

Planning your Watershed Survey

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CTDPH-Drinking Water Section



Welcome

- Who is here today? Inspectors, Operators, LHDs
- Speakers(partners)/MDC
- What we will cover –tools, resources
- What's our goal – consistency, long-term protection
- Group discussion
- Out on time
- Certificate
- Lunch

Why are we here today?

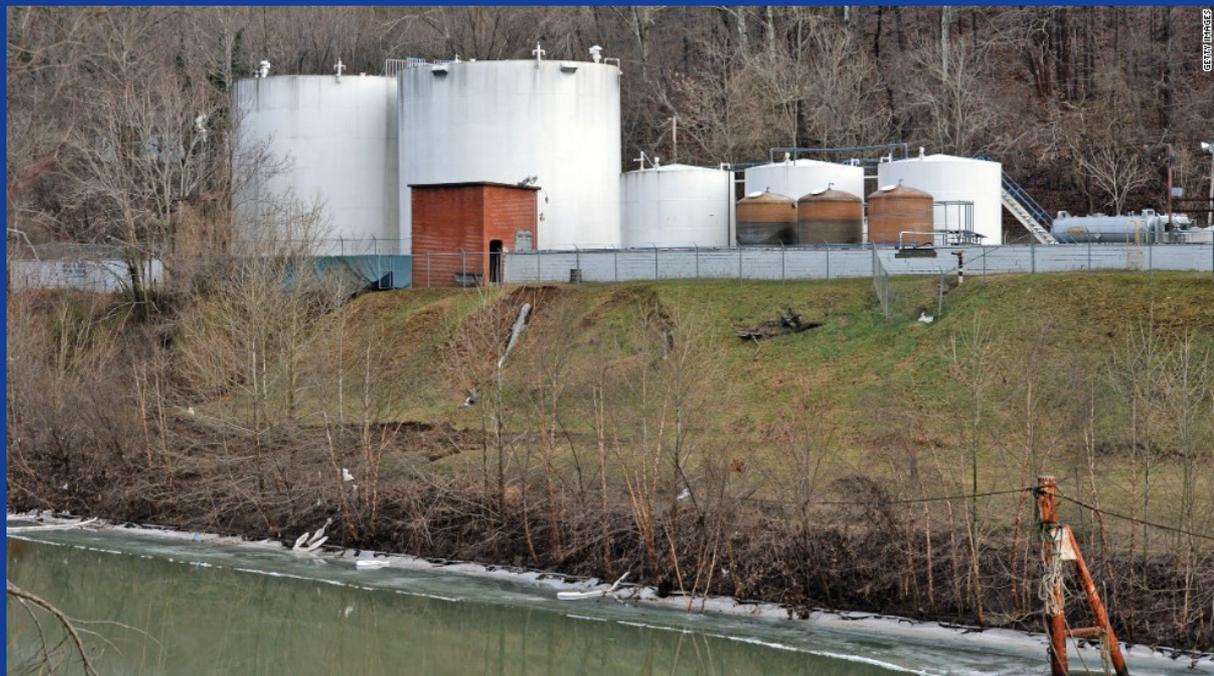
- Protect/Preserve our drinking water
- An effective watershed inspection program is an integral part of source water protection and a multi-barrier approach to ensuring safe drinking water.
- Ideally, watershed surveys are an ongoing effort. The report captures the previous year's work.
- Consider all things that may impact your water supply.

Why are we here today?

- Two high profile incidents from last year highlight the importance of conducting watershed inspections and protect drinking water supplies
- Large # of people affected
- Subsequent law changes coming at federal and state level?
- Maybe Connecticut can improve awareness in the aftermath of these incidents
- Change this mindset: Turn tap, water comes out, everything is fine

Elk River Spill, West Virginia

- Chemical Storage Facility leak; approx. 1.5 miles upstream of drinking water intake
- Approximately 300,000 people impacted
- Do Not Use Advisory issued for 5 days or more
- Approx. 700 illnesses reported
- 2,200 miles of water main contaminated
- Contaminant detected 366 miles downstream



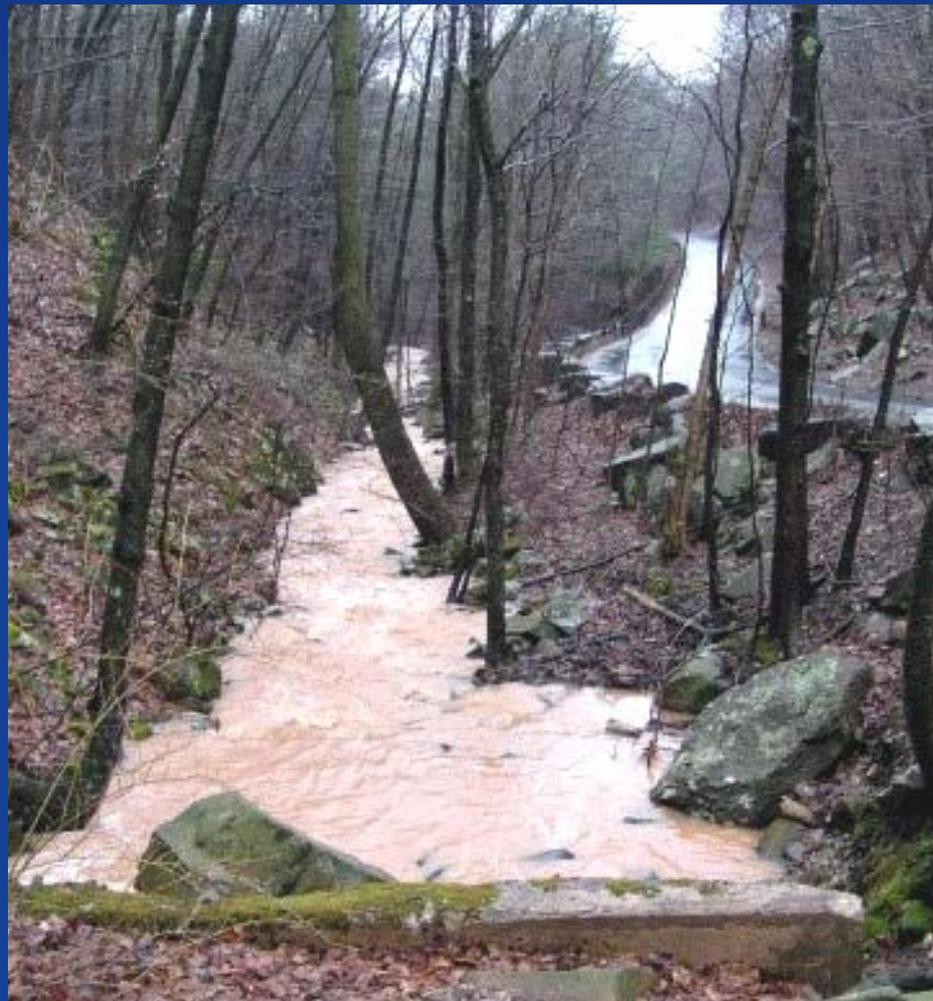
Algae in Toledo

- Algal toxins exceed state health limits at treatment plant intake
- Approximately 500,000 people impacted
- Do Not Drink/Do Not Boil Advisory issued for a week
- Nutrient loading/runoff into Lake Erie contributed to the problem



Drinking Water Source Protection

- A group of practices to prevent the contamination of surface and groundwater sources that are used as a public drinking water source of supply



Why Source Water Protection?

