GROTON UTILITIES

August 20, 2024

Mr. Tony Capon, Chairman
Planning and Zoning Commission
741 Colonel Ledyard Highway
Ledyard, CT 06339-1511

Dear Chairman Capon and Commissioners,

As the Director of the Department of Utilities for the City of Groton ("Groton Utilities" or "GU"), I appreciate this opportunity to inform you of GU's strong opposition to the current proposal by Avery Brook Homes, LLC to construct 18 single family homes on 6.38 acres directly adjacent to, and in very close proximately to, the Billings Avery Reservoir on Stoddards Wharf Road in Ledyard.

Various studies and reports have demonstrated the correlation between land development and water quality degradation, and many conclude that one of the simplest methods for the protection of public drinking water sources is to limit residential development to a maximum density of one dwelling unit per two acres of buildable area.

In particular, I refer to Figure 3 in the report entitled "Drinking Water Assessment and Source Protection Program" which ranks risk to drinking water sources posed by different types of land use categories. A copy of the full report is attached to this letter and can also be found on the website of the Connecticut Department of Public Health.

Figure 3 lists "low-density residential housing on 2-acre lots" among the second lowest risk categories and "high density housing on less than ½ acre lots" among the second highest risk categories.

The current development proposal, i.e. to situate 18 3-bedroom single family homes [with 18 underground septic systems and 18 private drinking water wells] on lots averaging approximately 1/3 acre within a few hundred feet of a source of public drinking water is a high-risk proposal. In fact, several of the proposed building lots are significantly smaller than one third of an acre.

The Plans of Conservation and Development of both the State of Connecticut and the Town of Ledyard list the protection of public drinking water sources as an objective of prime importance to the heath and economic well-being of the residents of Connecticut and the town.

Indeed, protecting the "quality of wetlands and watercourses for their conservation, economic, aesthetic, recreational and other public and private uses and values" and protecting "the state's potable fresh

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water supplies from the dangers of … pollution" are two of the express purposes of the Inland Wetlands and Watercourses Act (CGS § 22a-36 et seq).

There is substantial evidence that the proposed development will pollute Billings Avery Pond, a public water supply reservoir, and its associated wetlands and feeder streams due to septic-system effluent and stormwater runoff. Such concerns are not theoretical or abstract, but certain, and will result in the degradation of a significant source of drinking water for people living and working in southeastern Connecticut, including many residents of Ledyard. The effects of pollution on ground water and on interconnected surface drinking water supplies is contrary to the public interest, and such adverse impacts to the drinking water supply system are cumulative and need to be avoided whenever and wherever possible.

There is also substantial evidence that, if approved, effluent from the 18 closely clustered, on-site underground sanitary disposal systems will likely pollute the 18 closely clustered, private drinking water wells in the proposed subdivision, thereby endangering the health, safety and welfare of the residents of the subdivision. The pollution of one or more private drinking water wells by the on-site subsurface sanitary systems will no-doubt result in severe economic hardship for the affected homeowners and will cost the town of Ledyard tens of millions of dollars in the likely event it needs to extend the municipal sanitary sewer and/or public drinking water to the affected lots.

I wish to state emphatically that Groton Utilities is not opposed to affordable housing *per se*, but is opposed to this particular proposal which, given its high density, location directly adjacent to a drinking water supply reservoir and lack of public sanitary sewers (i) will unreasonably pollute, impair or destroy the public trust in the surface and ground water and other natural resources of Connecticut, and (ii) will endanger the health, safety and welfare of both the general public and of the families who will reside in the proposed subdivision.

There is obviously a feasible and prudent alternative to this proposal which can be designed to have little or no adverse impacts to the groundwater, wetlands and watercourses which constitute the public water supply reservoir, i.e.to reduce the level of development to one which is consistent with state policy and the protection of a critical public asset.

I thank you for the opportunity to comment on this project and I ask that you help Groton Utilities protect the public drinking water supply by denying this proposal.

