

Connecticut Department of Public Health Source Protection Laws & Practices

Presented By
Jennifer Pagach
Drinking Water
Section
November 14, 2007



CONNECTICUT DEPARTMENT OF
PUBLIC HEALTH

Keeping Connecticut Healthy
www.dph.state.ct.us

Governor M. Jodi Rell
Commissioner J. Robert Galvin, M.D., M.P.H.

Overview

- What is Drinking Water Source Protection
- What is the public health history & intent
- What are some of the laws & their importance
- How are they implemented
- When do you need to send information or apply to DPH for permit
- How you can help protect sources

Common Acronyms Used

- PWS
- DPH
- DWS
- CGS
- RCSA
- Public Water System
- Department of Public Health
- Drinking Water Section
- Connecticut General Statute
- Regulations of Connecticut State Agencies “The Regs”

Drinking Water Source Protection

- A group of laws to protect and preserve drinking water quality
- A group of practices to prevent contamination



Connecticut's Source Water Protection Areas

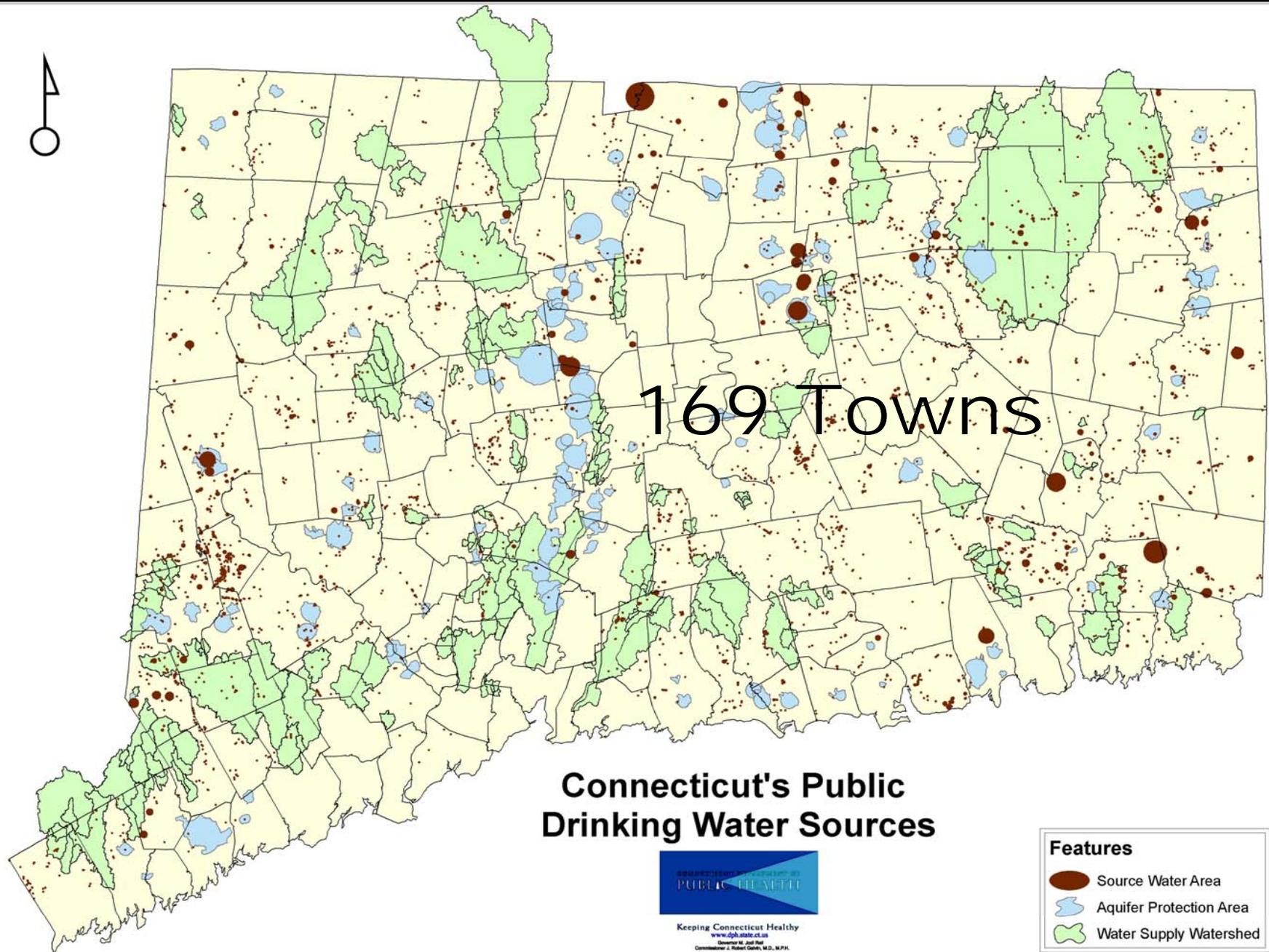
• 150 Reservoir Watersheds –	17.4%
• 122 Aquifer Protection Areas –	3.7%
• 3,300 Source Water Areas –	2.4%

