

Orangetown DWSP2 Committee Meeting #1



Department of
Environmental
Conservation

Agenda

- **1:00 – 1:10 PM:** Welcome and Introductions
- **1:10 – 1:20 PM:** Introduction to the DWSP2 Process
- **1:20 – 1:30 PM:** Background on Orangetown's Drinking Water Supply
- **1:30 – 1:55 PM:** DWSP2 Goals and Visioning Exercise
- **1:55 – 2:00 PM:** Wrap Up / Next Steps



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DWSP2 Process

- Phases of Plan Development:
 - Form a stakeholder group
 - Formulate the vision and goals
 - Prepare drinking water source protection maps
 - Inventory potential contaminant sources
 - Complete drinking water source protection maps
 - Identify protection and management methods
 - Develop an implementation timeline
 - Finalize plan
 - Implement plan



DWSP2 Process

Town of Wappinger Example

Potential Contaminates

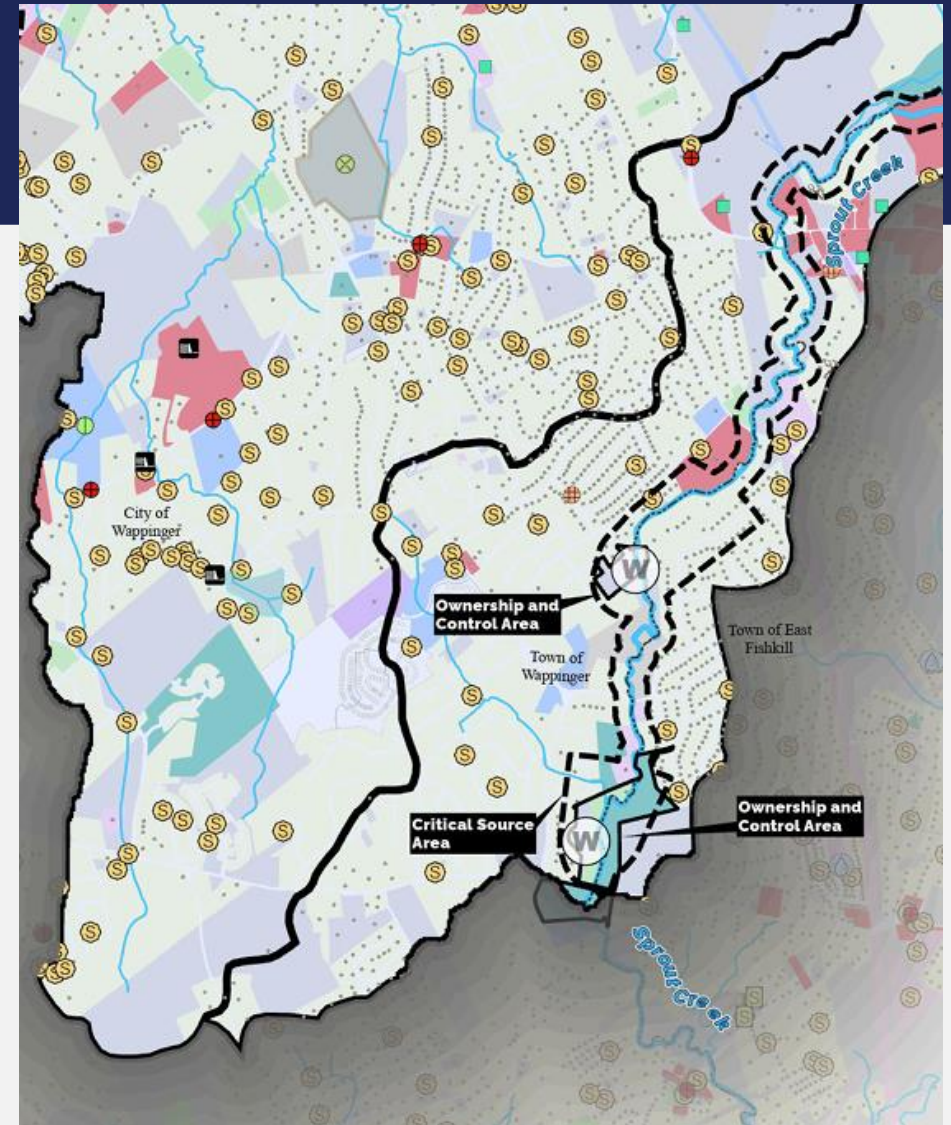
- Combined Sewer Overflows (CSO's)
- Toxic Release Inventory (TRI) Facility
- Solid Waste Management Facilities
- Inactive Regulated Facilities
- NYSDEC Spill Incidents
- Superfund National Priorities List (NPL) Sites
- Proposed NPL Site
- Deleted NPL Site
- Bulk Storage
- Fuel Oil Depot
- Underground Oil/ Gas Tanks
- Chemical Bulk Storage
- NYSDEC Remediation Site Borders
- Abandoned Well
- Water Withdrawals
- Mined Lands
- SPDES Permits
- DOT Maintenance Facility
- Septic System
- Airport
- Golf Course