- Protect and preserve finite drinking water sources
- Can not rely on treatment technology alone
- Minimize risk to public health
- Limit human exposure, new emerging contaminants
- Minimize treatment, infrastructure and O&M costs, saving \$\$

Overview

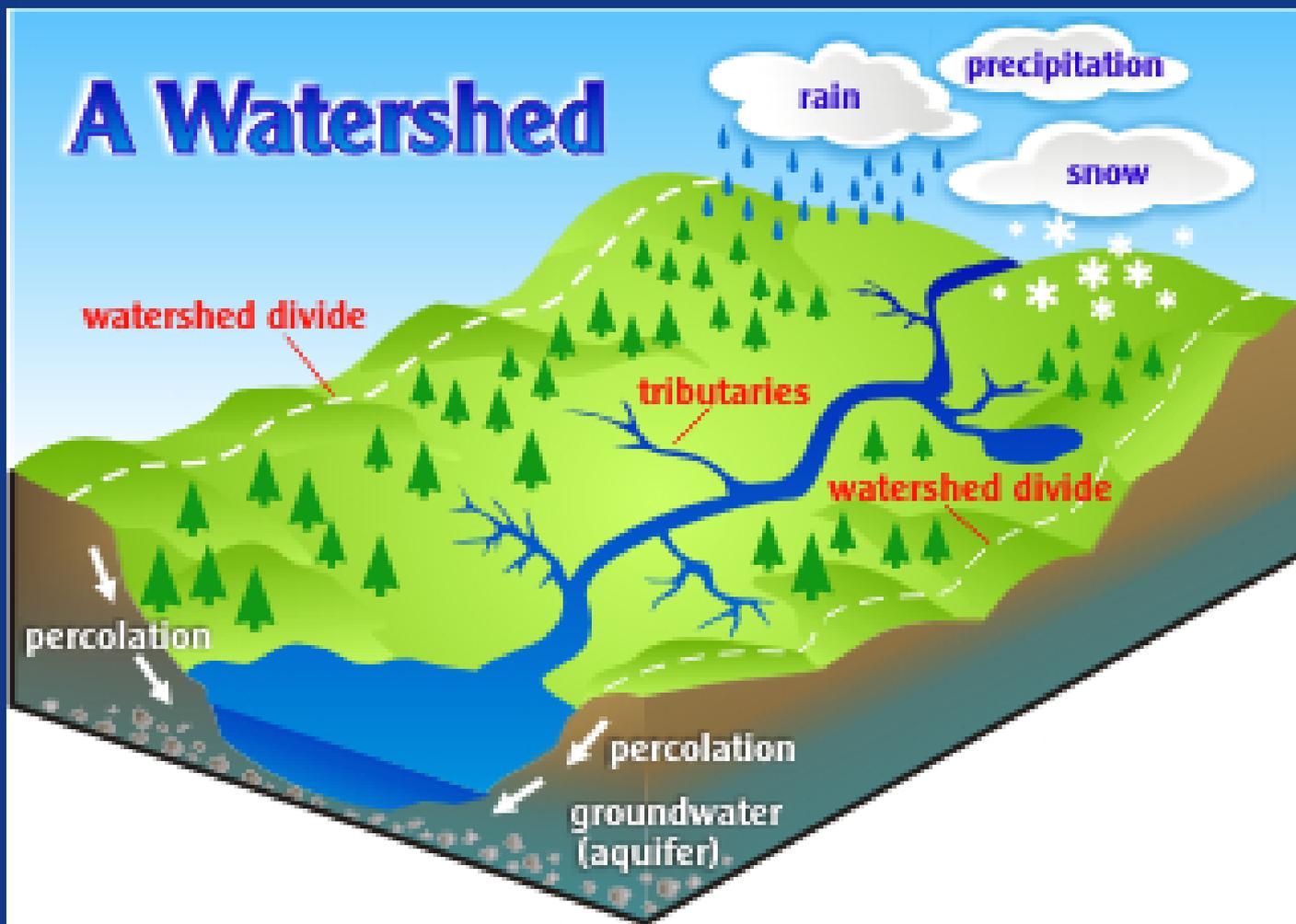
- RCSA Section 19-13-B102(b): **Watershed survey.** A public water system using surface water as an active source of supply shall make a sanitary survey of the watershed to the intake at least annually. A report on the survey shall be submitted to the Department by March 1 each year covering the preceding calendar year.

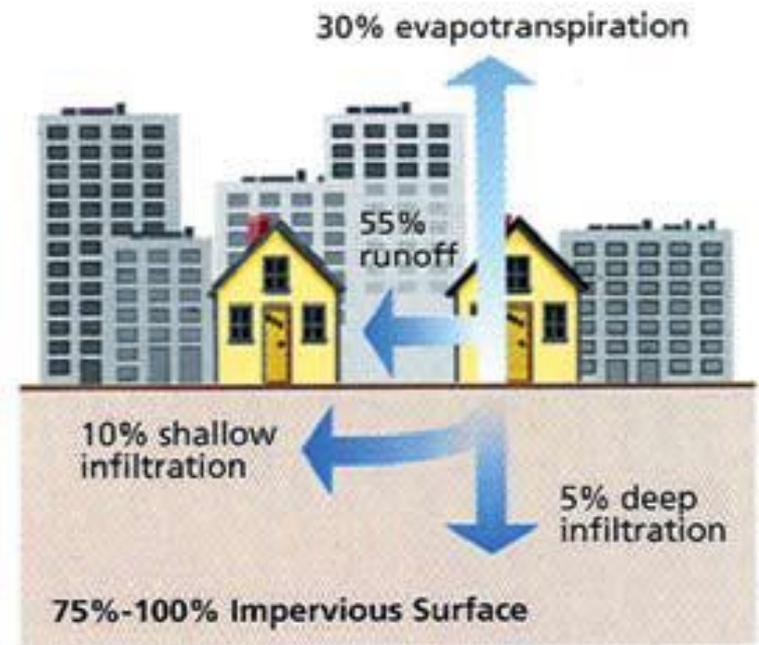
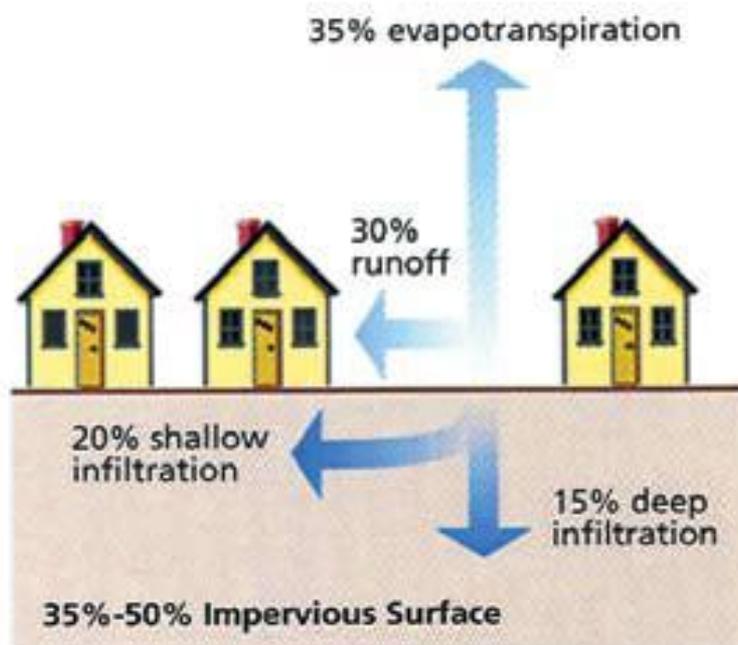
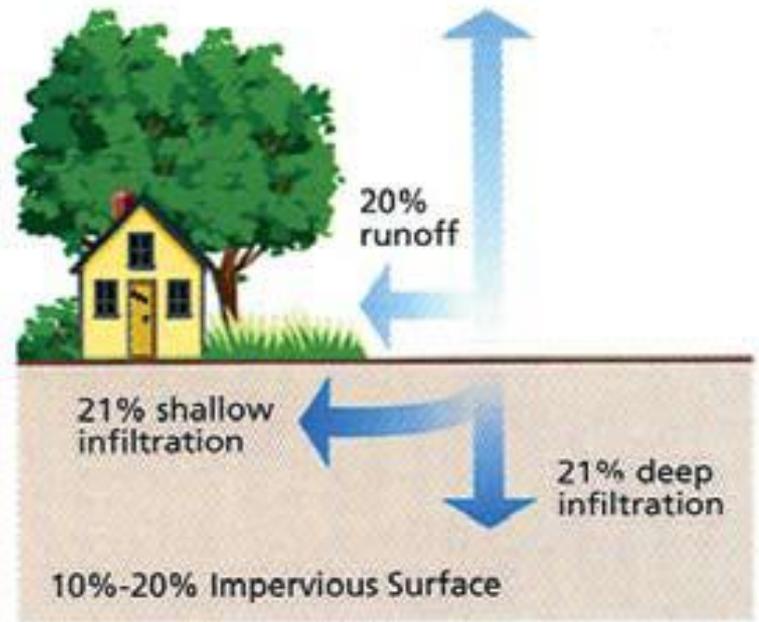


Watershed

- Our definition: The area of land that drains by natural or man-made causes to a public drinking water supply intake

Watershed





Wellhead Protection GIS

File Edit View Favorites Tools Help

locate search layers measure bookmarks print report

clear graphics Aerial Streets Topo legend

Scale: 0 0.5 1mi

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Watershed Surveys

1. Planning the Survey
2. Conducting the Survey
3. Follow-up
4. Submitting the Report

1. Planning

- Don't rely solely on last year's list
- Maintain an inventory of previous concerns year round
- Prioritize
- No parcels excluded from consideration: residential, commercial, industrial, agricultural, open/protected space, municipal, yours (water company land)
- Maintain relationships and address shared problems
- Know your watershed.....



