

CREATION OF GROUND WATER RESOURCE MAPS  
FOR PLANNING FUTURE DEVELOPMENT

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**ABSTRACT:** Existing well data were compiled into a database, and combined with published surficial and bedrock geology information, and Town tax map and population density data to create town-wide groundwater resource overlay maps for the Town of Putnam Valley, located in the central Hudson Valley of New York State. The ground water resource overlay maps were compiled in anticipation of rapid growth and development of existing available open space in the Town over the next decade. The study site is located approximately 50 miles north of New York City, with the majority of the substantial remaining open space located outside of the New York City water supply watershed making the land ideal for development. In anticipation of future growth within the Town, the overlay maps were developed for incorporation and use in the proposed planning and zoning master plan.

Putnam County Department of Health, and Town well permit records were compiled to develop a comprehensive database of private and municipal wells in the Town sorted by depth, capacity, and lithology. The well location, capacity range, and depth range information was accurately plotted on a Town wide base map. The existing planning and zoning information for the Town, along with the bedrock and surficial geology obtained from published reports were then plotted on subsequent overlay maps.

The overlay maps were combined with the plotted well database using the Town planning and zoning map as the base map. The maps were then used to delineate potential and existing water supply areas of the Town in comprehensive ground water protection zones using a defined set of parameters including well data (density, capacity, and depth), surficial geology, bedrock geology, and existing wetland areas. These zones are currently in the process of being adopted by the Town, and a set of regulations related to future development within ground water protection zones will be set forth. The regulations will assist Town officials with planning future development as it relates specifically to potential threats to ground water quality including on-sit sewage disposal, petroleum and chemical bulk storage, commercial and light industrial development, and housing density.

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