Very truly yours,

GROTON UTILITIES

Ron Gaudet
Director of Utilities

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CONNECTICUT'S

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CONNECTICUT DEPARTMENT OF PUBLIC HEALTH

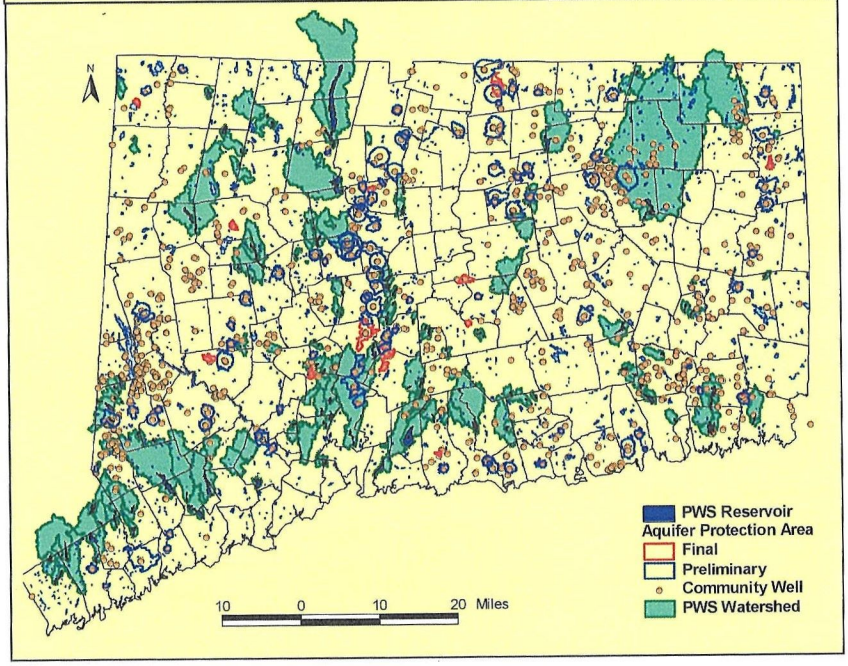
Keeping Connecticut Healthy

Drinking Water Assessment and Source Protection Program

Background And Introduction

The Source Water Assessment Program or SWAP is part of the 1996 amendments to the federal Safe Drinking Water Act. The program calls for the nationwide assessment of all public drinking water supply sources to determine their susceptibility to potential sources of contamination. The Connecticut Department of Public Health Drinking Water Division (DWD) began working in 1997 with the Department of Environmental Protection (DEP) to develop a tailored SWAP workplan for the assessment of Connecticut's public drinking water sources. The DWD, Connecticut's lead agency for public drinking water supply, completed the assessment of more than 3,800 community and non-community public drinking water sources on April 29, 2003.

Figure 1 - Source Water Areas For Connecticut's Community Public Drinking Water Supply Systems



The goal of Connecticut's SWAP is to identify and inventory potential sources of contamination that could adversely impact the safety or quality of Connecticut's public drinking water sources (*see Figure 1*), which includes more than 150 surface water reservoirs and more than 4,000 ground water supply wells. These systems provide drinking water for about 80% of the state's population. The type and number of public water supply systems assessed by Connecticut's SWAP are summarized in Table 1.

As a result of the SWAP, Connecticut's residents that rely on public sources of drinking water will be able to learn more about where their drinking water comes from and what can be done in the community to help protect it. Public drinking water systems, local government and public health officials will be able to use the assessment reports to plan and direct drinking water source protection initiatives. These initiatives may include protective zoning regulations, land acquisition of critical source water areas, and the implementation of best management practices for the safe handling, storage, and disposal of hazardous materials.

Table 1 – Classification of Connecticut's Public Drinking Water Systems

Type of Public Drinking Water System [(a)]	Number of Systems	Drinking Water Sources	
		Reservoirs	Wells
Community	622	166	1,353
Non-transient Non-community	661	0	812
Transient Non-community	1,791	0	1,826

(a) – See glossary of SWAP terms for system definitions

Assessment Methods

The source water assessment methods used by the DWD to evaluate the susceptibility of public drinking water sources to contamination are based on specific criteria for surface water and groundwater sources. The criteria are keyed to sanitary conditions in the source water area, the presence of potential or historic sources of contamination, existing land cover and use, and the need for additional source protection measures within each source water area. Source-specific data for community and non-community systems were used to determine if a source should be ranked low, moderately or highly susceptible to the risk of potential contamination from inventoried contaminant sources. The assessment process consists of five main elements:

1. **Delineation of source water areas** for each public drinking water source. The source water area for a well is more difficult to delineate. Large community wells in stratified drift are subject to Aquifer Protection Program regulations in sections 22_a-354_a through 22_a-354_{bb} of the Connecticut General Statutes. Preliminary (Level B) or Final (Level A) Aquifer Protection Area mapping where data are available for stratified drift wells is shown as an example in Figure 2. For smaller bedrock wells a calculated radius proportional to the pumping rate of the well, is used to delineate the source water area.
2. **Inventory of potential contaminant sources** (SPCS) within the source water areas of each public water supply source. Examples of potential contaminant sources in an aquifer protection area are shown in Figure 2.
3. **Susceptibility** to inventoried potential contaminant sources for all community public drinking water source based on three key indicators:

