



# Aquifer Protection Area Program Fact Sheet

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Arthur J. Rocque, Jr., Commissioner

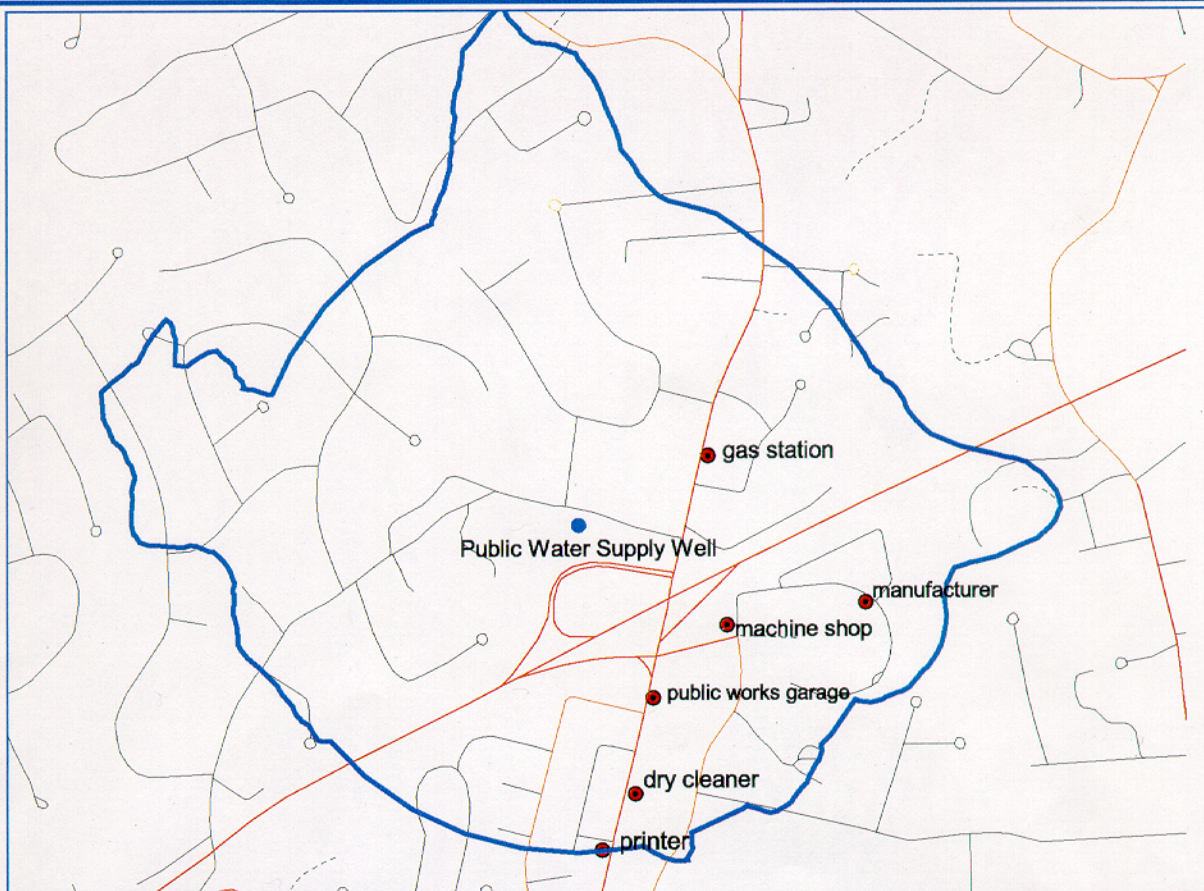


Figure 1: Example of aquifer protection area with regulated land uses.

## What is the purpose of the Aquifer Protection Program?

In Connecticut, approximately one-third of the population relies on ground water for their drinking supply. Since the late 1970's, numerous public and private wells have been found to be contaminated by various pollutants from land use activities. Aquifers, geologic formations able to yield water to wells, can not be considered naturally protected.

At particular risk are "stratified drift" (sand and gravel) aquifers supplying our larger public water supply wells. Despite current protection efforts, many types of land uses continue to threaten ground

water quality. To address this, Connecticut established the Aquifer Protection Area Program (CT General Statutes Sections 22a-354a et seq). The purpose of this program is to identify critical water supply aquifer areas and protect them from contamination by managing land uses in these areas.

