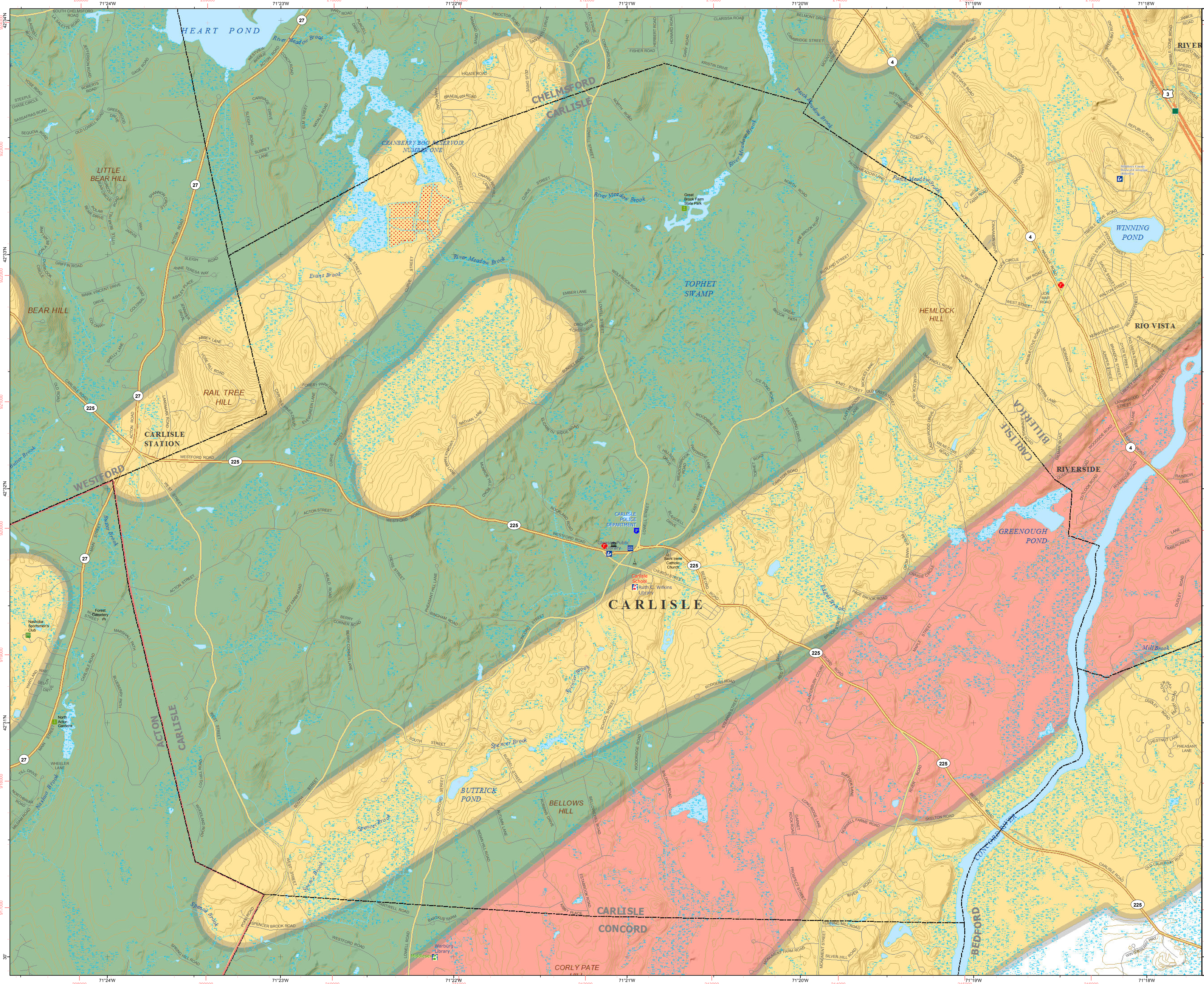


Bedrock Water Quality Map

CARLISLE

Arsenic Probability

This map is intended to compliment 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%	4534.9	45.6
1.0% to 4.0%	0	0
5.0% to 10.0%	3637	36.6
10.0% to 25.0%	1763.5	17.8
No Data	0	0
Total	9913.4	

MAP LEGEND

Pond, Lake or Ocean
Reservoir
Fresh Water Wetlands
Cranberry Bog
Salt Water Wetlands
Perennial Stream; Shoreline
Intermittent Stream
Intermittent Shoreline
Ditch/Canal
Aqueduct
Dam
Pipeline
Powerline
Active Rail Lines
Limited Access Highway
Multi-lane Hwy, Not Limited Access
Other Numbered Highway
Major Road, Collector
Minor Road, Ramp
MA Town Boundary
MA Interstate Boundary
County Boundaries
DEP Region Boundary

N

Cultural Features

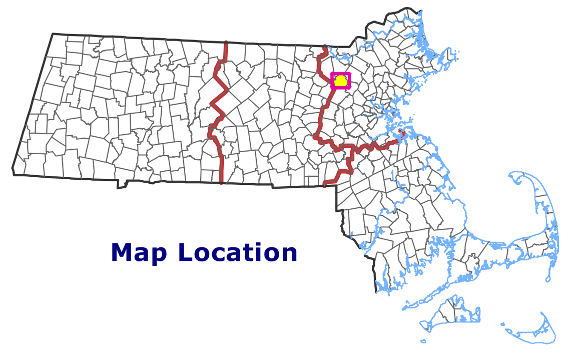
Town Halls	Cemetery
Fire Stations	Convention Center
Local Police Station	Court House
State Police Station	Field - Playground
County Sheriff Station	Fish Hatchery
Public School	Golf Course
Private School	Industrial Park
Charter School	Lighthouse
Collaborative Program School	Marina
Special Education School	Monument
Private College	Museum
Public College	Park
Libraries	Parking Lot
Hospital with ER	Pier - Wharf
Hospital	Places of Worship
Nursing Home	Post Office
Rest Home	Public Pool
MBTA Station	Shopping Center
Airports	Ski Area
Prison	Sports Facility
Camp	Theater
Campground	Tower

Contour Interval 3 Meters

Mass StatePlane NAD83 Coordinates shown in RED

Map Created March, 2011

CARLISLE FALLS WITHIN THE MassDEP NORTHEAST Region



Map Location

Deval Patrick
Governor
Richard K. Sullivan Jr.
Secretary of Energy and Environmental Affairs

MassDEP GIS
Massachusetts Department of Environmental Protection

Map Scale 1:14000

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

1 inch = 1,167 feet   1 inch = 356 meters

DATA SOURCES

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

WETLANDS: UMass Resource Mapping Project (RMP)/USGS/MA DEP/MassGIS, Source Scale 1:12,000 to 1:40,000. Wetland information shown on this map consists of several wetlands datasets, including DEP Orthophoto Wetlands (1:12,000) and USGS Hydrology wetlands (1:25,000).

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

HYDROGRAPHY: USGS/MassGIS, 1:25,000 or less. Hydrography from the USGS National Hydrography Database except within public water supply watersheds where the resolution is approximately 1:10000.

POLITICAL BOUNDARIES: MassGIS. This political boundary datalayer jas been created from latitude and longitude coordinates found in the 68 volume harbor and Lands Commission Town Boundary Atlas

ROADS: Mass Department of Transportation 1:5000. Road centerlines aligned with 1:5000 OrthoPhotos. Attributes from DOT roads database.

TRAINS AND TRANSLINES: Mass Department of Transportation Trains @ 1:5000, Pipelines and Powerlines @1:25000

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.

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