   (i) Source Sensitivity: *Water Quality, Source Integrity and Condition*
   (ii) Source Vulnerability: *Existence of Potential Pollution Sources, Land Use/Cover*
   (iii) Source Protection: *Land Control, Water Company Measures, and Local Protection Measures*

   The overall susceptibility of each community drinking water source is determined using the factors (shown in italics) associated with indicators i through iii. Initial assessments of non-community drinking water sources are based on sensitivity and vulnerability while more information is gathered about source protection needs for these types of systems.
4. **Public participation** in SWAP using a Citizen's Advisory Committee.
5. **Availability of source water assessments** to the general public with recommendations for protection.

Connecticut's source water assessments are maintained using maps and information developed by DPH and DEP. Data used for the assessment reports available on the Drinking Water Division's website http://www.dph.state.ct.us/BRS/Water/SWAP/swap.htm generally span a period of time between January 2000 and March 2003.

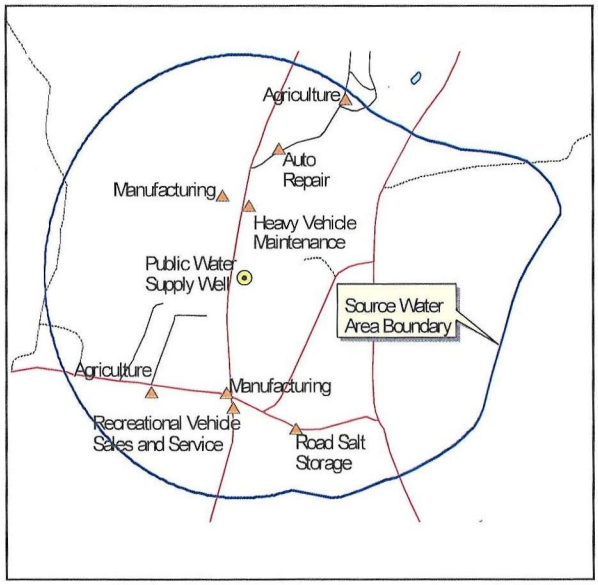


Figure 2

Delineated Groundwater Source Water Area and Potential Contaminant Sources

Statewide Summary of Assessment Results

Assessments were completed in the Spring of 2003 for all active community and non-community public drinking water supply sources in Connecticut including over 3,000 public water supply systems, representing more than 4,000 individual sources of supply. The DPH issued final assessment reports to the USEPA in May 2003, and made them available on its website. A summary of source water assessment program susceptibility determinations for Connecticut's public drinking water sources is summarized in Table 2. These ratings indicate susceptibility to inventoried potential sources of contamination that may be in the source water area and do not necessarily imply poor water quality.

Table 2 – SWAP Susceptibility Rankings by Source Water and System Type

PWS Type	Number of Systems	Number of Sources	Source Susceptibility Rank		
			Low	Moderate	High
Community Surface Water	50	166	69.1%	26.7%	4.2%
Large Community Wells Serving >1,000 Persons	170	604	44.7%	35.5%	19.8%
Small Community Wells Serving <1,000 Persons	402	749	39.2%	49.4%	11.4%
Non-Transient, Non-community Bedrock wells (NTNC Wells)	661	812	47.0%	30.0%	23.0%
Transient Non-community Bedrock wells (TNC Wells)	1791	1,826	51.3%	25.9%	22.9%

The data in Table 2 show that the majority of public drinking water systems in Connecticut, regardless of type and size, are ranked low or moderately susceptible to inventoried potential contaminant sources. Most sources that received a high susceptibility rating exhibited the following characteristics in their source water area:

1. Moderate to high density of potential contaminant sources
2. Higher intensity of land development
3. No local source protection regulations
4. Higher incidence of contaminants in the source water before treatment

Other general trends for low and moderately ranked drinking water sources are listed in Table 3

Table 3 – General Trends Associated With SWAP Susceptibility Rankings

Ranking	Trends In Susceptibility Ranking
Low	• Low density of potential contaminant sources • Greater percentage of water company-owned and preserved lands • Lower intensity of land development
Moderate	• Low-moderate density of potential contaminant sources • Moderate intensity of land development
High	• Moderate-high density of potential contaminant sources • Higher intensity of land development • No local source protection regulations • Higher incidence of contaminants in source water

These trends, identified by analyzing the source assessment database, indicate that a lower intensity of land development accompanied by increased water company land ownership and greater amounts of preserved land in the source water area reduces the susceptibility of the drinking water source to potential sources of contamination.