## What is an Aquifer Protection Area?

Aquifer Protection Areas will be designated around all wells in stratified drift used by water systems serving over 1000 people. The "protection area" is the critical portion of the aquifer which provides water to the well (sometimes referred to as a "wellhead protection area"). 122 active well fields



(wells or groups of wells) in the state will have aquifer protection areas established around them. Activities which might contaminate ground water in these areas will be regulated.

### How will these areas be identified?

The water companies which own the wells are required to map Aquifer Protection Areas according to DEP requirements.

The Aquifer Protection Area includes the well field, and areas of contribution and recharge. The size of the area can vary from tens of acres to hundreds of acres depending on the well yield and aquifer materials. Areas will be mapped for existing wells. Once mapped and approved, the protection areas must be adopted by towns.

Preliminary mapping indicates that 83 towns will have Aquifer Protection Areas designated (see figure

2) for existing wells. Eventually, additional protection areas will be designated for sites of future wells.

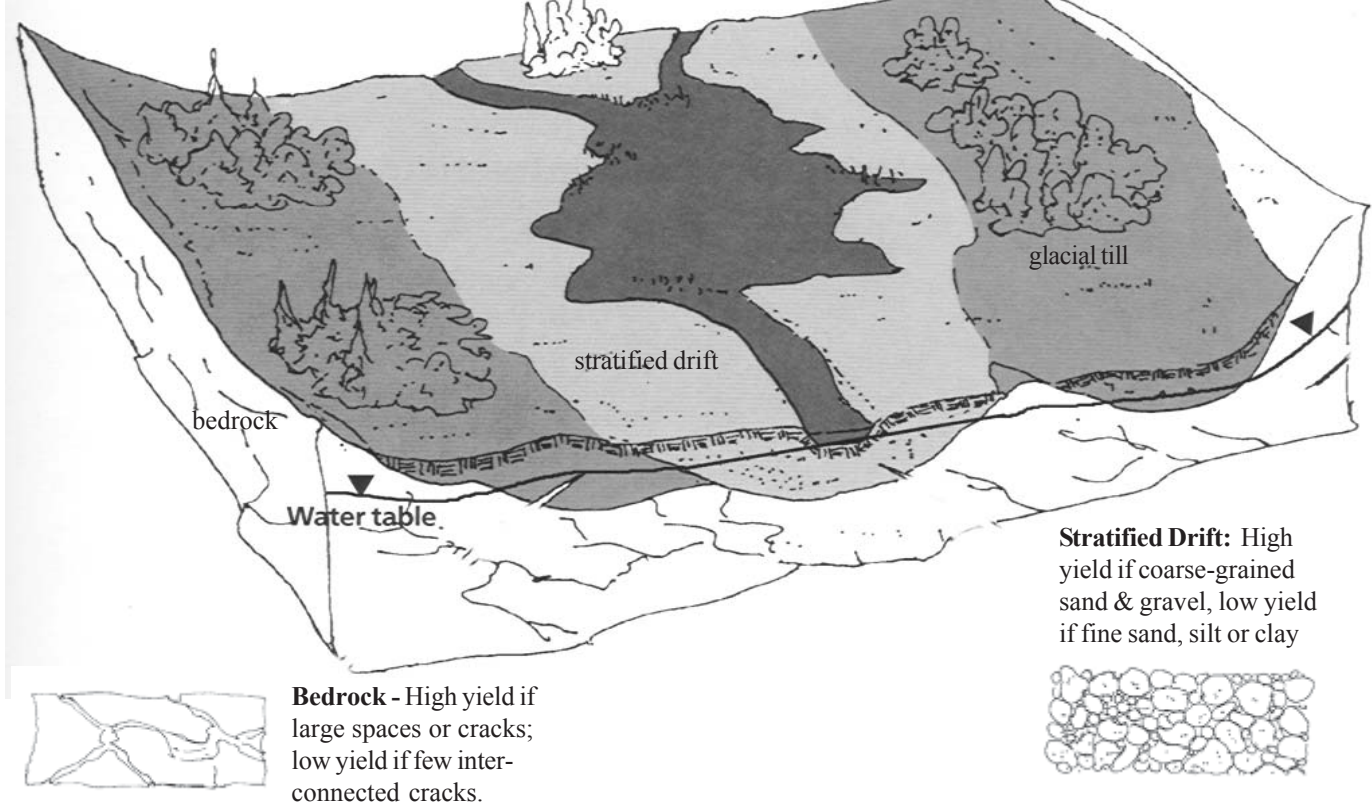
### How will the protected areas be regulated?

