

# **Protecting Wales' Drinking Water: Source Water Protection Plan Update**

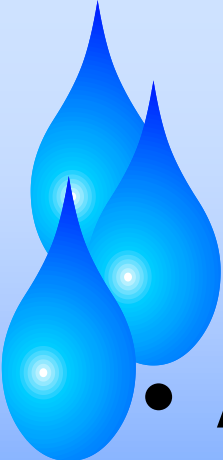
**by:**

**Steven Winkley, P.G.**

**New York Rural Water Association**

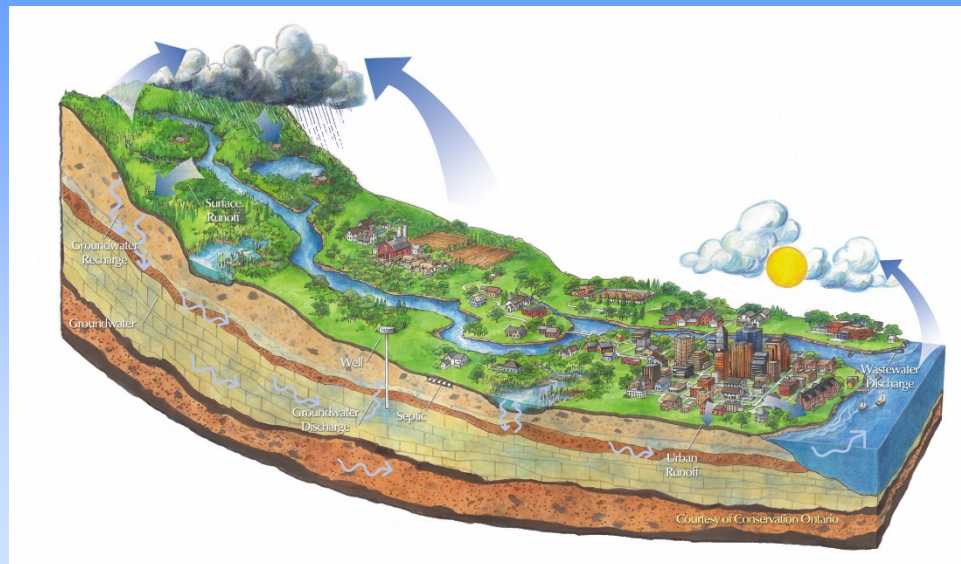
**April 9, 2019**





# What Is A Source Water Protection Plan?

- A document designed to help prevent the contamination or depletion of water resources used for drinking water within a given area (town, aquifer, watershed, etc.)

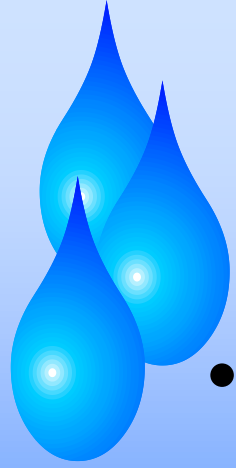




# Why Conduct Source Water Protection Planning?

- Eliminate or reduce potential contaminant threats.
- Ensure long-term sustainability of water supplies.
- Minimize impacts on other water resources.
- Plan for contingencies in the event of emergencies.





# Source Water Protection Plan Components

- An inventory of source water resources
  - Public water systems
  - Individual water systems (i.e. private wells, springs, etc.)
  - Groundwater and surface water resources supplying these sources of drinking water
- An evaluation of potential sources of contamination and depletion
  - Characterize land cover and land use
  - Inventory regulated facilities
  - Prioritize potential sources and/or issues based upon perceived risk





# Source Water Protection Plan Components (cont'd)

- Identification of protection methods to be implemented for addressing potential contamination or depletion issues
  - Non-regulatory strategies  
and/or
  - Regulatory strategies
- Determine who will implement the protection methods, what the potential costs may be, is funding necessary, and what is the schedule for implementation

# New York Rural Water Association Source Water Protection Program

## Typical Protection Tools

### Non-Regulatory

#### Best Management Practices (BMPs):

Encourage or incentivize voluntary actions to minimize adverse impacts to groundwater. BMPs exist for:

- Agriculture
- Construction
- Disposal of Chemicals
- Erosion and Sediment Control
- Floor Drains and Dry Wells
- Leaks, Spills, Accidents
- On-site Wastewater Treatment Systems
- Resource Extraction
- Roadway and Right-of-way Maintenance
- Septic System Maintenance
- Storage of Chemicals
- Stormwater Runoff
- Well Maintenance

#### CEA Designation:

Protection area(s) declared a Critical Environmental Area under SEQRA.

