

Protecting Connecticut's Public Drinking Water Sources



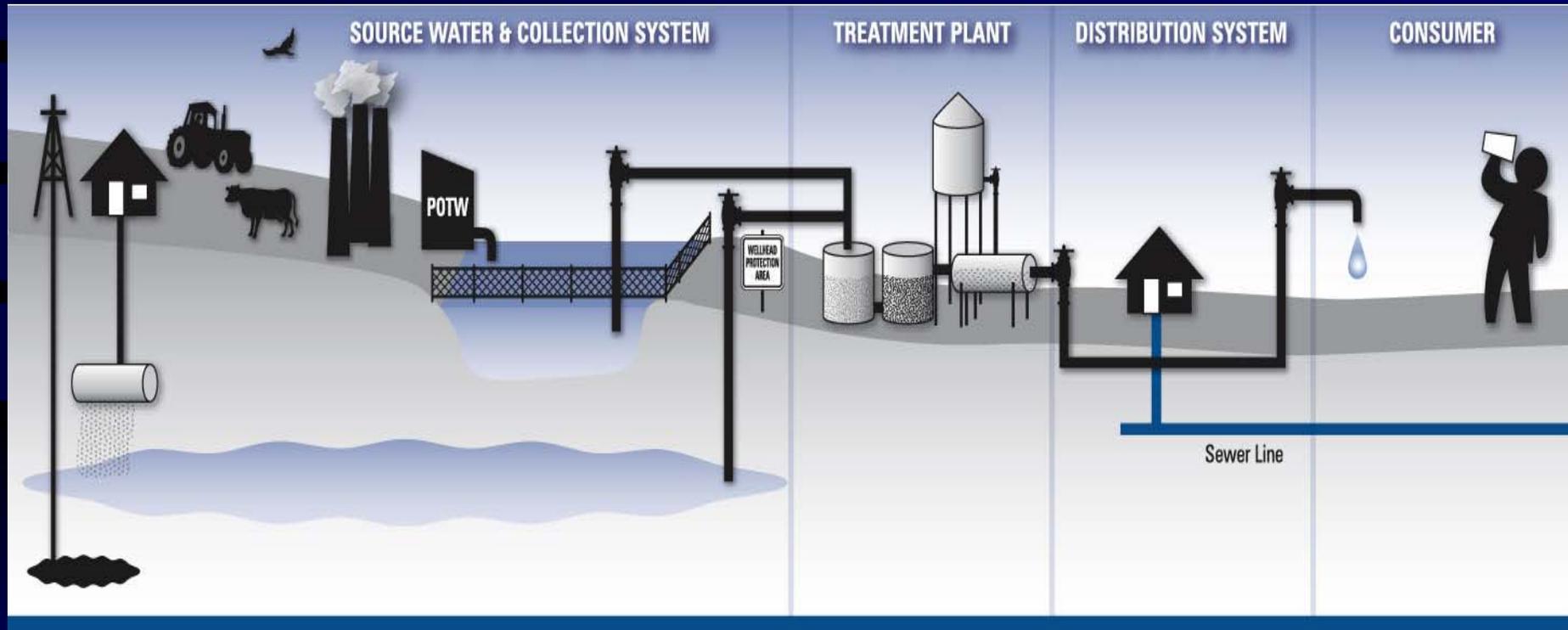
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CT DPH Drinking Water Section

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



Source To Tap



Why Protect Drinking Water Sources?