Protection responsibilities will be shared by the state, municipality, and water company:

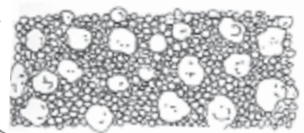
**STATE** - In addition to overall program implementation, DEP will:

- ◆ Establish state land use regulations and standards;
- ◆ Approve aquifer protection areas and local regulations;
- ◆ Oversee municipal aquifer protection agencies and provide training and technical assistance;
- ◆ Regulate facilities that hold wastewater permits or RCRA waste permits, and state and federal facilities;

**Figure 2:** An aquifer is “any geologic formation (rock or sediment) that can yield a usable amount of water”.



**Glacial Till:** Low yield due to insufficient, poorly connected pore spaces.

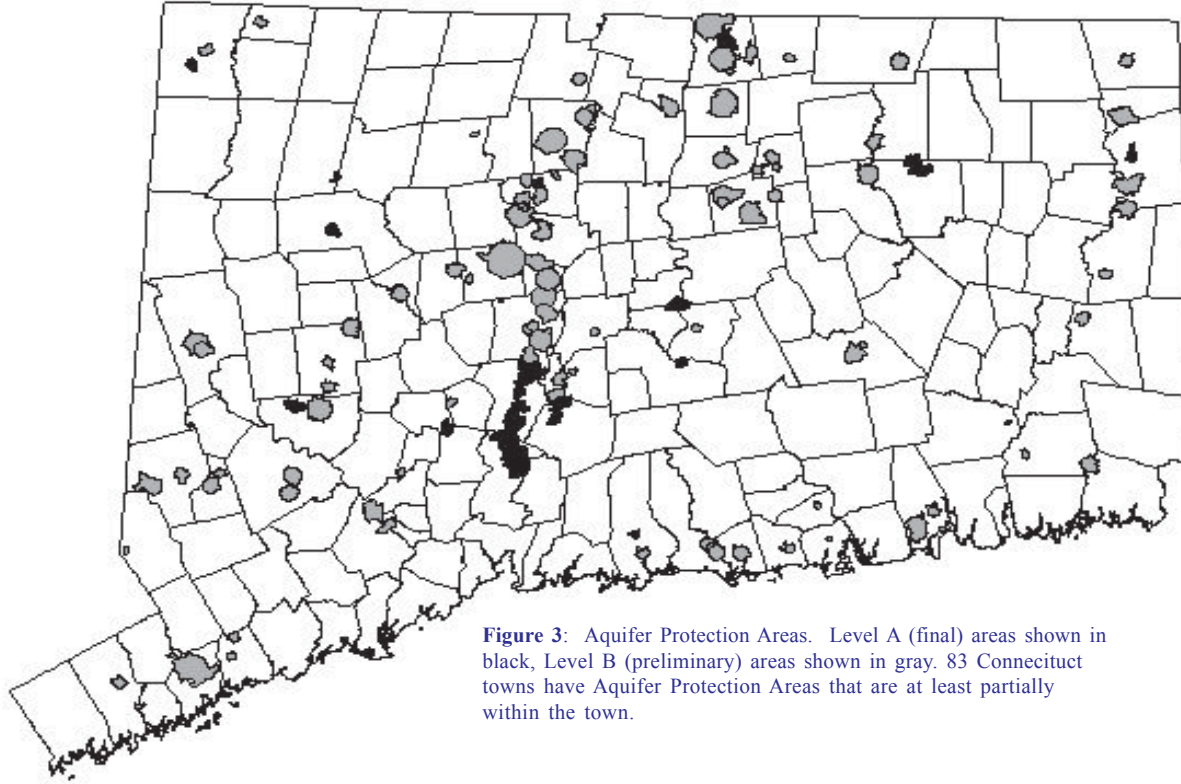


**Stratified Drift:** High yield if coarse-grained sand & gravel, low yield if fine sand, silt or clay



**Bedrock** - High yield if large spaces or cracks; low yield if few interconnected cracks.





**Figure 3:** Aquifer Protection Areas. Level A (final) areas shown in black, Level B (preliminary) areas shown in gray. 83 Connecticut towns have Aquifer Protection Areas that are at least partially within the town.