Further, as the intensity of land development increases there tends to be a greater density of potential contaminant sources in the drinking water source protection area. Higher potential contaminant source densities also appear to be accompanied by the detection of chemical contaminants associated with human activities.

The most prevalent types of potential contaminant sources found throughout the state for both surface and groundwater sources are listed in Table 3. More than 60% of the potential contaminant source types inventoried by the SWAP program involve the storage of fuel and some type of vehicle or automotive-related activity. Industrial, commercial or retail facilities that generate or handle hazardous materials or waste by-products was the third most prevalent category of potential contaminant source types found in Connecticut.

Table 4 – Top Three Potential Contaminant Source Categories

Category	Percent of Surface Water Sources	Percent of Groundwater Sources
Underground Fuel Storage Tanks	50.0%	40.6%
Vehicle Sales & Service Facilities	14.2%	20.8%
Facilities That Generate or Handle HazWaste	14.9%	10.4%

A more detailed list of the types of potential contaminant sources evaluated as part of the source water assessment process is shown in Table 5.

Table 5 Types of Significant Potential Contaminant Sources Impacting Surface or Groundwater Evaluated By Connecticut's Source Water Assessment Program

Category	Subcategory	Potential Contaminants	Surface Water	Ground Water
Agriculture	Animal Feeding, Waste Storage Or Disposal Operations	Microbials	✔✔	✔
	Orchards, Row Crops, Tree Farms, Ornamental Growers	Inorganic Chemicals, Pesticides & Herbicides	✔✔	✔✔
	Pesticide Storage, Handling Or Application			
Bulk Chemical or Petroleum Storage	Underground Storage Tank (Ust)	Petroleum & Chemical Products	✔	✔✔
	Tank Farms			
	Warehouse			
Industrial Manufacturing or Processing	Chemical Producers And Allied Production	Chemical Products	✔	✔✔
	Chemical Use Processing			
Commercial Trades and Services	Automotive And Related	Petroleum & Chemical Products	✔	✔✔
	Businesses Or Services Using Chemicals	Chemical Products	✔	✔✔
Waste Storage, Handling, Disposal	Hazardous Waste	Organic And Inorganic Chemicals, Microbials	✔✔	✔✔
	Solid Waste		✔✔	✔✔
Miscellaneous	Major State And Interstate Highways, Rail Lines	Petroleum & Chemical Products	✔✔	✔
	Petroleum Or Chemical Pipelines		✔	✔✔
	Failing On-Site Septic Systems	Microbials & Chemical Products	✔✔	✔✔

✔✔ Primary Impact ✔ Secondary Impact

The presence of any of these potential contaminant sources in a delineated source water area does not necessarily mean that contamination is occurring or has occurred. However, awareness of the type of potential contaminant source and its distance from a source of public drinking water provides an opportunity for the public water supplier and local officials to make sure that the property or business where the potential contaminant(s) exists is following best management practices to prevent drinking water contamination and environmental pollution.

The types of contaminants typically found mainly in Connecticut's groundwater sources are listed in Table 6. It is important to note that 48 percent of public drinking water sources in Connecticut had no detectable contaminants. Moreover, none of the contaminants shown in Table 5 were detected in drinking water sources obtained from surface water reservoirs. The SWAP data also indicated that the contaminants listed in Table 5, excluding total coliform bacteria, rarely exceeded maximum contaminant levels (MCL) established by the Connecticut Public Health Code during the period of data analysis (January 2000 to March 2003). Nitrate was the most prevalent contaminant detected in both community and non-community public water systems. However, only a very small fraction of the systems where nitrate was detected ever exceeded the state's MCL of 10 milligrams per liter (mg/L). Nitrate is typically associated with runoff from fertilizer use. Other sources of nitrate include leaching from septic tanks, sewage releases; and the erosion of natural mineral deposits.

Table 6 - Most Prevalent Contaminants Detected in Connecticut's Public Drinking Water Sources

Contaminant	Percent of Community Systems	Percent of Non-community Systems
Nitrate 1-10 mg/L	35.6%	35.1%
Nitrate >10 mg/L	0.0%	0.1%
Volatile Organic Chemicals (VOC)	7.9%	0.9%
Total Coliform Rule Violation	NA	19.4%

The two most frequently detected volatile organic chemicals in groundwater were methyl tertiary-butyl ether (MTBE) and trichloroethylene. MTBE is an oxygenated additive used in gasoline. It is not regulated by a state or federal MCL, however, the Connecticut DPH established an action level of 0.070 mg/L. An action level is the level, if exceeded triggers the need for treatment or other actions to lower the level of a drinking water contaminant. Trichloroethylene, once a commonly used industrial solvent, is associated with metal degreasing and other general factory operations. The MCL for trichloroethylene is 0.005 mg/L.