Total	23.5%

3.5 million State Population

2.8 million people – 580 community public water systems

3,400 public water systems



Keeping Connecticut Healthy
www.dph.state.ct.us
Governor M. Jodi Rell
Commissioner J. Robert DeStefano, M.D., M.P.H.

Connecticut Challenges

Drinking Water Source Areas

- Expansion of higher density development in source water areas is challenging traditional source water protection
- Drinking water quality and the protection of public health are taken for granted
- Issues concerning small community systems
- Uphold high standards and expectations
- Upcoming Groundwater Rule

Source Water Protection Implementation

- Multi-Barrier Approach - Tools
 - Regulatory
 - Statutes & Regulations
 - Sanitary Surveys & Source Siting
 - Planning – Local, Regional & State
 - Non-Regulatory
 - C&D Policies
 - SWAP
 - Education/Training
 - Management Planning
 - Partnership/Communication/Collaboration

Road Map – Strategic Plan

implement protection for public water sources

Agents

- Local
- Public Water System
- State

Components

- Regulatory
- Watershed Approach – water quality plans
- Partnerships/Collaboration/Leveraging - targets
- Training & Education
- Assessment & Assistance

History

Public Health & Sanitation of Watersheds

CT Board of Health -

- Earliest record – 1886 drinking water testing
- 1902 (CGS 25-38 – 43) & 1915 (CGS 25-32,34-36) enacted a series of laws to “prevent outbreaks of water related disease..., protect and preserve for future generations”
- New Britain & Torrington – water related disease outbreaks
- Original 19-13-B32 Regulation 1920s
- Set minimal separating distances & 19-13-B102(b)

1977 Update -B32

- Reaction to the housing boom of the 1950's & 60's
- 1976 Public Hearing “..give protection equally to all watershed lands including those that water utilities happen to own”
- Present version effective August 2, 1977
- Updated link to B102(b) & B98 – watershed survey violations & water company land

B32 - Intent

- Protect and Preserve drinking water sources
- Prevent disease outbreak
- Regulations apply to land & watercourses tributary to a public water supply
- Public water supplies include both surface and ground water sources
- Broaden scope due to population growth and new threats

Regulation Section 19-13-B32

Sanitation of Public Water Supplies

- Applies to land and watercourses tributary to a public water supply including surface and groundwater sources
- Prohibits:
 - accumulation of animal wastes
 - sewage discharges to surface and groundwater
 - disposal of toxic metals, gasoline, oils & pesticides
- Regulates:
 - stormwater drainage facilities, road salt and fertilizer applications

B32(a) - Definitions

- Sewage – B20(a) – B103
- Toxic Metals – arsenic, barium, cadmium, chromium, lead, mercury, and silver and the salts thereof
- High Water Mark – upper limit of any land area which water may cover, either standing or flowing, at any time during the year
- Watershed – land which drains by natural or man-made causes to a public drinking water supply intake

B32(b-e)

- (b) No sewage disposal system within 100 feet of HWM of reservoir, nor 50 feet of HWM of watercourse
- (c) No sewage disposal system unless properly constructed
- (d) No discharge of sewage on the land surface
- (e) Animal waste 100/50 HWM, structure oversight anywhere on watershed







Preventing Contamination



- Regulatory Protections
 - B32
 - B102(b) surveys
 - B51d source of pollution
 - Sanitary surveys
 - Local Health Departments
- Dr Griffiths Rule #1: “Keep the poop out”









Importance

Source Water Protection & Multiple Barriers

- 1993 Milwaukee –
 - Cryptosporidium, 400,000 sick, 100 deaths
- 1998 Sidney Australia –
 - Cryptosporidium
- 1998 Wyoming –
 - E.coli, 64 sick
- 1999 New York Washington County Fair –
 - E.coli, hundreds sick, 2 deaths
- 2000 Walkerton –
 - E.coli, thousands sick, 7 deaths