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Dr. Jewel Mullen
Commissioner

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Local Health Departments

Drinking Water Topics A to Z

DPH Main Menu



H.I.P.A.A NOTICE

HealthCare Reform

Check the Calendar

Receive Updates by E-mail
Sign-Up for E-alerts

Ebola Update
What You Need to

Source Water Assessment and Protection

The Source Protection and Assessment Unit is responsible for the purity and adequacy of Connecticut's approximately 4,000 surface and ground water drinking water supply sources. The program elements coordinate, manage, and regulate source protection through the enhancement and oversight of existing source protection laws and regulations, integration with water supply planning, education of local land use officials, and involvement with stakeholders on a continuous basis. For more information view the Source Water Protection Unit [Fact Sheet](#) (pdf)

Forms

- [Watershed or Aquifer Area Project Notification Form](#) (pdf)
- [Class III Water Company Land Verification Form](#) (pdf)
- [Water Company Land Permit Application](#) (doc)
- [Watershed Sanitary Survey Inspection Form](#) (excel)
- [Well Site Permitting and Application](#)

Source Protection Resources

- [Connecticut Department of Energy and Environmental Protection's Aquifer Protection Area Program](#)
- [Connecticut Source Water Collaborative](#)
- [Drinking Water Quality Management Plan](#)
- [General Construction Best Management Practices for Sites within a Public Drinking Water Supply Area](#) (pdf)
- [Summary of CT Statutes & Regulations for the Protection of Public Drinking Water Sources](#) (pdf)
- [Watershed Inspection Guidelines](#) (pdf)
- [2012 DPH/DEEP Memorandum of Agreement for the Use of Aquatic Pesticides in Public Water Supply Watersheds](#) (pdf)
- [Public Water Supply Watershed Map Viewer](#)

Source Water Assessment Reports

- [Connecticut's SWAP Assessment Reports and Findings](#)



ArcGIS Public Water Supply Watersheds

MODIFY MAP [Sign In](#)

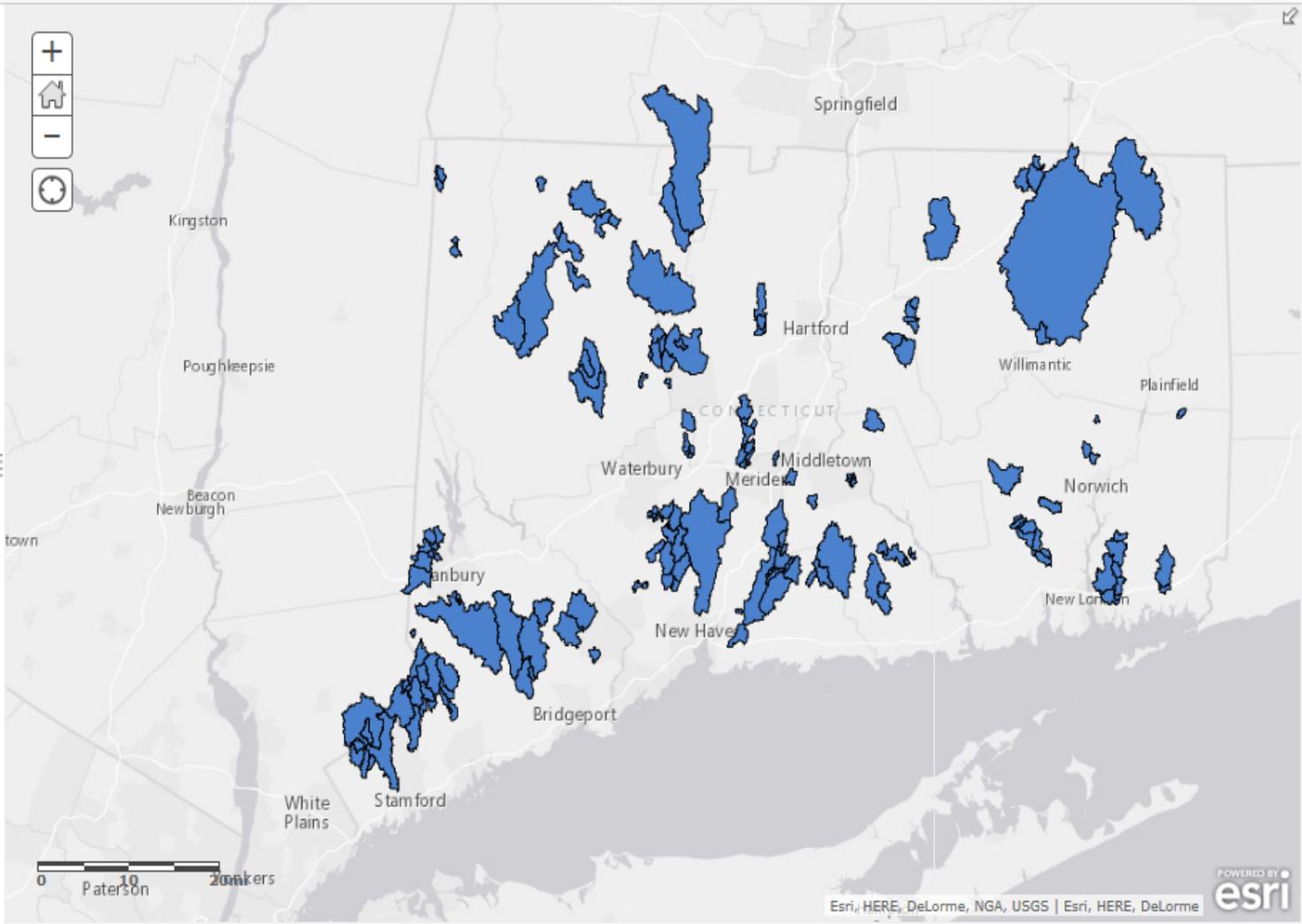
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Legend