- Protect public health from acute and chronic health risks – pathogenic organisms, chemicals, radionuclides, etc.
- Maintain public confidence
- Provide economic benefits to:
 - Consumers and ratepayers
 - Control PWS capital and O&M costs

Vulnerability and Sensitivity of Drinking Water Sources

- **Surface water**

- Surface runoff
- Ground water infiltration

- **Ground water**

- Infiltration from the surface
- Injection of contaminants
- Naturally occurring substances

Tools And Techniques For Source Water Protection

- **Regulatory tools**

- State Statutes and Regulations
- Local Zoning Ordinances/Regulations

- **Non-regulatory tools**

- Best Management Practices
- Management Plans
- DPH Source Water Assessment Reports

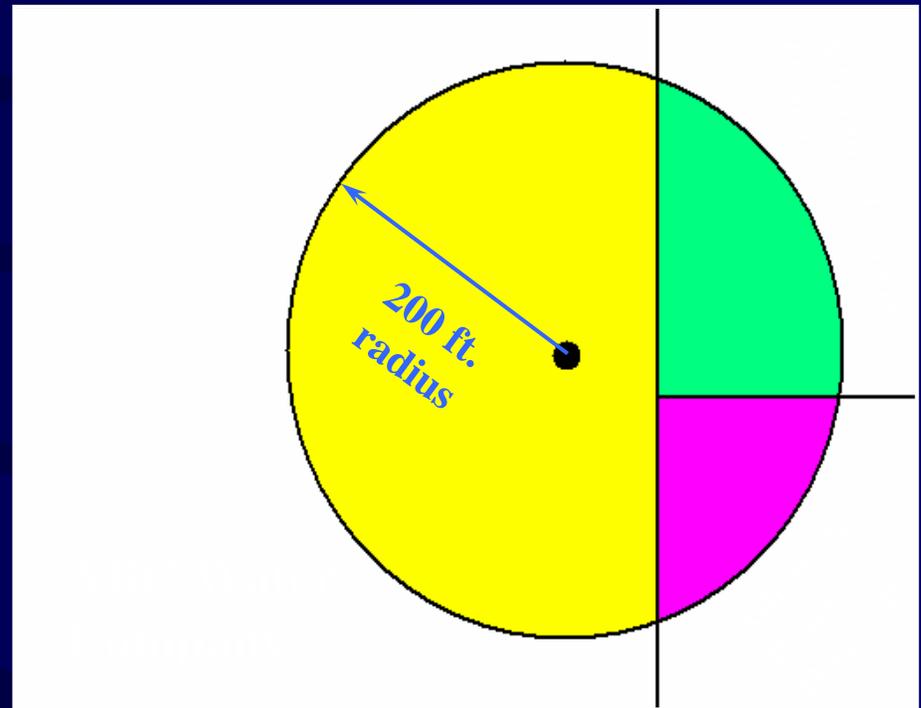
Best Management Tools

(Things a Certified Operator Can Do)

- Good housekeeping practices in source water areas and at industries, businesses, and homes
- Emergency response planning
- Source and facility security
- Public education for consumers and system owners
- Advocate the purchase of land, development rights, or easements
- Use man-made systems and devices to prevent release of contaminants

Protective Sanitary Easement

- A legal document signed by the adjoining property owner(s) securing land within a well's 200 foot sanitary radius to protect it from potential pollution hazards



Water Company-owned Land

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

Public Health Code 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

Required Separation Distances For Well Siting Per RCOSA 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 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

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

Location, Location!



Can You Guess the Pollution Source?

What is wrong with these
pictures....



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01/25/2005

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Bed
Central

**PESTICIDE
APPLICATION**

PESTICIDE
APPLIED ON: 7-24

BY:
GREEN CHEMISTRY
90-562-6273





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Find The Well





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Source Water Assessments



Connecticut's Source Water Assessment Program

- **Goal**
 - Evaluate susceptibility of drinking water sources
- **Program Elements**
 - Delineation of source water areas
 - Inventory of potential contaminant sources
 - Determine source susceptibility
- **Rank Source Susceptibility**
 - Low, Moderate or High