Drinking Water Contaminants

Contaminated sources of drinking water can adversely impact public health and cause a variety of aesthetic problems such as bad tasting water or the staining of laundry items and plumbing fixtures. When a drinking water source becomes contaminated additional treatment may be needed to make it safe and appealing to the consumer. General contaminant categories are shown below. More information about drinking water contaminants can be obtained from the USEPA website: http://www.epa.gov/OGWDW/mcl.html.

- **Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which may come from the production or storage of industrial products or petroleum, urban stormwater runoff, and septic systems;
- **Radioactive Contaminants**, which occur naturally or result from industrial processes;
- **Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses; and
- **Inorganic Contaminants**, such as salts and metals, that results from urban stormwater runoff, industrial or domestic wastewater discharges, or farming.

Non-point Pollution

Both surface and groundwater sources are also vulnerable to potential contamination from non-point source pollution, which unlike pollution from industrial and sewage treatment plants, comes from widely distributed sources such as highways, large parking areas or land that is prone to erosion. Non-point pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff travels through a drinking water source area, it picks up and carries away natural and human-made pollutants, which are deposited into lakes, rivers, wetlands, coastal waters, and underground sources of drinking water. Non-point source pollutant categories include:

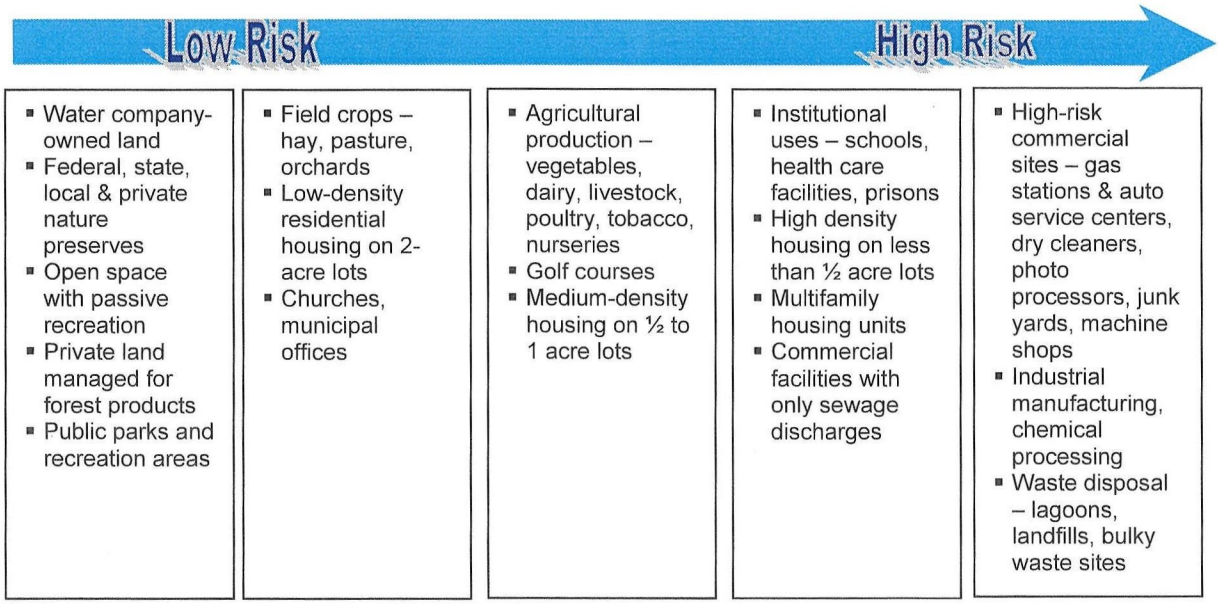
- **Fertilizers, herbicides, and insecticides** from their use on agricultural lands and residential areas;
- **Bacteria and nutrients** from livestock, pet wastes, faulty septic systems and urban runoff;
- **Airborne pollutants** from industrial and urban fallout;
- **Oil, grease, and toxic chemicals** from spills, releases, urban runoff and impervious surfaces; and
- **Sediment** from improperly managed construction sites, crop and forest lands, eroding streambanks and urban runoff.