Land Use

- Agricultural
- Residential
- Vacant Land
- Commercial
- Recreation and Entertainment
- Community Services
- Industrial
- Public Services
- Wild, Forested, Conservation Lands and Public Parks
- Unknown/ Unclassified

Watershed Features

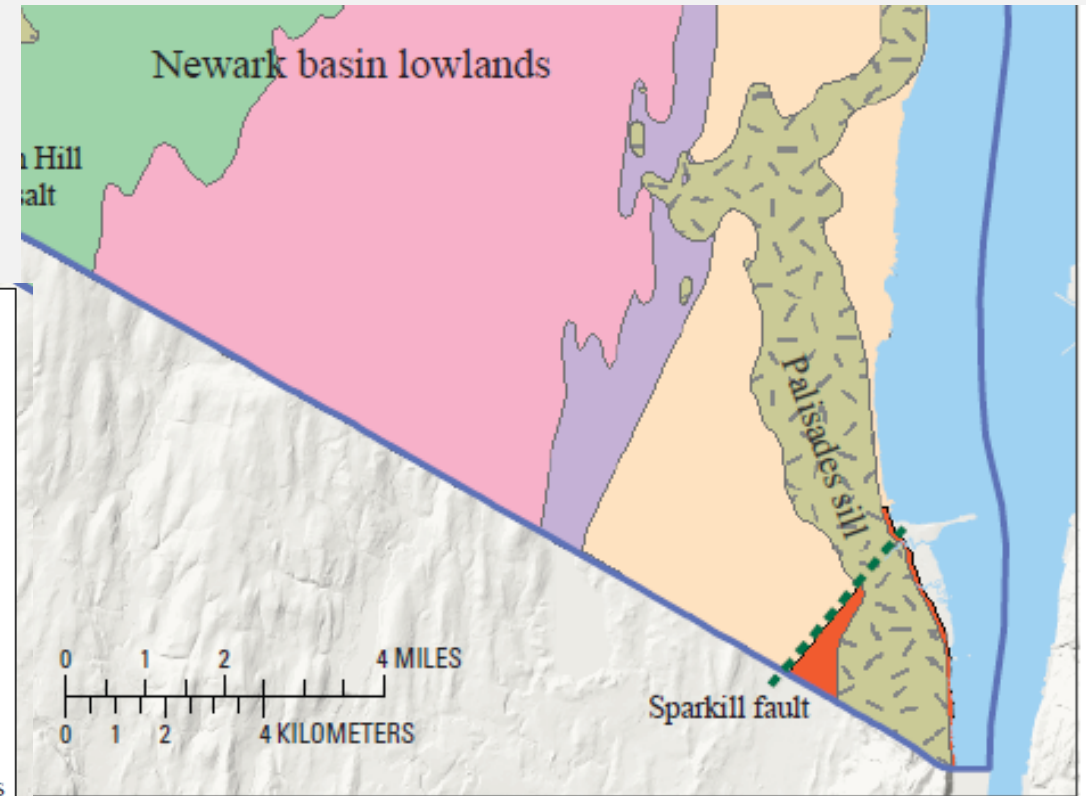
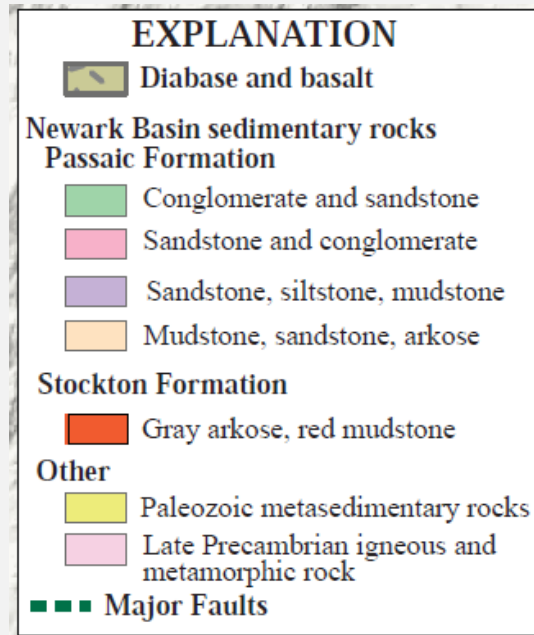
- Well
- NYSDEC Dam
- Critical Source Area
- Extended Source Areas
- Wellfield
- Ownership and Control Area