PWS_WATERSHEDS



ArcGIS - Public Water Supply Watersheds

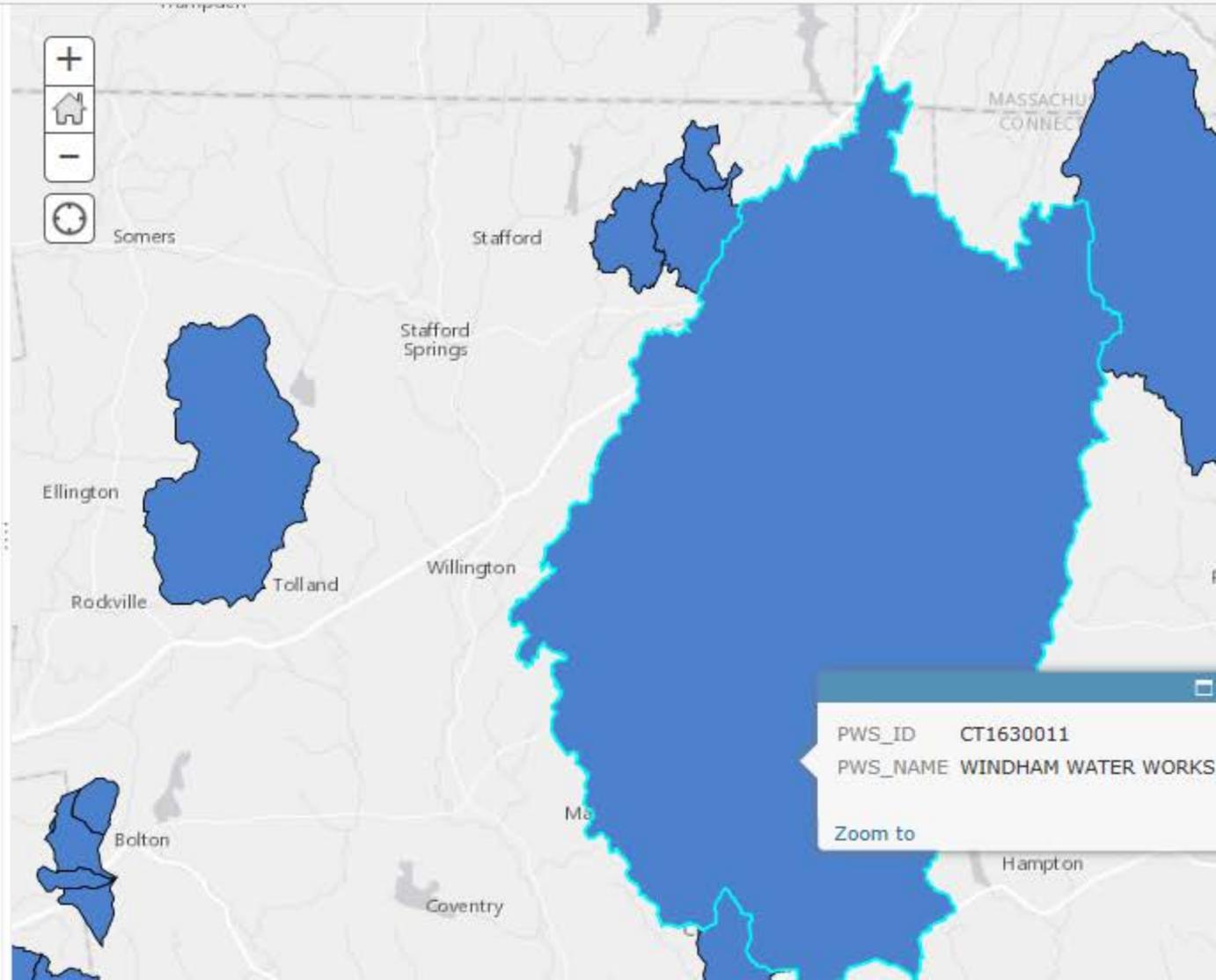
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PWS_WATERSHEDS



PWS_ID CT1630011
 PWS_NAME WINDHAM WATER WORKS
 Zoom to

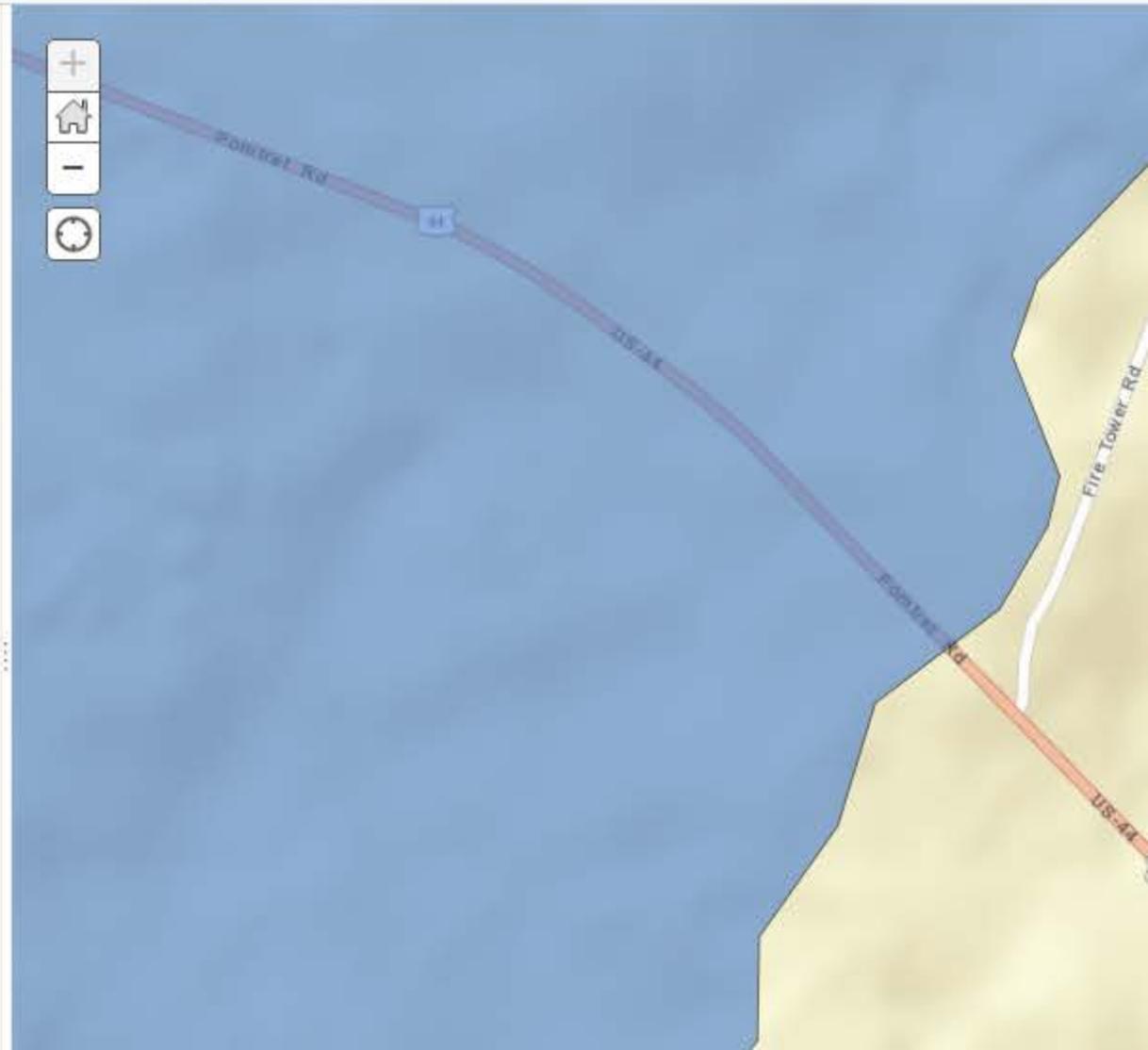
ArcGIS - Public Water Supply Watersheds

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Contents

- PWS WATERSHEDS
- Streets



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Watershed





Connecticut Environmental Conditions Online

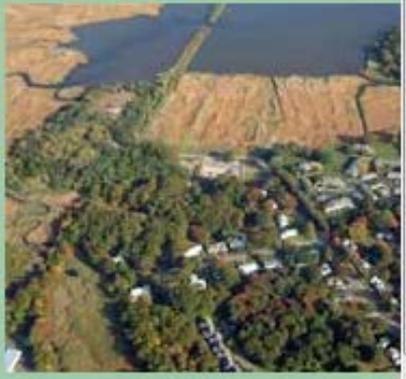
Maps and Geospatial Data for Planning, Management, Education and Research

- Maps
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- Map Catalog
- Thematic Map Viewers
- Advanced Map Viewers



CT ECO provides a variety of tools for sharing natural resource and environmental information. Types of information include water resources, soils, open space, geology and aerial imagery.



MAPS

Map Catalog

A variety of maps in pdf format.
Town | Quadrangle | Statewide

Thematic Map Viewers

Easy-to-use interactive map viewers for single topic maps.
Simple Map Viewer | Aerial Photo Viewer

Advanced Map Viewers

http://www.cteco.uconn.edu/advanced_viewer.htm

gisDATA

Map Services

Connect your GIS software to CT ECO map services. Add our data to your maps.

Where to Download Data

Link to sources of geospatial data for Connecticut.