Susceptibility Factors

Source Sensitivity

Water quality, source integrity and condition

Source Vulnerability

- Potential pollution sources, land use/cover

Source Protection Needs

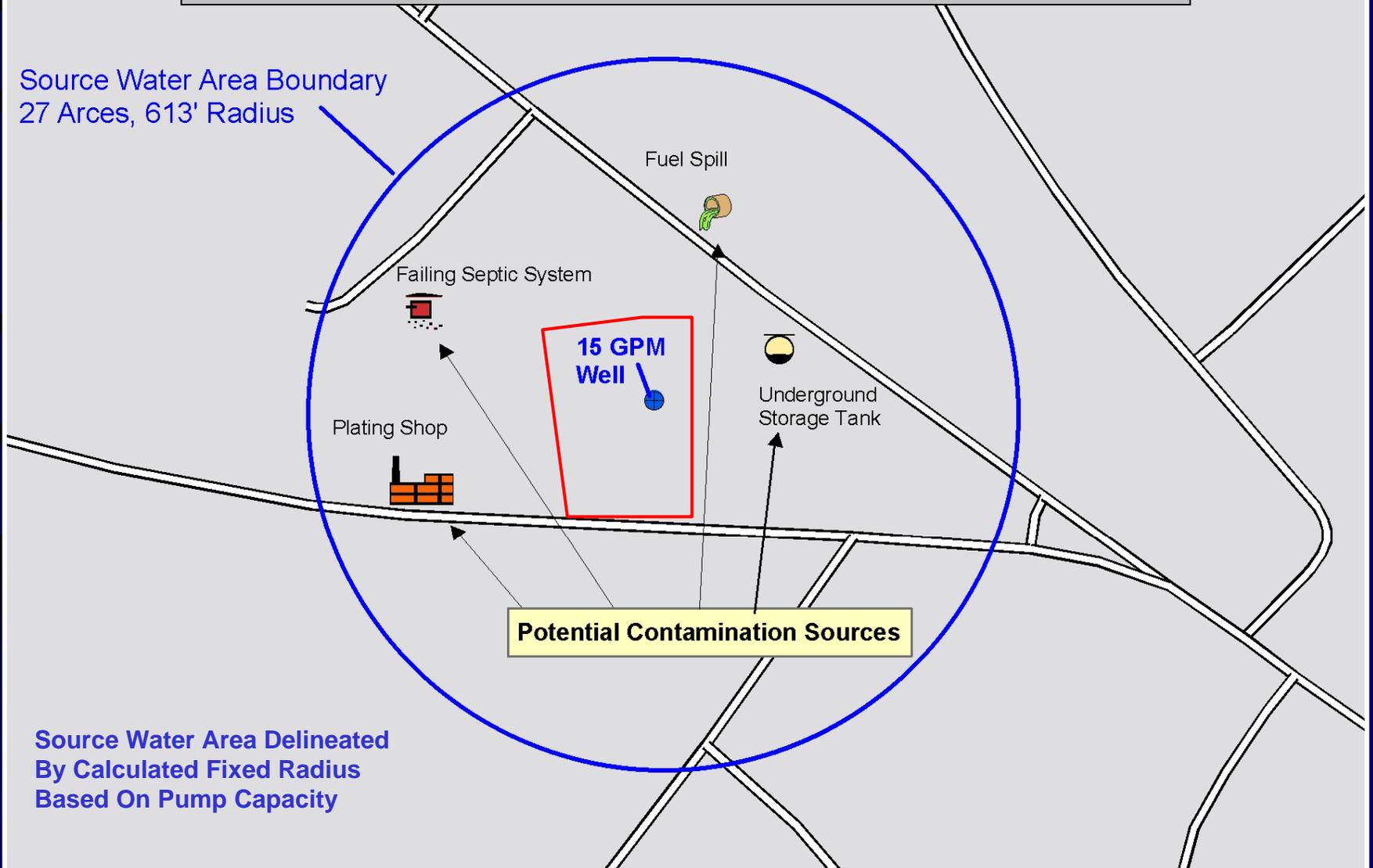
- Land control, water company measures, local protection measures

What Are Potential Sources of Contamination?