Orangetown's Water Supply

Newark Basin Bedrock Geology

- All rocks are water bearing aside from the Palisades Sill



1:24,000,

Geology modified from New York State Museum
Bedrock Geology Lower Hudson Sheet (1:250,000)
and N. Ratcliffe, written commun., 2005.

Source: Water Resources of Rockland County, New York,
2005-07, USGS 2010; Figure 6



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Orangetown's Water Supply

Surficial Deposit Location




- Primary: Glacial Till
- Secondary: Recent Alluvium

EXPLANATION





Surficial Geology

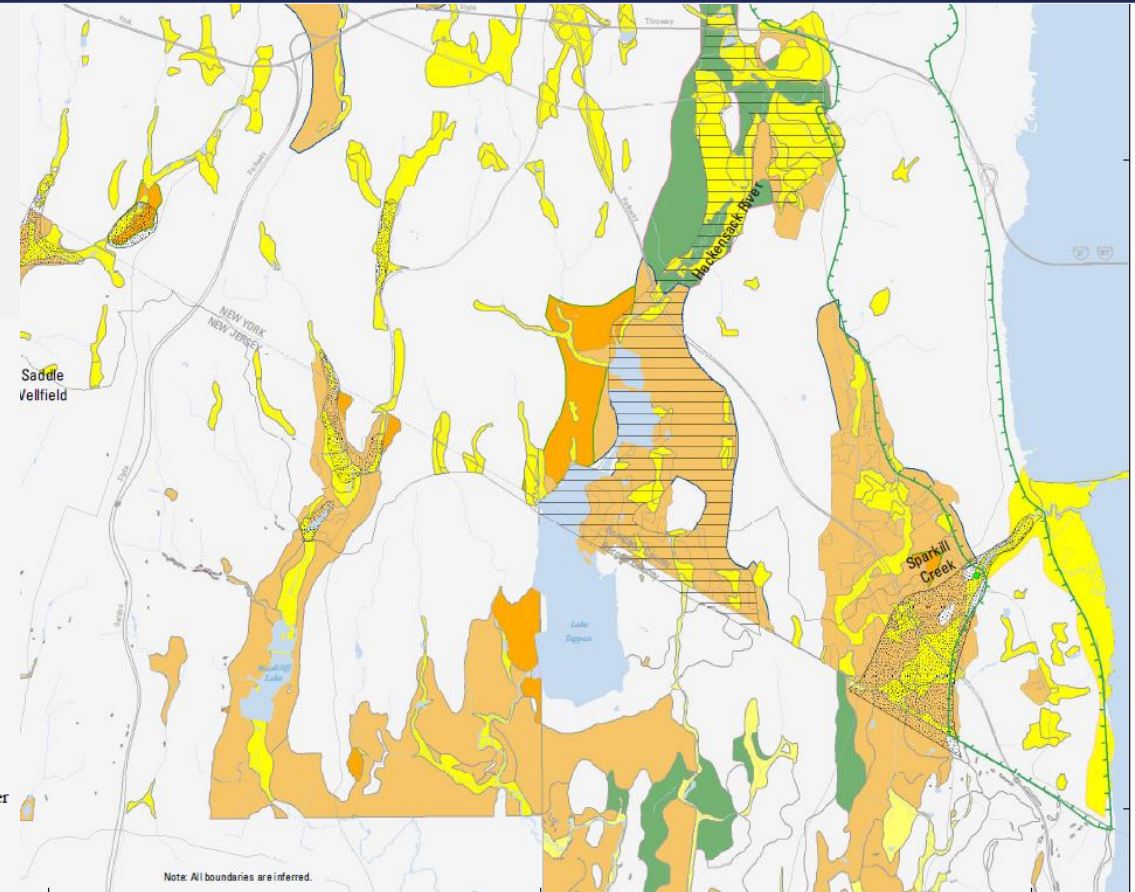
-  Alluvium (silt to silty gravel)
-  Ice-contact deposits (sand and gravel)
-  Fine-grained lacustrine deposits (clay, silt, and fine sand)
-  Glaciofluvial or deltaic sand and gravel