TRAINING

Training Videos

NEWS and UPDATES

March 2012 Imagery

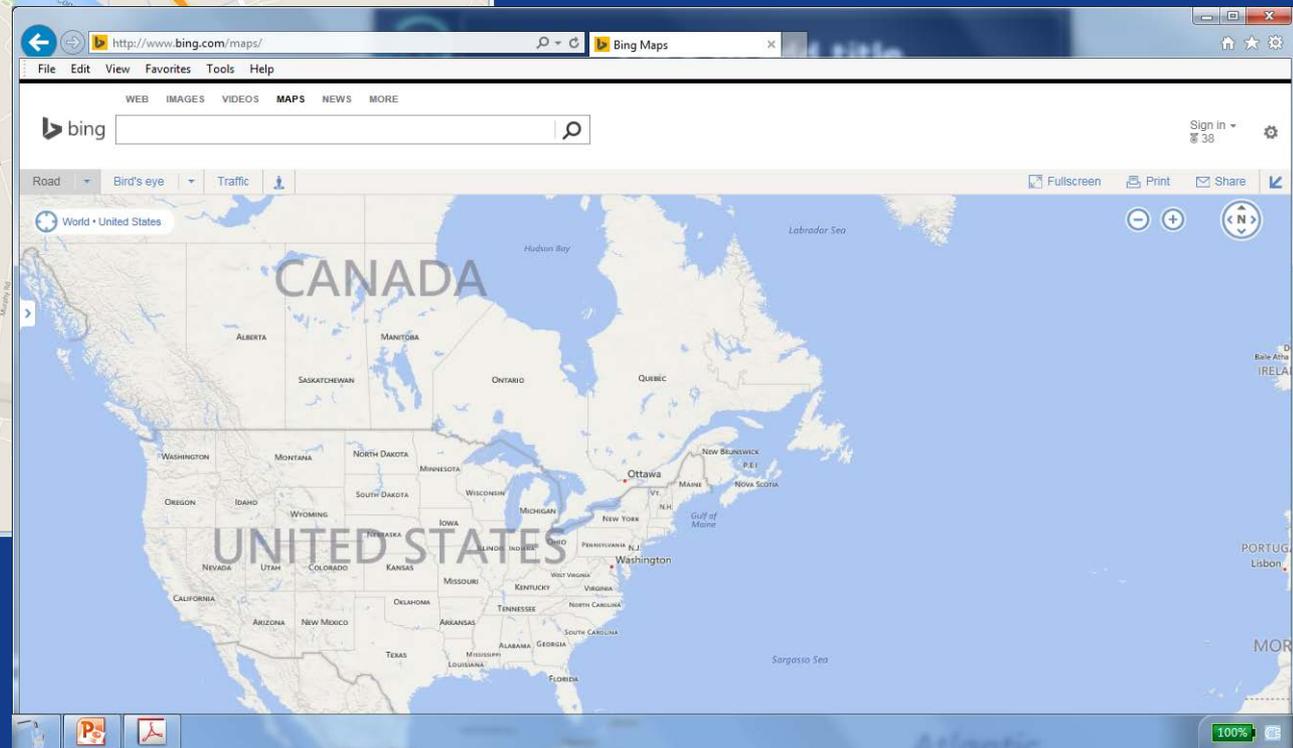
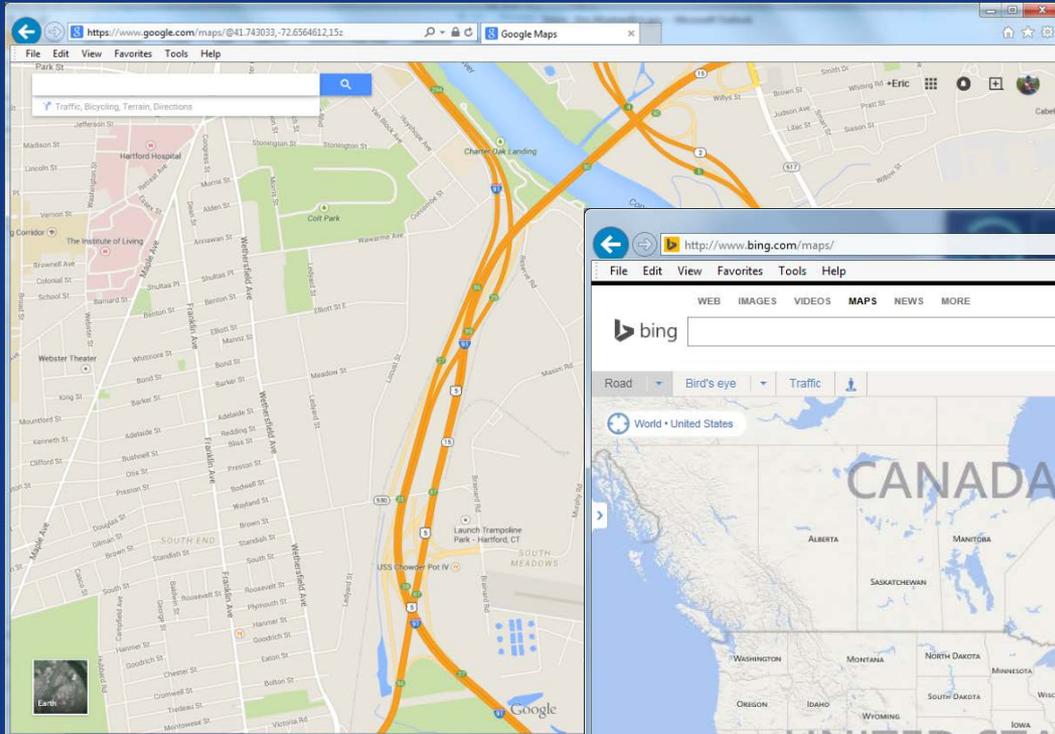
The eastern three quarters of Conn available as a **true color map service** and a **color infrared map service**. The data will be added to CT ECO as received.

stayCONNECTED

Subscribe

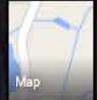
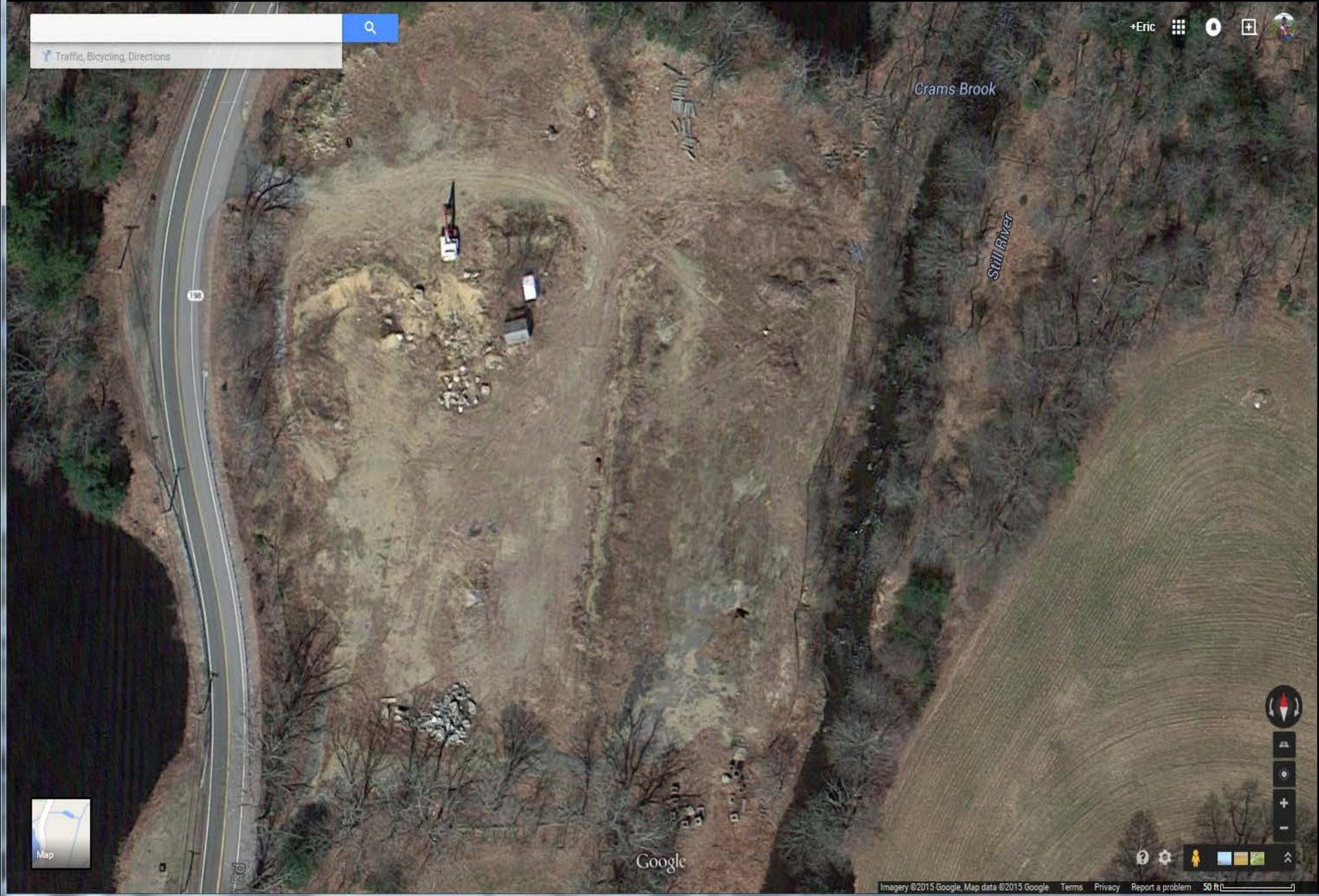
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Free Help