B32(f) – Toxic Metals, gasoline, oil or any pesticide

- Shall not be disposed of as a waste
 - into any watercourse,
 - or to any ground water identified as supplying a public water supply well
- Intent - Establish Guidelines for the use of such chemicals
- Aquatic Pesticide Applications
 - MOA with DEP

Bed
Central

**PESTICIDE
APPLICATION**

PESTICIDE
APPLIED ON: 7-24

BY:
GREEN CHEMISTRY
90-562-6273

For more information
visit us online at
www.greenchemistry.com



B32(g) – Fertilizer nitrate nitrogen

- If nitrate nitrogen exceeds 8 mg/l, then
 - Guidelines shall be followed
 - Prevent exceeding 10.0 mg/l for nitrite plus nitrate nitrogen
 - 5 mg/l is the action level for PWS
- Guidance -
 - DEP 1993 BMP Guide
 - Farm Bureau, DOA

07.05.2006
Pump Station Area
Hydroseed. Spill





07 05. 2006
PUMP STATION AREA
HYDROSEED SPILL

B32(h) - Sodium

- If Sodium occurs in excess of 15 mg/l, then:
 - No sodium chlorine shall be used within source water area except under application rates approved by the DPH Commissioner
 - Prevent sodium from exceeding 20 mg/l
- DOT – use of sodium



Drinking Water Section

B32(i) – Storm water

- Design of storm water facilities
 - Minimize soil erosion
 - Maximize absorption of pollutants by the soil
- Drain pipes to terminate at least 100 feet
 - If impractical, then seek approval from DPH Commissioner:
 - Dissipate flow energy
 - Minimize the possibility of soil erosion
 - Lesser distance is advantageous to stream quality
- Special protections shall be taken to protect stream quality during construction

Water Company-owned Land

- Sale, lease or change of use is regulated by Connecticut General Statute (CGS) 25-32(b)
- An application to dispose of or change the use of water company-owned land is required under CGS 25-37d

RCSA 25-37c-d

Establishment of Criteria & Performance Standards for Classifications of Water Company Lands

- 25-37c-1 Definitions
- 25-37c-2 Establishment of criteria for classification of WC owned land
- 25-37d-1 Application for a permit
- 25-37d-2 Standards for review of application
- 25-37d-3 Summary ruling on proposed actions without significant adverse impact

Sale of Water Company, Water Company Land, and Sources

- For ensuring purity and adequacy of public drinking water sources
- CGS 25-32a Definition of water company
- CGS 25-32b, RCSA Sections 25-37c-1 and 25-37d-1
- Sale of WC also involves other laws (RCSA 25-32-7a-14 documentation of Certified Operator)
- CGS Section 25-331: Sale of source, potential source or abandoned source of water supply

Recreational Activities on Water Company Lands

- Another assurance of purity and adequacy of public drinking water sources
- DPH to review and issue permits authorizing water companies to have recreational activities on water company owned lands
- CGS Section 25-43c
- Passive recreation, no body contact with water

You may need a permit if....

- Project within 200 feet of a community well
- Activities on Class I & II lands- “breaking ground” or creating impervious surface
- Recreation on watershed lands
- Selling community water system
- Considering disposing of watershed lands/sources

When in doubt, call us



Drinking Water Quality Management Planning

- Grass Roots Community Based Planning
- Implementation at local level
- Empower local government
- Bring together water company and local land use decision makers
- Groton, Saugatuck, East Lyme

Linking Protection to Local Decision Makers

- State Plan of Conservation & Development
- Public Act 85-279
 - Linked public drinking water source protection to local planning process (CGS 8-2 & 8-23)
 - Provided DPH authorities (CGS 25-32f & g)
- Public Act 89-301
 - Linked public water systems to local decisions
 - Modified CGS 8-3i & 22a-42f