Glacial deposit controlling recharge to bedrock

-  Fine-grained lacustrine deposits
-  Sand or sand and gravel
-  Till

Surface expression of the Palisades sill

-  Alluvial production wells (United Water New York), with local identification number
-  Village of Suffern well with local identification number
-  Alluvial production well (United Water New Jersey) at Upper Saddle River
-  Abandoned alluvial well



Distribution of unconsolidated glacial and alluvial deposits

Surficial Geology from New York State Museum Surficial Geology Survey of Rockland County, New York, and the surrounding area, 1:24,000 (New Jersey, and 1:62,500, Surficial Geology Survey of Rockland County (1980) and Bergen County, NJ (1985)

Source: Water Resources of Rockland County, New York, 2005-07, USGS 2010; Figure 7A



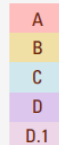
Orangetown's Water Supply

Newark Basin USGS Aquifer Zones

- Zone D: Yields no more than 150 gallons per day
- Zone D.1: Maximum yields between 200 and 350 gallons per day

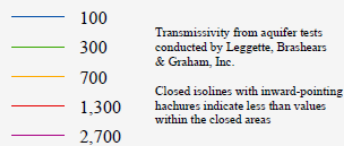
Source: Water Resources of Rockland County, New York, 2005-07, USGS 2010; Figure 11