Source Protection

The State of Connecticut has long recognized the link between the quality of its drinking water sources and how the surrounding land is used and maintained. Moreover, the state considers source protection and pollution prevention to be fundamental to the long-term protection of its drinking water resources. Therefore, the State's drinking water source protection program:

- Prohibits point source discharge of sewage and industrial discharges within surface water source protection areas or their tributaries. Prohibits industrial waste discharges to the ground in groundwater supply areas.
- Establishes Water Quality Standards that set overall goals for the protection, restoration, and management of surface and groundwater quality in the state.
- Requires local planning and zoning commissions to consider the protection of existing and future sources of public drinking water in their local land-use plans and regulations.
- Requires public water suppliers serving more 1,000 persons to maintain a comprehensive water supply plan.
- Promotes the adoption and implementation of model land use regulations for source protection at the local level
- Promotes the use of Level A and Level B aquifer protection area maps for large community water supply wells in state and local permitting decisions.
- Regulates the sale, lease or change of use of utility-owned lands that are critical to the protection of any public drinking water source.
- Encourages local government agencies and public water suppliers to work together to ensure that potential impacts to drinking water sources are considered as new building and development occurs.
- Encourages public water suppliers and all levels of government to work together to resolve water supply problems and related issues. Requires the referral of certain development proposals.
- Encourages land uses within existing and potential public water supply watershed or aquifer protection areas that are compatible with appropriate preservation and protection management strategies. Examples of compatible and less-compatible land uses are illustrated in Figure 3.

Figure 3 - Connecticut DEP Ranking of Land Use Categories By Risk to Drinking Water Sources [a]



The risk of drinking water source contamination can be substantially reduced if stringent material handling and storage regulations and waste minimization steps are implemented, including regular monitoring and inspections. Housing densities referenced in the above tables do not include consideration of cluster zoning, which would likely convey less of an impact on sources of public drinking water.

Advancing From Assessment To Protection

Looking to the future and moving from assessment to the implementation of drinking water source protection, the DWD is in the process of developing a 5-year strategic plan for Connecticut. The plan includes provisions for ongoing maintenance SWAP information and use of the assessment data to facilitate analysis and planning. When fully implemented, the plan will include proposals for new and updated laws and regulations for public drinking water source protection. Outreach and partnerships with local and regional planners, local health departments and small community and non-community drinking water systems is also an important part of the plan.

Several DWD projects already underway include:

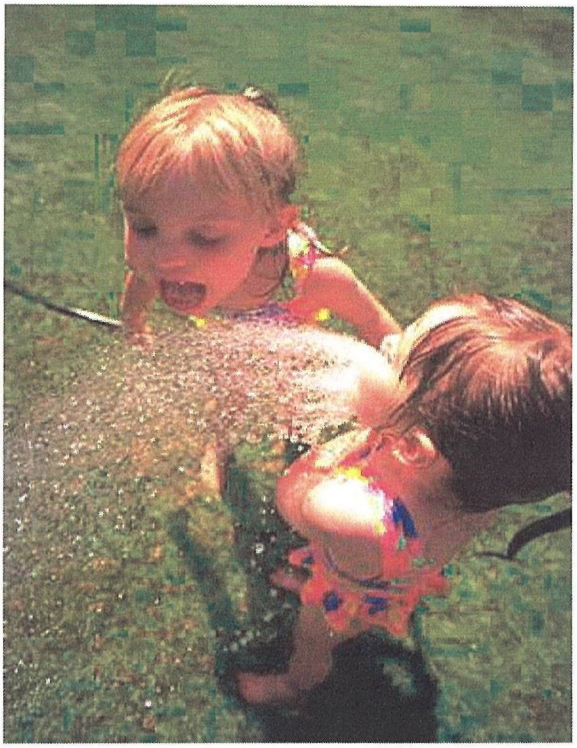
- A pilot study focused on community groundwater systems with high susceptibility rankings in which the DWD is working in partnership with the Atlantic States Rural Water Association to field verify data used in the assessments and to identify possible education and outreach approaches that public water systems can adopt to lower their SWAP susceptibility rank. Preliminary results show that the initial data used to complete the assessments are consistent with the field verification. Source protection outreach initiatives are also being explored in several communities.
- Continuation of support and maintenance of a technical and citizen advisory committee comprised of stakeholders from various organizations interested in and supportive of protecting drinking water sources and the environment. As a result of this effort, a number of new partnerships have been formed with stakeholder members to work together toward drinking water source protection in Connecticut.
- A rewrite of an existing water supply planning law, affecting the 90 large community public water systems, will incorporate an evaluation of source water protection measures based upon the SWAP assessment reports. This law will focus on drinking water source protection for Connecticut's largest sources of supply.
- Continuation of a partnership with our sister agency; Department of Environmental Protection, for the mutual compilation and sharing of water quality and environmental data.