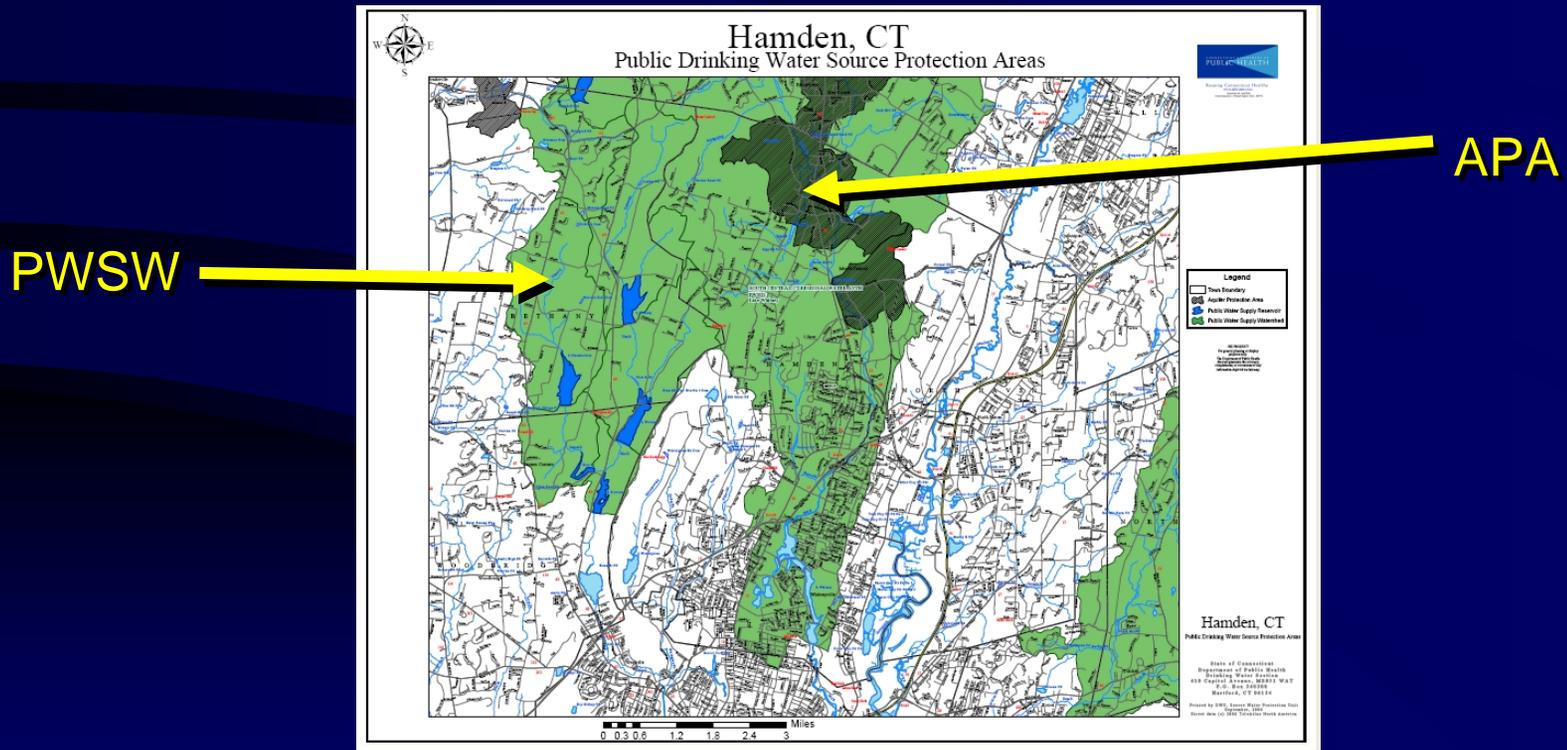
Public Act 06-53 Intent

- DPH Bill – modify CGS 8-3i & 22a-42f
- Support
- Added DPH to existing notification
- Water companies have been required to be notified since 1989, & DPH has had authority to comment
- Both Planning & Zoning, & Inland Wetland Commissions
- Watershed areas & Aquifer Protection Areas
- Web based notification

Public Act 06-53

Notification Process

for any project located within a public water supply aquifer protection area or watershed area.



Well Siting Process Overview

- PWS/Certified Operator must sign all required applications
- If applications are complete DPH will:
 - Schedule a site visit : local health director involved
 - DPH will verify, per RCOSA 19-13-B51d and 19-13-B102(d), required setback distances, proximity to high water mark, 100-year flood level, and sources of pollution

Required Separation Distances For Well Siting Per RCSA Section 19-13-B51d

Pollution Source	Separating Distance in Feet		
	<10 gpm	10-50 gpm	>50 gpm
Subsurface Sewage System	75	150	200
Sanitary Sewer	75/25	150/75	200/100
Storm Drain	25	50	50
Foundation, Floor Drain	25	50	50
Dry Well	50	50	50
Annual High Water Mark (surface water body)	25	50	50
Liquid Fuel Storage Tanks & Piping	75	150	200
Underground Gaseous Fuel Storage Tanks & Piping	25	25	25
Other			

Well Site Application: What is Necessary?