Aquifer zones



Traprock at bedrock surface

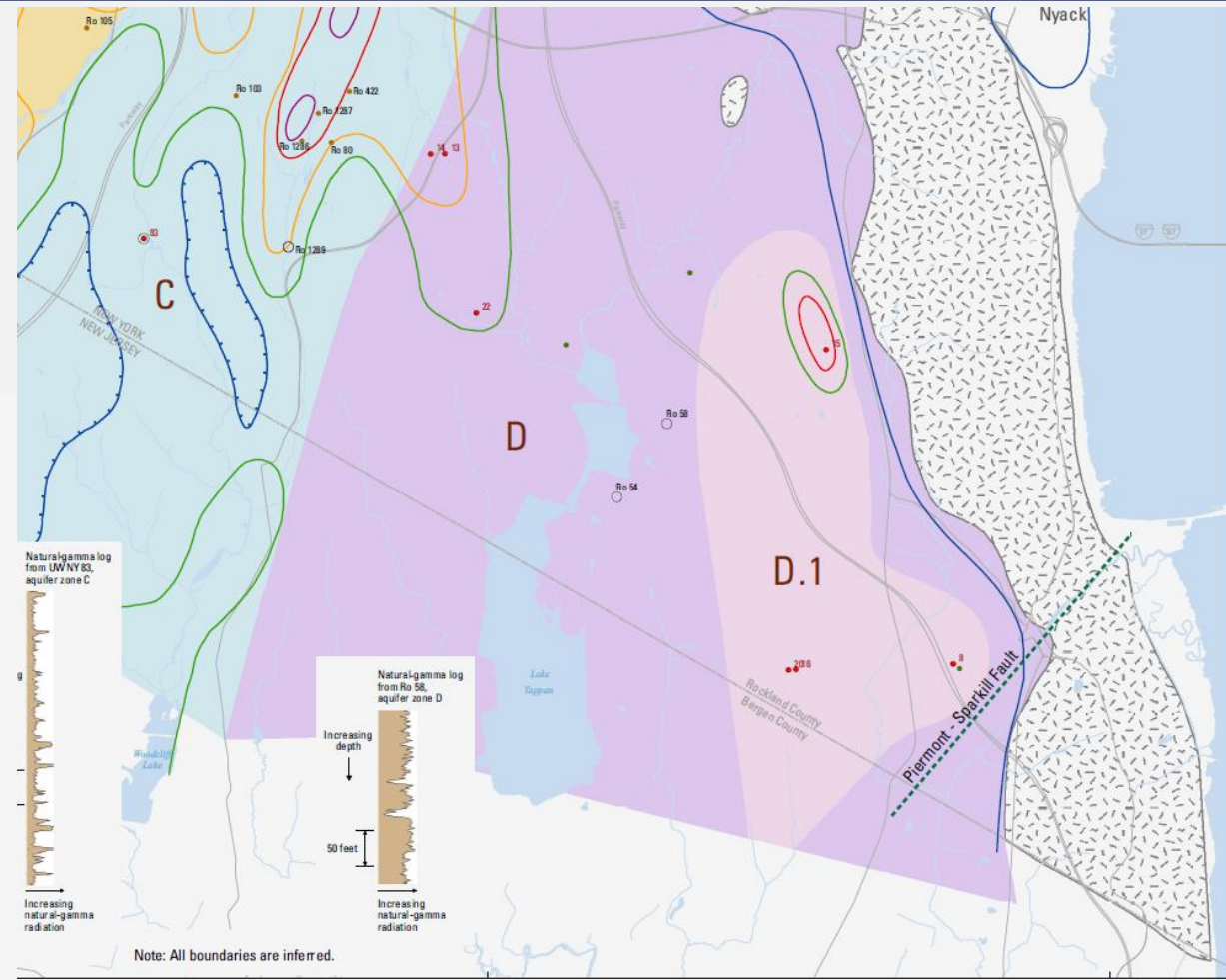
Transmissivity, in feet squared per day



Well with borehole geophysical logs with USGS identification number

Wells used for transmissivity estimates







- Other production well with USGS identification number
- United Water New York (UWNY) bedrock production well with identification number
- United Water New York test/monitoring well




Orangetown's Water Supply

Groundwater Divides




- 3 different divides in Orangetown

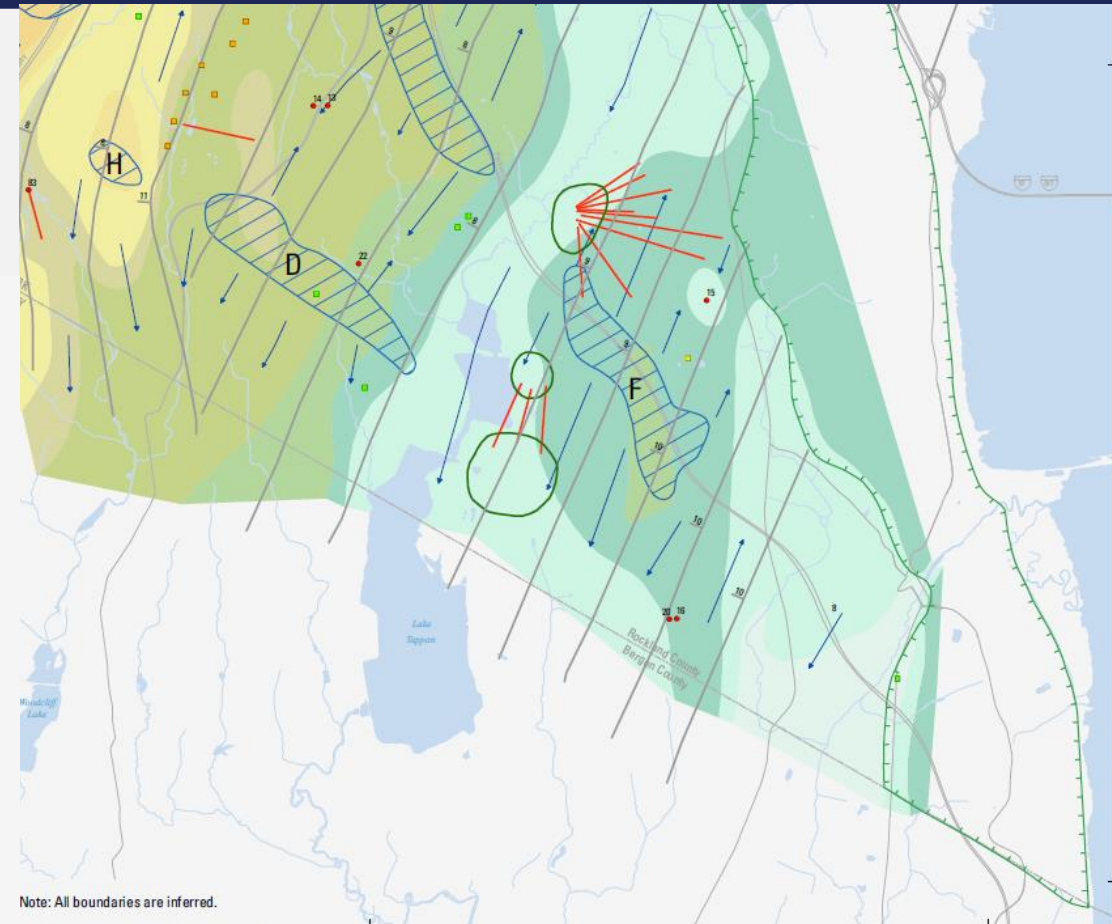
-  Groundwater-divide area and label
-  Surface expression of the Palisades sill
-  Bedding strike and dip direction
-  Wellfield area (more than two wells)
-  Hydraulic connection between wells
-  Generalized groundwater flow direction

