 miles per inch. Although presented on a two dimensional map, bedrock geology is a three dimensional phenomenon. Contact zones almost never go straight down. Because this town map is at a much larger scale than the original, the necessity of presenting 3D geology in only two dimensions, and the wide confidence intervals in the statistical analysis, users should interpret this map as a general indicator of expected water quality. The only way to be sure of the quality of water in any given well is to have that water tested.

% Probability of Exceeding the Public Drinking Water Standard of 10 Micrograms per liter (10 PPB)	City/Town Statistics Acres	Percent
< 1.0%	11552.2	99.9
1.0% to 4.0%	0	0
5.0% to 10.0%	0	0
10.0% to 25.0%	0	0
No Data	11.6	0.1
Total	11563.8	

MAP LEGEND

- | | | |
|------------------------------------|------------------------------|--------------------|
| Pond, Lake or Ocean | Town Halls | Cemetery |
| Fresh Water Wetlands | Fire Stations | Convention Center |
| Cranberry Bog | Local Police Station | Court House |
| Salt Water Wetlands | State Police Station | Field - Playground |
| Perennial Stream; Shoreline | County Sheriff Station | Fish Hatchery |
| Intermittent Stream | Public School | Golf Course |
| Intermittent Shoreline | Private School | Industrial Park |
| Ditch/Canal | Charter School | Lighthouse |
| Aqueduct | Collaborative Program School | Marina |
| Dam | Special Education School | Monument |
| Pipeline | Private College | Museum |
| Powerline | Public College | Park |
| Active Rail Lines | Libraries | Parking Lot |
| Limited Access Highway | Hospital with ER | Pier - Wharf |
| Multi-lane Hwy, Not Limited Access | Hospital | Places of Worship |
| Other Numbered Highway | Nursing Home | Post Office |
| Major Road, Collector | Rest Home | Public Pool |
| Minor Road, Ramp | MBTA Station | Shopping Center |
| MA Town Boundary | Airports | Ski Area |
| MA Interstate Boundary | Prison | Sports Facility |
| County Boundaries | Camp | Theater |
| DEP Region Boundary | Campground | Tower |

Contour Interval 3 Meters
Mass StatePlane NAD83 Coordinates shown in RED

Map Created March, 2011

Deval Patrick
Governor

Richard K. Sullivan Jr.
Secretary of Energy and Environmental Affairs

Map Location

Northbridge Falls Within the MassDEP CENTRAL Region

Massachusetts Department of Environmental Protection

Map Scale 1:17000

0 1,000 2,000 3,000 4,000 5,000 6,000 Feet

0 1 2 Miles

0 1 2 Kilometers

1 inch = 1,417 feet 1 inch = 432 meters

DATA SOURCES

TOPOGRAPHIC CONTOURS: MassGIS, 1:5,000, 3 Meter contour elevations, generated from digital ortho DTMs.

WETLANDS: USGS National Wetlands Inventory (NWI) 1:25,000 scale. Wetland information shown on this map consists of several wetlands datasets, including the 88 volume National Wetlands Inventory (NWI) and 1:25,000 scale Hydrology Wetlands (1:25,000).

GEOGRAPHIC FEATURES: USGS/MapServer USGS Geographic Names Information System (GNIS) features matched to parcel data or orthophoto. Hydrography names taken from USGS NFD features and placed using Nemap.

ROADS: Mass Department of Transportation 1:50,000, Road centerlines aligned with 1:50,000 Orthophotos. Attributes from DOT roads database.

TRANSITS AND TRAILLINES: Mass Department of Transportation 1:50,000, Pipelines and Powerlines @ 1:25,000.

POLITICAL BOUNDARIES: MassGIS. This political boundary data layer has been created from latitude and longitude coordinates found in the 88 volume National Wetlands Inventory (NWI) and 1:25,000 scale Hydrology Wetlands (1:25,000).

HYDROGRAPHY: USGS/MapServer, 1:25,000 or less. Hydrography from the USGS National Hydrography Database except with public water supply watersheds where the resolution is approximately 1:10,000.

This map is for illustrative purposes only. It represents the best statewide data available at the date of printing. There are other important natural resources that are not shown on this map because the digital spatial data do not exist.