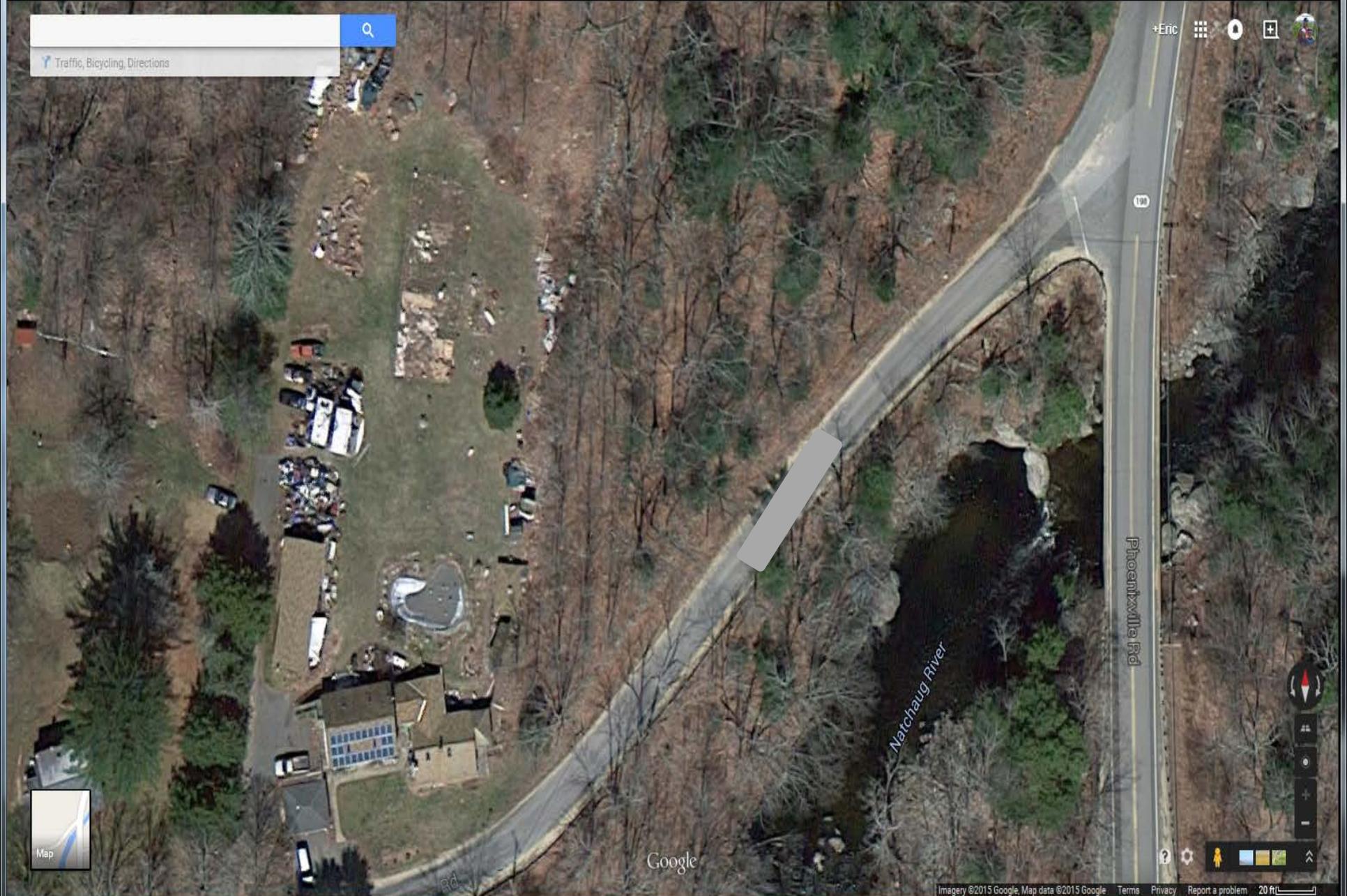
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+Eric [Grid icon] [Profile icon] [Zoom in icon]



Search bar with magnifying glass icon and text: "Traffic, Bicycling, Directions"

+Eric [Grid icon] [Location pin icon] [Full screen icon] [Profile icon]



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WELLHEAD PROTECTION GIS

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Map navigation controls: zoom in (+), zoom out (-), home, pan up/down, and a vertical zoom slider.



0 30 60ft



2. Conducting the Survey

- What specifically to look for? Start with: septic systems, fuel storage, chemical storage, pesticide/fertilizer storage, erosion, runoff, animals, dumping
- Comprehensive guide available.....

American Water Works Association ConnecticutSection

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- ### Quick Links
- Classified Ads
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 - The Story of Drinking Water

Source Water Protection Committee

Reports to: Technical and Standards Council

Responsibilities: To promote protection of groundwater and surface water sources of public drinking water by providing a forum through which members can:

1. Exchange information about common concerns, regulatory and technical developments and compliance issues.
2. Develop new or updated standard procedures and guidelines for source protection activities.
3. Work cooperatively to correct pollution problems.
4. Develop recommendations for new legislation or amendments to existing legislation and regulations.
5. Assist regulatory agencies with the development or improvement of regulations, procedures and policies.



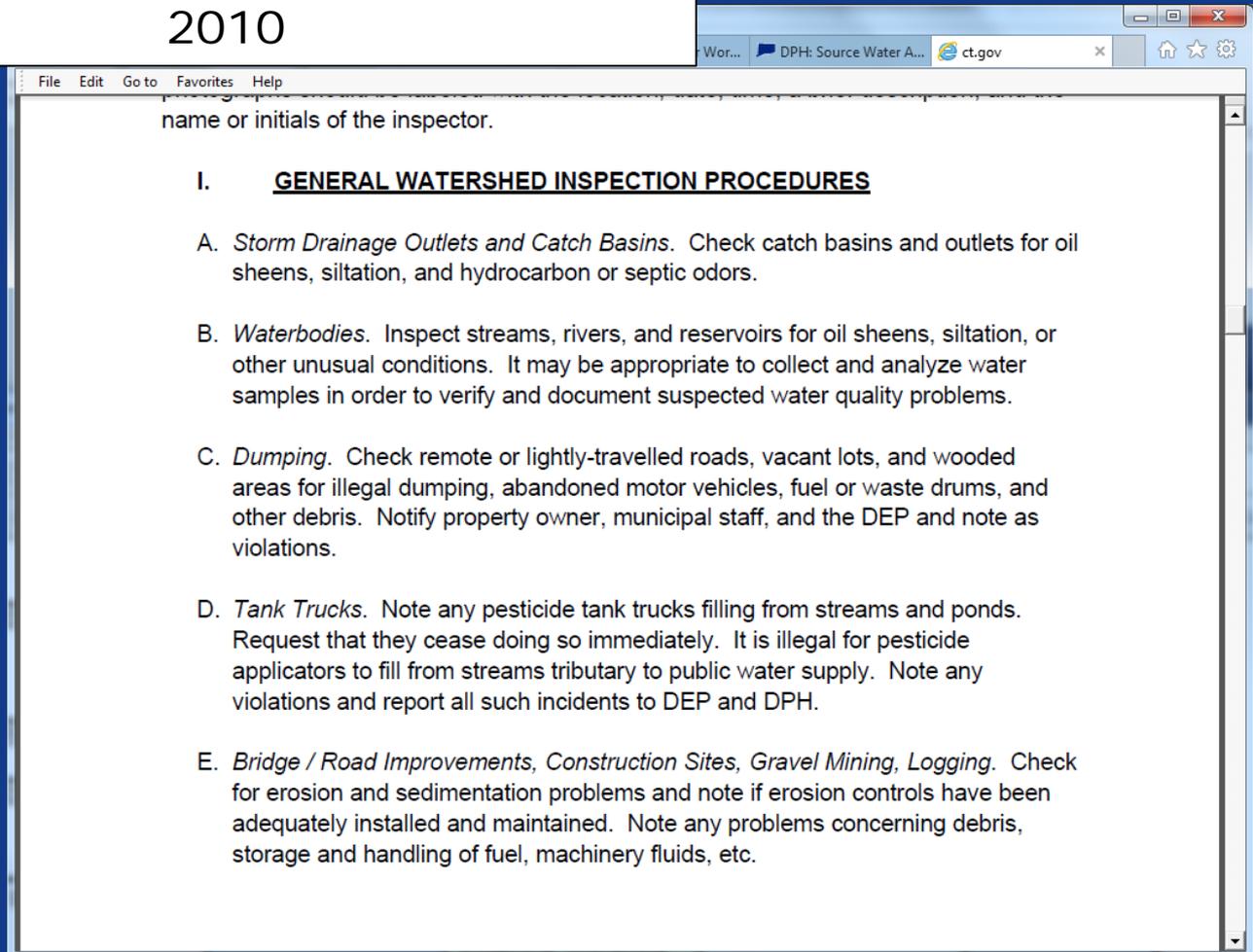
- [Agricultural Guidance](#)
- [Clean Water and Your Health](#)
- [Conservation/Source Water Protection Brochure](#)
- [Watershed Inspection Guidelines](#)
- [CT DPH Source Water Protection](#)