United Water New York bedrock production wells and local identification number

-  Pumped well

Other production wells

-  Industrial well
-  Institutional well
-  Irrigation well



Water Resources of Rockland County, New York, 2005-07, USGS 2010; Figure 32
 aquifer groundwater-flow-system map, Spring

For additional information write to:
 Director, U.S. Geological Survey 435 Jordan Road, Troy, NY 12180
 Copies of this report are available on-line at

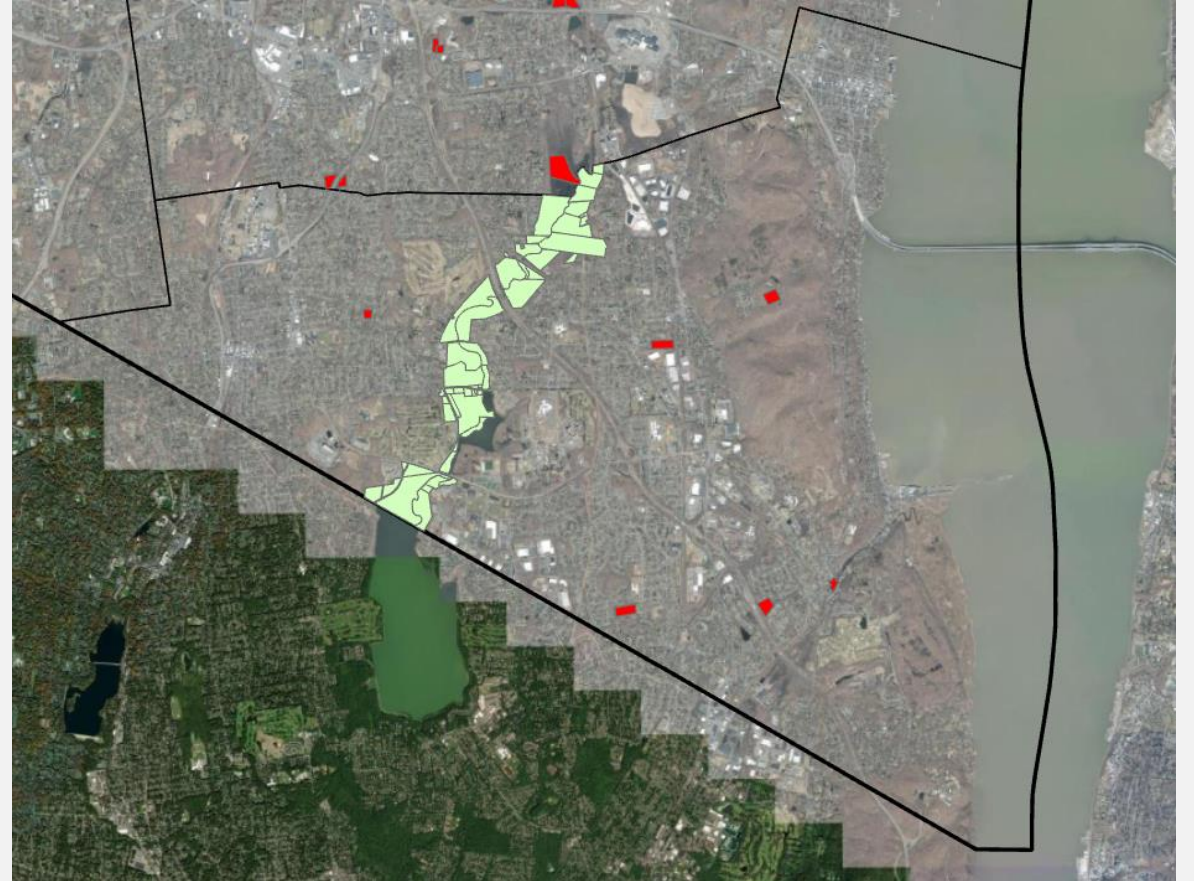
Source: Water Resources of Rockland County, New York, 2005-07, USGS 2010; Figure 32