- A completed General Application Form
- Two copies of detailed scaled maps sealed by a P.E. or L.S.
- GPS point for well location
- **MUST** address potential sources of contamination outside of sanitary radius and special concerns for proposed wells within GA impaired area
- Land ownership/easement must be in place
- Public Water System owner must be involved in process

**STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH
DRINKING WATER DIVISION
APPLICATION FOR A PUBLIC WATER SYSTEM WELL SITE APPROVAL**

PLEASE COMPLETE ALL ITEMS ON THIS APPLICATION

Applicant Name: _____ Public Water System (PWS) Name: _____
 Address: _____
 _____ PWS ID Number: CT _____

 Phone Number: _____
 Applicant's Affiliation With PWS: _____

 Name of Consulting Engineer (if applicable): _____
 Company Name: _____
 Address: _____

 Phone Number: _____

1. For existing systems only. If new system, a PWSID# will be assigned. For new systems indicate proposed name of system.

SECTION A. WELL INFORMATION

- Name of Licensed Well Driller (must be licensed in CT): _____
- CT License Number: _____
- Address: _____ Phone Number: _____
- Purpose of New Well (check one):
 New source Replacement Well Supplemental Well Back-up Well
- Name of Proposed Well: _____ Type: Bedrock () or Gravel Packed ()
- Desired Yield (check one): <10 gallons per minute (gpm) 10-50 gpm >50 gpm
- Town where proposed well will be drilled: _____
- Indicate closest town road or intersection: _____
- Latitude and Longitude of proposed well site: Lat: _____ N Long: _____ W
- Is proposed well site staked or marked? Yes No
- List any previous federal, state or local permits or certificates that have already been issued for the proposed well:

h. North arrow

Yes No
 (to ensure that the immediate area surrounding the
 its grading plan:

statement) of the entire sanitary radius for a well
 tion 19-13-R51-d(c)(3). If the proposed well is part
 star system must have full ownership or control of
 per RCBA Section 16-262m-8(c)(1)(D). Proof of
 ic water system must be included with this
) or control of the sanitary radius, indicate below

ontrol of the sanitary radius is received by the
 6-262m Certificate well with a proposed withdrawal rate

located near the proposed well site? If yes,
 e on map:

red to be recognized per CUS Sec. 25-33.

reposed well site:

ites:

ired well yield

go)

ed well site? () Yes () No
 a DEP Bureau of Waste Management should be

/ from the well site? () Yes () No

Based on well pumping rate ¹	Actual Separation Distance (feet) ²
> 50 gpm	
200 ³	
200 ³	
50	
50	
50	
200	
200	

source (i.e. multiple catch basins) enter distance to
 tion rate and depth to ledge rock per Section II of
 ewage Disposal Systems (Pursuant to RCBA Section

joint or equal approved type of joint, a minimum
 a)(2).
 joint or equal approved type of joint, a minimum
 a)(2).

joint or equal approved type of joint, a minimum
 a)(2).
 must meet 75, 150, or 200 foot separation distance
 ; etc. If proposed well will be gravel packed and is
 required.
 site floors and no floor drains.
 can fail.

application is complete and correct. I
 of Public Health, Drinking Water Division to
 t if an approval is issued, the well must be

can be located on the DPH Drinking Water

Well Site Inspection: _____

Initial/Meeting	Final Review
	Approved? Yes ___ No ___
	Date Approved
	Initials

Initial	Compliance Review	Final Review
Initials		Approved? Yes ___ No ___
Date		Date Approved
	Compl. Approved? Yes ___ No ___	Initials

Other Information To Know

- Well location – annual high water mark and 100 year flood line
- Make sure the well drilling rig can access the site
- Well Site Suitability Certification sent is for well site only- not well use
- Sara will cover where those forms are
- Do not move the well site as that point only is approved
- If well not drilled in 6 month window before permit expires, need to reapply before drilling

Other Source Protection Issues

- Phase 1-A approvals- Certificate of Public Convenience & Necessity
- State Plan of Conservation and Development
- CEPA, Siting Council, ERT Reviews
- DOT, DEP projects and DEP Water Diversion Permits



What you can do



- Work with neighboring property owners/land use decision makers/Planners/other Utilities & Public Water Systems in your town
- Educate yourself: DPH webpage, DPH Trainings and Events
- Work with other Stakeholders
- Contact us with questions

Parting Shots

What is notable about this scenery?





