

The **Capture Zone** is the area of an aquifer which contributes water to a well under normal pumping conditions. Groundwater found in the Capture Zone will eventually be “captured” and pumped out of the ground at the well. The Capture Zone designation is duly recognized and accepted by hydrogeological professionals despite not being specifically required by MassDEP.

A Capture Zone includes the Zone I and is typically within the Zone II delineation area. Capture Zones comprise approximately 12% of all land in Wayland.

The Capture Zones for the Wayland municipal wells were delineated in October 2008 by Earth Tech AECOM largely using Wayland’s pre-existing data including groundwater elevation contours, pumping test rates, aquifer transmissivity, and downgradient stagnation points.

Due to a number of activities in the Capture Zone of the Happy Hollow Wells, which were determined to cumulatively threaten to degrade the quality of the water, additional studies were conducted by Earth Tech AECOM in 2010 to define the Capture Zone of these wells with more precision and to evaluate potential sources of well contamination in detail. This analysis included the installation of monitoring wells and well points, a seven-day pumping test conducted with the assistance of the DPW Water Division, an evaluation of hydrogeologic data, and approximating the Capture Zone under quasi-steady-state.

In 2012 the Wayland Board of Public Works proposed expansion of a segment of the Old North Cemetery which sits directly within the Capture Zone of the Baldwin Pond Wells station and three shallow gravel-packed groundwater wells supplying approximately half of the potable drinking water for Wayland’s residents.

Based upon geologic and pumping records, it appears that the Baldwin Pond Wells are located in areas where the soils consist largely of sand and gravel, with no significant overlying layers of fine-grained soils. Such aquifers are termed “unconfined aquifers” because flow of groundwater is not restricted vertically by a confining layer of clay or fine-grained soil.

WaylandWells.com lobbied town government for a comprehensive Capture Zone analysis of the Baldwin Pond Wells to assess the possible impacts on Wayland’s drinking water of the groundwater transport of pathogens, toxic chemicals and pharmaceuticals from the proposed expansion site (see pages 44-46 of the Wellhead Protection Plan & Other Land Uses section). Voters at the 2012 Annual Town Meeting approved a \$50,000 capital expenditure for the study prior to any expansion of the Old North Cemetery.