Brian Roach, *Chair*
Aquarion Water Company
714 Black Rock Road
Easton, CT 06612-1146
Phone: (203) 452-3508
Fax: (203) 268-4493
Email: broach@aquarionwater.com

Ron Walters
Regional Water Authority
90 Sargent Drive
New Haven, CT 06511-5966
Phone: (203) 401-2741
Fax: (203) 624-6129
Email: rwalters@rwater.com

WATERSHED INSPECTION GUIDELINES

Prepared by
Source Water Protection Committee
Connecticut Section AWWA
2010



name or initials of the inspector.

I. **GENERAL WATERSHED INSPECTION PROCEDURES**

A. *Storm Drainage Outlets and Catch Basins.* Check catch basins and outlets for oil sheens, siltation, and hydrocarbon or septic odors.

B. *Waterbodies.* Inspect streams, rivers, and reservoirs for oil sheens, siltation, or other unusual conditions. It may be appropriate to collect and analyze water samples in order to verify and document suspected water quality problems.

C. *Dumping.* Check remote or lightly-travelled roads, vacant lots, and wooded areas for illegal dumping, abandoned motor vehicles, fuel or waste drums, and other debris. Notify property owner, municipal staff, and the DEP and note as violations.

D. *Tank Trucks.* Note any pesticide tank trucks filling from streams and ponds. Request that they cease doing so immediately. It is illegal for pesticide applicators to fill from streams tributary to public water supply. Note any violations and report all such incidents to DEP and DPH.

E. *Bridge / Road Improvements, Construction Sites, Gravel Mining, Logging.* Check for erosion and sedimentation problems and note if erosion controls have been adequately installed and maintained. Note any problems concerning debris, storage and handling of fuel, machinery fluids, etc.



2. Conducting the Survey: RCSA 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



2. Conducting the Survey (esp. residential properties)

- Advance notice may prevent problems when you arrive on site
- Distribute info. Website?
 - Name/bio/picture of inspector
 - Approximately when
 - Contact info
- Official vehicle
- Police/town notification
- ID/Uniform/Phone # to verify
- Familiar face
- Handouts? Clean Water and Your Health
http://ctawwa.org/images/downloads/Resources/clean_water_and_your_health.pdf



Authority?

- **CGS Sec. 25-51. Injunction against injury to water supply or source.The municipality or water company**, by its officers or agents duly appointed, or the local director of health, or the local director's agents **may**, at all reasonable times, **enter upon and inspect any premises within the watershed tributary to**, or aquifer protection area of, **such water supply** and, if any nuisance likely to pollute such water is found therein, the local director of health or the local director's agent may abate such nuisance after reasonable notice to the owners or occupants of such premises and their refusal or neglect to abate the same, and the municipality or water company shall be liable for all unnecessary or unreasonable damage done to such premises.



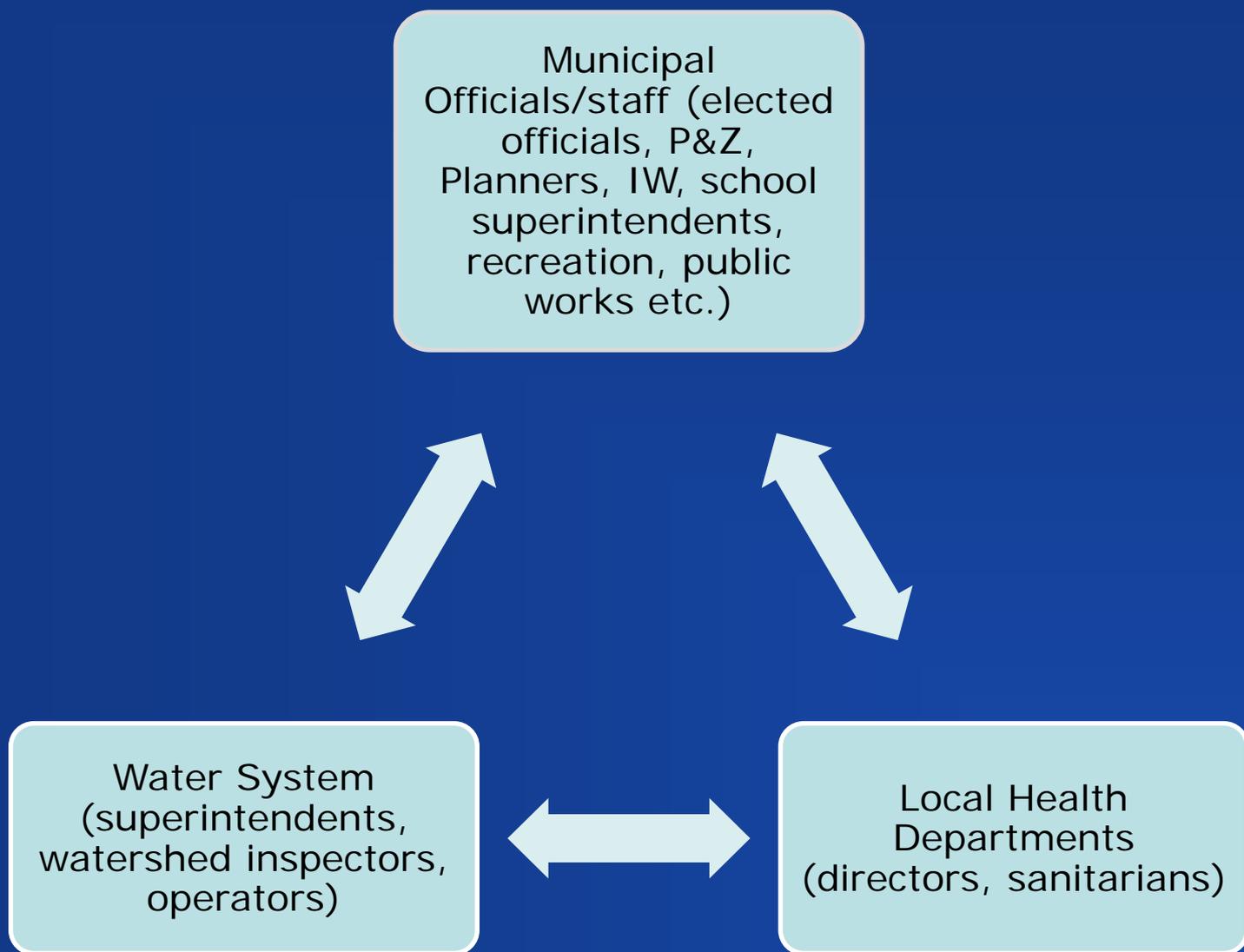
Challenges

- Property access
- Repeat offenders/lack of correction
- I found _____, now what do I do?
- Different town, not a customer, etc.
- Property encroachments

3. Solutions/Follow-up

- Contact appropriate partner: LHD, DPH, DEEP, Municipality, Agriculture (CTAg, DEEP, NRCS, CD)
 - Next slides and upcoming presentations
- Ask DPH for help in who to contact
- Come to CTAWWA Source Protection Committee meeting – peer discussion/ideas
- Know the laws that support your efforts
- If all else fails, CGS Section 25-34:
 - Sec. 25-34. Investigation of water or ice supply. (a) The Department of Public Health may, and upon complaint shall, investigate any system of water supply or source of water or ice supply from which water or ice used by the public is obtained, and, if it finds any pollution or threatened pollution which in its judgment is prejudicial to public health, it shall notify the owner or operator of such water company or system of ice supply, or the person or corporation causing or permitting such pollution or threatened pollution, and the Commissioner of Energy and Environmental Protection, of its findings and shall make such orders as it deems necessary to protect such water or ice supply and render such water or ice safe for domestic use.