Orangetown's Water Supply

Groundwater wells are located near the Hamlets:

- Blauvelt
- Pearl River
- Sparkill
- Tappan
- Nanuet (in Clarkstown)



Goals and Visioning Exercise

- **Goals:** overarching and should be an indication of what we hope to accomplish with the plan
- **Vision:** guide the development and implementation of the plan, recognize that drinking water source protection will likely involve multiple approaches, declare intent to commit sufficient resources to drinking water source protection



Goals and Visioning Exercise

Vision Statement Examples:

- *“Clean drinking water for the Town of Wappinger and future residents, sourced from healthy natural aquifers, recharge areas, and protected watersheds.”*
 - Town of Wappinger
- *“The Town of Fishkill, in collaboration with regional agencies and neighboring municipalities, has established and implemented an effective framework for aquifer protection, designed to ensure that the public water supply wells continue as a source of quality drinking water that meets public health standards and guidelines, and serves current and future residents of southern Dutchess County.”*
 - Town of Fishkill



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Goals and Visioning Exercise

Vision Statement Examples:

"New York City's Department of Environmental Protection has a comprehensive watershed protection program which focuses on both protective and corrective initiatives, to ensure that its Catskill/Delaware reservoir system, the source of 90% of the supply's daily demand, remains unfiltered and sustains its extraordinarily high quality"

-NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION, NEW YORK CITY, NEW YORK

"The Edwards Aquifer Authority is committed to manage and protect the Edwards Aquifer system to ensure the entire region of a sustainable, adequate, high quality and cost-effective supply of water, now and in the future"

-SAN ANTONIO WATER SYSTEM, SAN ANTONIO, TEXAS



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Goals and Visioning Exercise

Goal Examples:

- Build on work already completed to further protect existing drinking water resources by protecting the wellheads and important aquifer source areas, including Wappinger and Sprout creeks.
- Educate the community on their water supply and how to protect it. Draw on the Town culture of innovation and service to enhance citizen participation.
- Continue to rely on three wellfields for clean drinking water.
- Since a portion of Atlas wellfield water is understood to be induced from the Wappinger Creek, enhance existing intermunicipal commitments to protect Wappinger Creek water quality through efforts of the WIC, with a particular focus on the immediately upstream Towns of LaGrange, Poughkeepsie, and Pleasant Valley.
- Since two of Wappinger's wellfields are understood to induce flow from the Sprout Creek, develop intermunicipal interest in water resource protection along the Sprout Creek, particularly with the upstream Towns of East Fishkill, LaGrange, and Union Vale, and seek to develop a Sprout Creek Intermunicipal Council.
- Collaborate on land conservation projects, including acquisition of conservation easements/fee purchases, when appropriate, to protect critical and extended source areas.
- Update the Town code and other provisions with water protection measures for balanced and sustainable growth, similar to the existing Natural Resource Management Plan for the Wappinger Creek Watershed.



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Goals and Visioning Exercise

Goal Examples:

Protect public health

Improve public confidence in drinking water supply

Address existing drinking water quality issues

Avoid drinking water treatment costs or the need to find a new water supply¹

Provide quality tasting drinking water

Become an environmental steward

Create long-lasting partnerships with various stakeholders

Engage and educate the community about their drinking water

Maintain property values, tax revenues, local tourism and jobs

Promote a sense of pride in the community

Increase supply reliability

Increase reliability of treatment technology

Knowing what contaminants are regulated and addressing emerging or unknown contaminants

Evaluate current land use and plan for future land use



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