- Facilities or activities with the potential to release contaminants in a source water area that could result in the contamination of a public drinking water source.
- Examples
 - Garage or gas station
 - Dry cleaners
 - Industrial manufacturer
 - Abandoned landfill
 - Plating shop
 - Retailers selling pesticides, paints, solvents, etc.

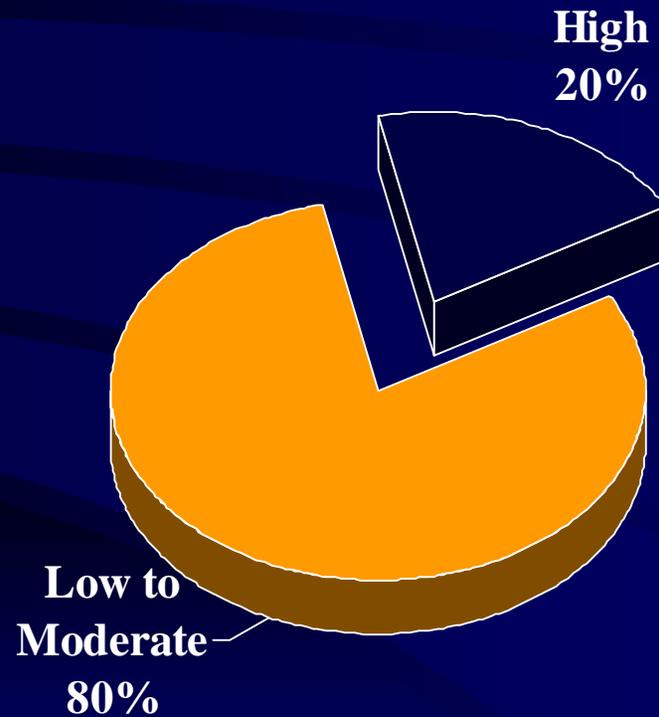
Potential Sources of Contamination In A Bedrock Well Source Water Area

Source Water Area Boundary
27 Arces, 613' Radius



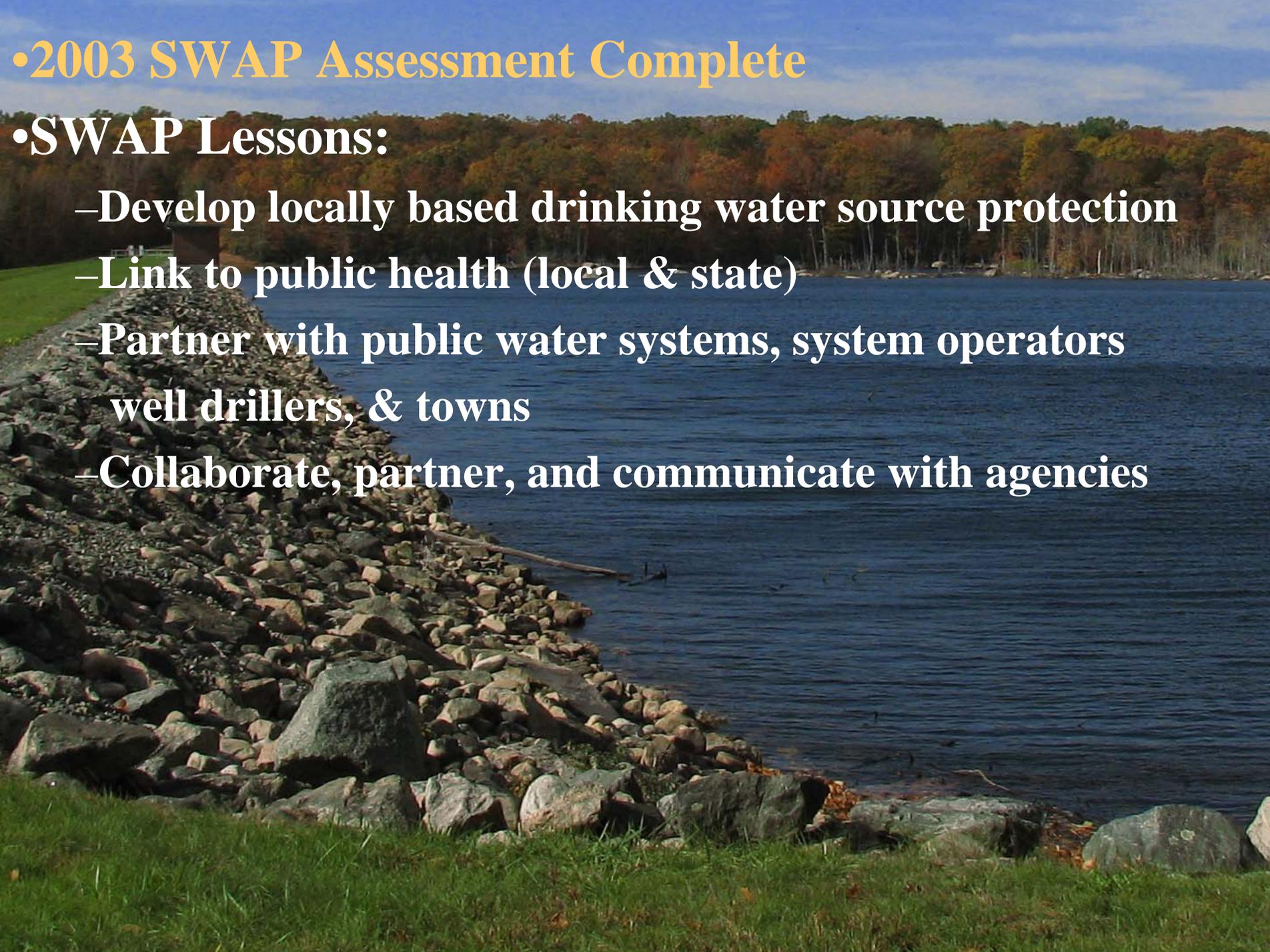
Source Water Area Delineated
By Calculated Fixed Radius
Based On Pump Capacity