Local Communication is Critical



State of Connecticut

Local Health Departments and Districts

July 2014

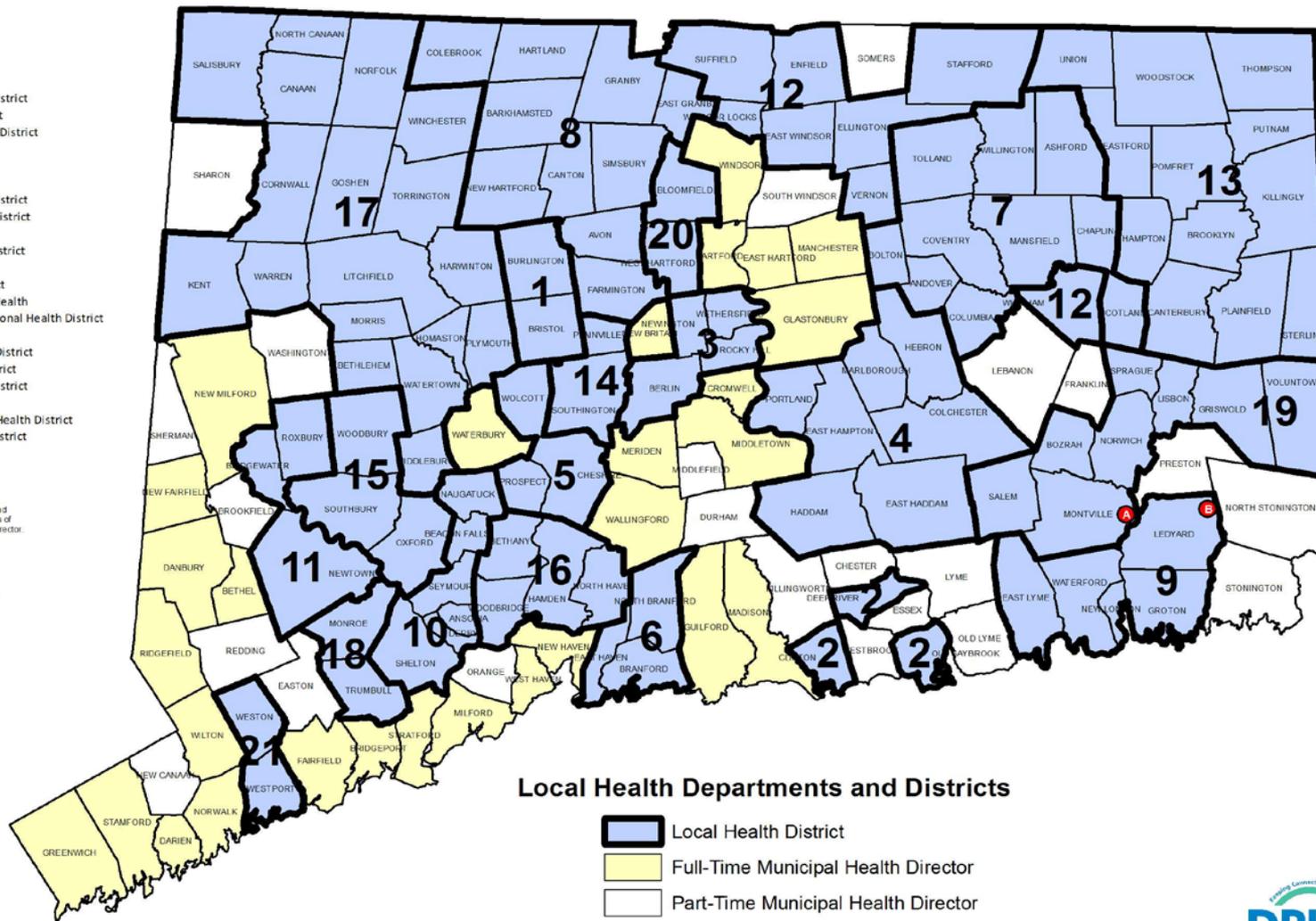
Health Districts¹

- 1 Bristol-Burlington Health District
- 2 CT River Area Health District
- 3 Central Connecticut Health District
- 4 Chatham Health District
- 5 Chesprocott Health District
- 6 East Shore Health District
- 7 Eastern Highlands Health District
- 8 Farmington Valley Health District
- 9 Ledge Light Health District
- 10 Naugatuck Valley Health District
- 11 Newtown Health District
- 12 North Central Health District
- 13 Northeast District Dept of Health
- 14 Plainville-Southington Regional Health District
- 15 Pomperaug Health District
- 16 Quinnipiac Valley Health District
- 17 Torrington Area Health District
- 18 Trumbull-Monroe Health District
- 19 Uncas Health District
- 20 West Hartford-Bloomfield Health District
- 21 Westport Weston Health District

¹ Health Districts are towns, cities, and boroughs united to form departments of health and have a full-time Health Director.

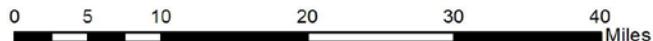
Sovereign Nations

- A Mchegan Tribe
- B Mashantucket Tribe



Local Health Departments and Districts

- Local Health District
- Full-Time Municipal Health Director
- Part-Time Municipal Health Director
- Sovereign Nations





DEEP Spill Notification contact info

Emergency Response and Spill Prevention

**Report Spills or other Environmental Emergencies to the
CT DEEP 24 hours per day at**

860-424-3338

or Toll Free at

1-866-DEP-SPIL

(1-866-337-7745)

If these numbers are unavailable for any reason, call (860) 424-3333

How to Contact NRCS

Danielson Field Office - (860) 774-0557
Raymond Covino, District Conservationist

Torrington Field Office - (860) 626-8258
Amy Fischer, District Conservationist

Hamden Field Office - (203) 287-8038
Diane Blais, District Conservationist

Windsor Field Office - (860) 688-7725
Vivian Felten, District Conservationist

Norwich Field Office - (860) 887-3604
Javier Cruz, District Conservationist

Visit us on the web at www.ct.nrcs.usda.gov



U.S. Department of Agriculture
Natural Resources Conservation Service

Tolland State Office - (860) 871-4011

Lisa Coverdale, State Conservationist
Joyce Purcell, Asst State Conservationist-Programs
Nancy Ferlow, State Resource Conservationist

Arthur Ramthun, State Conservation Engineer
Debbie Surabian, State Soil Scientist

4. Submissions

- Due by March 1 of the following year
- Send via email if possible
(dph.sourceprotection@ct.gov)
- Send in spreadsheet format if possible (template next slide)
- Typically same DPH analyst review year to year
- If there are properties you are concerned about, don't wait until March 1 to let us know.

REVIEW

- Know your watershed
- Understand the law and your authority
- Notify property owners, police, town in advance
- Know what to look for
- Document your findings
- Know what to do next if you identify a problem (know your partners)
- Follow up
- Submit report



Source Assessment/Protection Unit (860) 509-7333

www.ct.gov/dph/publicdrinkingwater

- Eric McPhee (Supervisor) , Pat Bisacky, Rob Baran, Rich Iozzo, Mira Lami, Justin Milardo, Kim Wholean

- QUESTIONS?