- ◆ Provide for education about ground water protection;

**MUNICIPALITIES** – Responsibilities include the following:

- ◆ Authorize an existing board or agency to serve as the local Aquifer Protection Agency;
- ◆ Adopt local Aquifer Protection Area regulations consistent with state regulations;
- ◆ Delineate Aquifer Protection Areas on the town zoning map;
- ◆ Regulate land use activity within the Aquifer protection Areas including:
  - Registering existing regulated activities;
  - Issuing permits for new regulated activities;
  - Inspecting regulated facilities.

**WATER COMPANIES** – Besides mapping, the water companies will:

- ◆ Inspect Aquifer Protection Areas;
- ◆ Assist towns with the protection programs;
- ◆ Plan for land acquisition around well field.

### **How will business and the general public be affected?**

Land uses and activities that can contaminate ground water quality will be regulated in protected areas. Generally, these are activities which use, store, handle or dispose of hazardous materials and other potential ground water contaminants (see table on next page).

Certain new land use activities of these types will not be allowed to locate in aquifer protection areas. Businesses already in existence in protection areas will have to register their land use activity and follow best management practices designed to minimize the possibility of a release. This may include implementing new procedures and/or installing new containment equipment. Registered businesses may expand their existing activities, and may apply for a permit to add new regulated activities to their facilities.

Some state and local government operations such as highway maintenance garages, road salt storage, airports, and waste disposal will be regulated. Workshops and laboratories in schools and other institu-

## Regulated Land Use Activities<sup>1</sup> In Aquifer Protection Areas

**Waste disposal / handling facilities**, such as landfills, transfer stations, recycling centers, salvage yards, hazardous waste treatment, storage or disposal facilities, and non-domestic wastewater discharges to the ground.

**Underground storage tanks** for hazardous materials or petroleum (except residential #2 fuel oil tanks, and commercial #2 fuel oil tanks > 500 feet from the well field).

**Wholesale chemical / petroleum storage**, such as warehouses, bulk storage facilities, tank farms, and salt storage facilities.

**Industrial processes using hazardous materials**, such as production of chemicals, electronics, metals, rubber, resin, textiles, pesticides or reconstituted wood products, and power plants.

**Commercial services using hazardous materials**, such as gas stations, fleet garages, fuel oil dealers, dry cleaners, furniture strippers, mixing of pesticides, and printers.

**Some uses are allowed if connected to sewer**, such as car washes, funeral homes, crematories, laboratories, and photo finishing.

**Exceptions** include residential uses, agricultural uses, minor amounts of hazardous materials, lubricating oils, and minor fuel dispensing operations.

<sup>1</sup> This table provides simplified descriptions, intended only to give the reader an idea of the types of activities regulated. See the Land Use Regulations (Section 22a-354i-1 thru 22a-354i-10 of the R.C.S.A.) for the exact regulatory definitions.

tions will also have to follow best management practices.

Residents in protected areas will be educated about the risk to ground water quality from pesticides and fertilizers, improper septic system use, and hazardous cleaning and maintenance materials such as paints, paint thinner and automotive fluids.

DEP will develop an incentive program to reward outstanding efforts to protect the aquifer.

### The Rewards....

Clean water is vital for our very survival. Until recently, people assumed that it would always be plentiful in Connecticut. The events of the past decade have shown that ground water, like surface

water, is increasingly at risk from our chemical-dependent society. The aquifer protection area program requires a major commitment from state and local government, business, water companies, and individual residents, but the reward, clean drinking water for now and the future, is well worth the trouble.

### Where can I get more information?

CT Department of Environmental Protection  
Bureau of Water Management  
79 Elm Street  
Hartford, CT 06106-5127  
(860) 424-3020  
[www.dep.state.ct.us/wtr/index.htm](http://www.dep.state.ct.us/wtr/index.htm)