[a] *Protecting Connecticut's Groundwater – A Guide for Local Officials*. Hust, Robert and James Murphy. 1997. Connecticut DEP Bulletin No. 26.

Source Water Assessment and Source Protection Resources on the Internet

For more information about SWAP and Drinking Water Source Protection visit these online resources:

State of Connecticut SWAP website:	http://www.dph.state.ct.us/BRS/WSS/swap.htm
EPA SWAP website:	http://www.epa.gov/safewater/protect/assessment.html
EPA Drinking Water Source Protection website :	http://www.epa.gov/safewater/protect.html
EPA Source Protection Practices:	http://www.epa.gov/safewater/protect/swpbull.html
EPA Drinking Water Info For Where You Live:	http://www.epa.gov/safewater/whereyoulive.html
Project Nemo (UCONN Cooperative Extension System):	http://nemo.uconn.edu/
USGS Connecticut:	http://ct.water.usgs.gov/
CT Department of Environmental Protection:	http://dep.state.ct.us/
Know Your Watershed - Purdue University:	http://www.ctic.purdue.edu/KYW/kyw.html
The Groundwater Foundation:	http://www.groundwater.org/index.htm
The Center for Watershed Protection	http://www.cwp.org/



More information about your drinking water can be found in the annual Consumer Confidence Report provided by your local public water supplier. For an overview of the Consumer Confidence Report regulation visit the Environmental Protection Agency's website: http://www.epa.gov/safewater/ccr/ccrfact.html

Annual drinking water quality reports for some public drinking water systems in Connecticut are available on-line at: http://yosemite.epa.gov/ogwdw/ccr.nsf/connecticut?openview

GLOSSARY OF TERMS AND DEFINITIONS

Aquifer Protection Area. The critical area in a stratified drift aquifer that provides water to a public water supply well. Approximately 121 aquifer protection areas have been designated around the state for individual wells or groups of wells that serve more than 1,000 people, in accordance with Sections 22a-354a through 22a-354bb of the Connecticut General Statutes.

Aquifer: An underground layer of consolidated rock ledge, unconsolidated gravel, or sediment containing enough water to supply a well. Water in an aquifer is commonly called groundwater

Bedrock Well. A well constructed by drilling a hole and inserting a casing to support the sides of the hole. The portion of the well that is in consolidated rock may not require support of a casing

Class I Land. Lands owned by a water company that are within 250 feet of a reservoir used for a drinking water supply, within 100 feet of its tributary, or within 200 feet of a public water supply well.

Class II Land. Lands within the public drinking water supply watershed but not included in Class I, or completely off the watershed but within 150 feet of a storage reservoir and the tributaries that directly enter it.

Contaminant Release Points. Sites or locations where a variety of solid and/or liquid wastes resulting from accidental spills, leaks or discharges were released to the environment. These wastes are known or presumed to be capable of impairing surface or groundwater quality. While these sources may fall within a drinking water supply source area, they may or may not presently be discharging to the environment or causing source water contamination.

Contaminant Source Inventory. The process of identifying and inventorying potential contaminant sources within a delineated source water area. The process includes recording existing data, describing potential contaminant sources within the drinking water source area, targeting likely contaminant sources for further investigation, collecting and interpreting new information on existing or potential contaminant sources through surveys, and the verifying accuracy and reliability of the information gathered.

Contaminant. Anything found in water (including microorganisms, minerals, chemicals, radionuclides, etc.) that may be harmful to human health.

Critical Area. All land within 250 ft of the high-water mark of a reservoir or lands within 100 ft of any watercourse inside watershed dividing line (Type-I class land)..

Diversion. The taking of water from a stream or other body of water into a canal, pipe or conduit that flows into a drinking water reservoir.

Dug Well. A well excavated into a shallow aquifer

Environmental Sensitivity. General conditions in a drinking water source area, including type and condition of drinking water source, DEP surface or groundwater classification, and evidence of contamination caused by human activity that can have an affect on water quality.

Gravel Pack Well. A well constructed into unconsolidated material (i.e., loose sand or gravel).

Groundwater Under the Direct Influence of Surface water. Any water beneath the surface of the ground with either significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as giardia lamblia, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence shall be determined for individual sources in accordance with criteria established by the department.

Level A Mapped Final Aquifer Protection Area. Final mapping of the land areas contributing water to a public supply well field, done in accordance with CT DEP regulations for Level A mapping. Level A is a refinement of Level B mapping, and requires extensive site-specific data be collected and utilized to develop a numerical groundwater model of the aquifer system. The model is then used to delineate the Aquifer Protection Area for each well field.