Overall Susceptibility Ratings State-wide Composite For All Source Types



SWAP Rating Trends For Sources With High Susceptibility

- Moderate to high density of potential contaminant sources
- Higher intensity of land development
- Little or no local source protection regulations
- Higher incidence of contaminants in source water



• **2003 SWAP Assessment Complete**

• **SWAP Lessons:**

- **Develop locally based drinking water source protection**
- **Link to public health (local & state)**
- **Partner with public water systems, system operators well drillers, & towns**
- **Collaborate, partner, and communicate with agencies**

Why Should I Care About Source Water Assessments?

- Provide specific recommendations for source protection
- Useful information about:
 - Size of source water area
 - Presence of:
 - Potential sources of contamination
 - Historic spill sites
 - Impaired areas
 - Source protection needs
- Basis for ongoing review of new/existing potential sources of contamination in source water area

What to Do After Training

- Know and use the SWAP report for your water system
- Become familiar with the source water area
- Look for or verify potential contaminant sources in the source water area
- Follow best management practices
- Follow-up on source protection issues and BMP's with water system owner

Implementation

Drinking Water Source Protection

- **SWP Unit** – Drinking Water Section, DPH
- **Regulatory** – water company land, source siting & inspection, Phase 1-A, investigations, enforcement, recreation, storm-water, planning, local technical assistance 25-32f and notification requirements
- **Education and Training**
 - Certified Operators, Public Water Systems, Well Drillers
 - Land Use Decision Makers, Local Health
 - Colleges, Academia, Linking Research and Policy
 - Municipal Officials, Regional Planning Organizations
 - Environmental groups and watershed planners
- **Project comments** -CEPA, ERT, Siting Council & Agency Projects
- **Drinking Water Quality Management Plan** – Groton, Saugatuck
- **Integration & Collaboration** – Agencies, stakeholders group for source protection and conservation

Thank you!



Source Water Protection
Unit (860) 509-7333