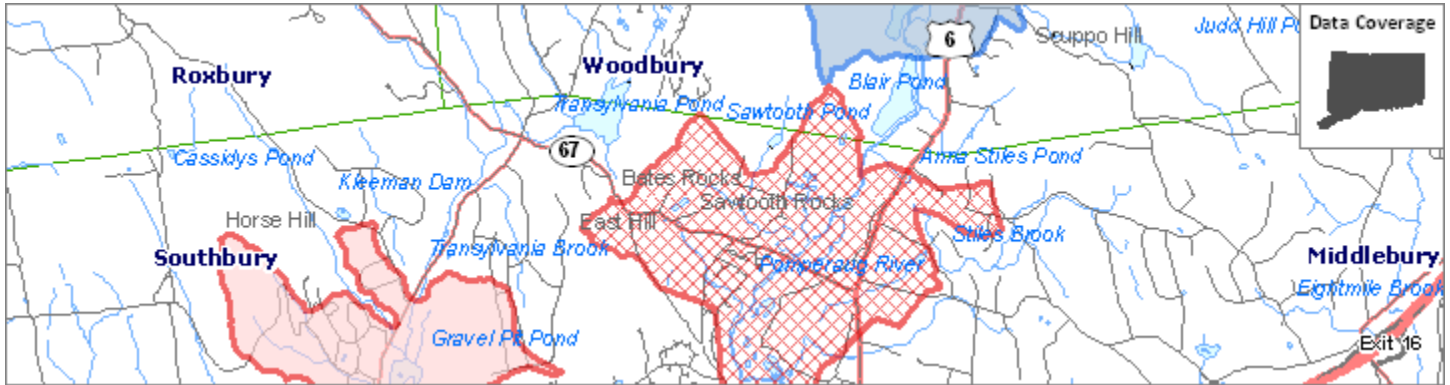


Aquifer Protection Areas



Description

Aquifer Protection Areas define the land area that contributes ground water to active public water supply wells (or well fields) that serve more than 1,000 people. Aquifer protection areas are commonly known as wellhead protection areas. Public water supply wells for these aquifer protection areas are typically set in sand and gravel aquifers (stratified drift deposits). There are aquifer protection areas for 126 active well fields located in seventy-eight Connecticut municipalities. They range in size from 40 to 3,000 acres, with an average size of 850 acres.

An aquifer protection area is categorized as either a preliminary (level B) or final (level A) aquifer protection area, depending on the quality of mapping. Preliminary mapping provides a general estimate of the area contributing ground water to the well field. Final mapping is based on extensive, site-specific, detailed modeling of the ground water flow system at the well field. For a given aquifer protection area, this information includes either the preliminary or more detailed final mapping. Aquifer protection areas are represented as polygon areas and mapped for use at 1:24,000 scale (1 inch = 2,000 feet).

Purpose

Administered by the Connecticut Department of Energy and Environmental Protection, the [Aquifer Protection Program](#) provides primary protection for Connecticut's high-yield public water supply well fields. The intent of this program is to protect the water supplies by identifying the land areas contributing ground water to the wells through detailed field work and ground-water flow modeling, and then by regulating land use within those areas. Municipalities adopt land use regulations for final aquifer protection areas. For example, land use involving hazardous materials within a designated aquifer protection area is strictly monitored and regulated.

This information is intended to be used to depict regulated Aquifer Protection Areas on a map preferably at 1:24,000 scale (1 inch = 2,000 feet). The mapping of these areas is one of the requirements of Connecticut's Aquifer Protection Area Program. The program requires water companies to complete both preliminary and final Aquifer Protection Area mapping. Preliminary mapping provides a general estimate of the area contributing ground water to the well field. Final mapping is based on extensive, site-specific, detailed

modeling of the ground water flow system at the well field. Preliminary mapping is first conducted and is later replaced with the more detailed final mapping.

The aquifer protection area information can be used in conjunction with surficial materials, bedrock geology, elevation, and soils to more thoroughly understand the physical characteristics of the aquifers. The spatial relationships between these areas and environmental quality data such as water quality, non-point source pollution, impaired ground water, contaminated lands, and past, present and projected land use can be analyzed.

Legend Description

The legend describes three categories of aquifer projection areas.



Final, Adopted

Aquifer Protection Area where detailed (Level A) mapping has been completed and the municipality has adopted land use regulations for the area.



Final, Not Adopted

Area where detailed (Level A) mapping has been completed and the municipality has not yet adopted land use regulations for this area.



Preliminary

Area where preliminary mapping (Level B) has been completed, providing an estimate of the Aquifer Protection Area and where land use regulations have not been adopted for the area.

Use Limitations

This information does not include protection areas for all public water supply wells in Connecticut. It only includes aquifer protection areas for public water supply wells located in Connecticut that are set in stratified drift and serve a residential population of 1,000 or more. It does not include protection areas for smaller stratified drift public water supply wells that serve less than 1,000 people. And it does not include protection areas for public water supply wells drilled into bedrock. Also, it does not include protection areas located in Connecticut that serve customers out of state.

Some of the information used to define the aquifer protection area boundaries is based on features appearing on, or other information derived from, 1:24,000-scale USGS topographic quadrangle maps. Consequently, use caution when displaying aquifer protection areas at map scales larger and more detailed than 1:24,000 scale (1 inch = 2,000 feet). This may result in minor locational differences and inaccuracies. One example to be careful of is displaying aquifer protection areas with high resolution aerial photos (orthophotography) in the background at 1:2400 (1 inch = 200 feet) scale.

Related Information

[Aquifer Protection Area Program](#) – complete description of the DEEP Aquifer Protection Area Program

[Ground Water](#) – general information about ground water resources in Connecticut

[Surface and Ground Water Quality Classifications](#) – CT ECO Complete Resource Guide

Data Collection Date

Data collected from 1991 to present. Refer to the publication date information in the Aquifer Protection Area [GIS Metadata](#) for the most recent time period these data are currently available for.

Status

This information is updated as needed to include the final mapping of aquifer protection areas as they are completed.

Map Scale

The information meets horizontal National Map Accuracy Standards for 1:24,000-scale mapping (1 inch = 2,000 feet).

Contact

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Additional Documentation

[Aquifer Protection](#) – CT ECO Basic Data Guide

[GIS Metadata](#) – Contains technical documentation describing the Aquifer Protection Area data and the data sources, process steps, and standards used to collect, digitize, and store this information in a geographic information system (GIS).

Originators

[Connecticut Department of Energy and Environmental Protection](#)

GIS Data Download

Aquifer Protection Area data is downloadable from [DEEP GIS Data](#).

Connect GIS and AutoCAD software to this information online using the Water Resource Management [CT ECO Map Service](#).