Level B Mapped Preliminary Aquifer Protection Area. Preliminary mapping of the land areas contributing water to a public supply well field, done in accordance with CT DEP Guidelines for Level B Mapping. This simple method uses the pumping rate of the well field, an estimate of aquifer properties, and topography to approximate the contributing land area.

Maximum Contaminant Level (MCL). The highest level of a contaminant that EPA allows in drinking water. MCLs ensure that drinking water does not pose either a short-term or long-term health risk. EPA sets MCLs at levels that are economically and technologically feasible. Some states set MCLs which are more strict than EPA's.

Non-Community Water System (NCWS). A public water system that is not a community water system. There are two types of NCWSs: transient and non-transient.

Non-Transient, Non-Community Water System. A water system which supplies water to 25 or more of the same people at least six months per year in places other than their residences. Some examples are schools, factories, office buildings, and hospitals which have their own water systems.

Organic Contaminants. Carbon-based chemicals, such as solvents and pesticides, which can get into water through runoff from cropland or discharge from factories. EPA has set legal limits for 56 organic contaminants.

Pathogen. A disease-causing organism like certain bacteria or viruses.

Potential Contaminant Source (SPCS). An inventoried facility or activity that stores, uses, or produces chemicals or hazardous materials, and that has the potential to release contaminants identified in a state program (contaminants with MCLs plus any others a state considers a health threat) within a source water area in an amount which could contribute significantly to the concentration of the contaminants in the source waters of the public water supply. Potential risks associated with inventoried SPCS's are based on distance of SPCS sites to the drinking water source, number and type of SPCS contaminants and contaminant fate and transport in the environment.

Potential Risk Factors. Factors unique to a specific public drinking water source area, which determine its vulnerability to contamination. The major risk factors include the presence and type of known contaminant release points or significant potential contamination sources, and the breakdown of land use/land cover in the source water area.

Preserved Land. The term "preserved land", as used in the Source Water Assessment Program, includes any combination of land owned by the public water supply, state forest and parklands, and municipally or privately held land designated as open space.

Public Water System (PWS). Any water company supplying groundwater or surface water or both to fifteen (15) or more consumers or twenty-five (25) or more persons daily at least sixty days (60) of the year.

Runoff. The portions of rainfall or snow melt that flows overland into a stream, river or reservoir.

Safe Drinking Water Act. Enacted by Congress in 1974 and amended in 1986 and 1996, this law established standards for the treatment and distribution of public drinking water for the protection of public health.

Source Protection Needs. General or specific recommendations/opportunities to maintain or improve water quality in a delineated source water area using a variety of recognized best management practices to reduce the potential risk of drinking water contamination.

Source Water Area. An area of land delineated by the state that contributes water to a source of public drinking water supply, whether the source is groundwater or surface water or both.

Susceptibility Analysis. An analysis to determine where significant potential sources of contamination are located within a source water area and the susceptibility of public drinking water sources to these sources.

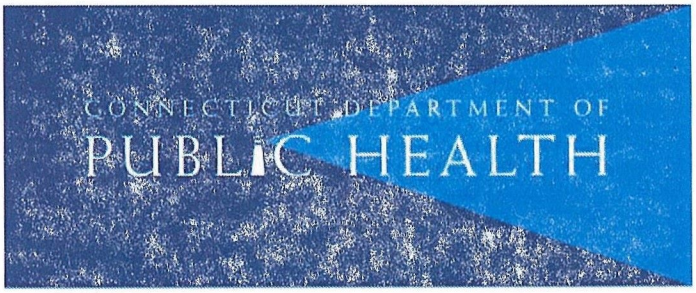
Transient, Non-Community Water System. A water system which provides water in a place such as a gas station or campground where people do not remain for long periods of time. These systems do not have to test or treat their water for contaminants, which pose long-term health risks because fewer than 25 people drink the water over a long period. They still must test their water for microbes and several chemicals.

Trophic Status. A term used to describe the level of nutrients, mainly nitrogen and phosphorus, in a reservoir that contribute to the growth of algae and plankton. The three trophic states used to characterize drinking water reservoirs are oligotrophic, mesotrophic and eutrophic. A reservoir having a low nutrient level and the least biological growth potential is called oligotrophic. A mesotrophic reservoir has a moderate level of nutrients with increased biological growth potential. High nutrient levels and biological growth potentials result in reservoirs that are classified as eutrophic.

Vulnerability Assessment. An evaluation of drinking water source quality and its vulnerability to contamination by pathogens and toxic chemicals.

Watershed Topography. Characterization of the slope or lay-of-the-land within a watershed.

Watershed. The land area that drains into a stream, river, or reservoir.



Keeping Connecticut Healthy

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