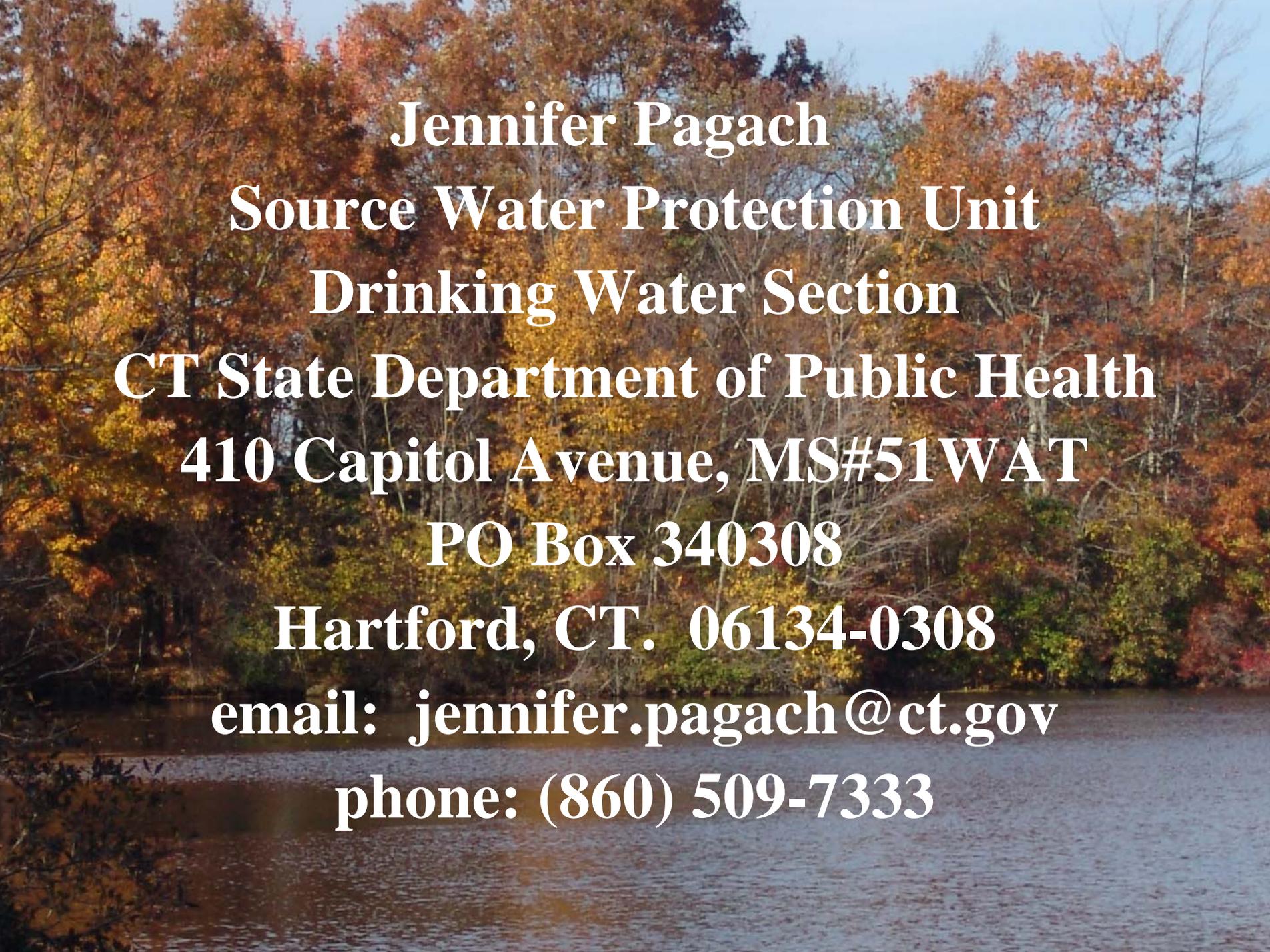
DPH Drinking Water Section

SEPTIC AREA KEEP OFF



WILMA
ROMPSON CT
DOB-1928-11-18
DOD-2005-06-18

08/10/2005



Jennifer Pagach
Source Water Protection Unit
Drinking Water Section
CT State Department of Public Health
410 Capitol Avenue, MS#51WAT
PO Box 340308
Hartford, CT. 06134-0308
email: jennifer.pagach@ct.gov
phone: (860) 509-7333