#### Education and Outreach:

Used to inform community residents of the connection between land use and groundwater quality. Examples include:

- Brochures detailing how citizens can protect ground water
- Seminars and public information meetings
- Signs

#### Emergency Preparedness and Response Planning

Plan for emergency events involving threat(s) to critical water resources. Potential tools can include:

- Identify and/or develop contingency water supplies.
- Inform emergency response agency officials of source water protection area and request immediate notification.
- Notify individuals responsible for activities and facilities with the potential for accidental releases that they are within a source water protection area and provide them with emergency response instructions and contact information if accidents occur.

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#### Land Acquisition/Agreements:

Purchase of full or partial interest in properties which are critical for groundwater protection, such as sensitive hydrogeological settings. Examples include:

- Full Interest Ownership
- Conservation Easements
- Miscellaneous Agreements

#### Monitoring:

Installation and sampling of monitoring wells for early-warning detection and/or investigation of potential contaminant source(s).

#### Notification:

Informs neighboring communities, government agencies, and/or facility owners/operators of protection area and requests notification of proposed actions.

#### Training and Demonstration:

Training programs for local officials and land-owners, as well as demonstration of BMPs and protection principles.

#### Waste Reduction:

Reduce the quantity of household hazardous waste being disposed of improperly through septic systems, sewer systems, and landfills.

- Collection programs for residents to remove hazardous waste, prescription drugs, etc. from their homes to decrease the potential for contamination.

#### Water Conservation:

Encouraging water conservation to: (1) reduce water withdrawals from wells (conserving primary water source); and (2) protect aquifer from contaminant intrusion (reduce the rate of contaminant migration).

#### Well Site Protection:

Improved protection of well facilities by public water supplier(s). Examples include:

- Flood protection (above 100-year flood elevation)
- Drainage improvements
- Off-site storage of fuel/chemicals
- Locking caps for test wells and production wells
- Security fencing
- Posting

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# **NYRWA Source Water Protection Program**

## **Typical Protection Tools**

### **Regulatory**

#### **Larger Lot Zoning:**

Amendment of existing zoning district(s) to enlarge minimum lot size, thereby reducing the impacts of residential development on groundwater.

#### **Local Law:**

Local governments may use home rule power to restrict certain sources of contamination and/or institute design and operating standards to ensure groundwater protection.

#### **Moratorium:**

“Stop-gap” or “interim” legislation designed to preserve the existing land use status quo pending the adoption or amending of zoning and/or subdivision regulations.

#### **Overlay Zoning District:**

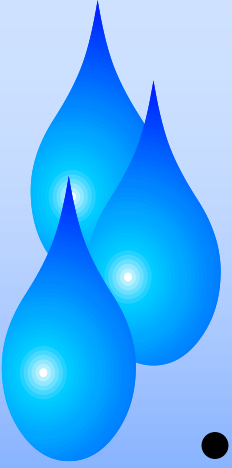
Creates “overlay zone” where additional regulations are placed upon land uses within wellhead and/or aquifer protection areas.

#### **Site Plan Approval:**

Development on a single parcel of land is approved after the layout and design meet criteria for groundwater protection.

#### **Subdivision Regulations:**

Approval for subdividing a large parcel of land into smaller parcels is given after groundwater protection is provided for in the layout of the lots and the improvements what will be installed to service the lots.



# Source Water Protection Plan Components (cont'd)

- Determine strategies for supplying safe water in the event of contamination or depletion (spill, drought, etc.)
- Regularly review the plan and follow through on protection measures



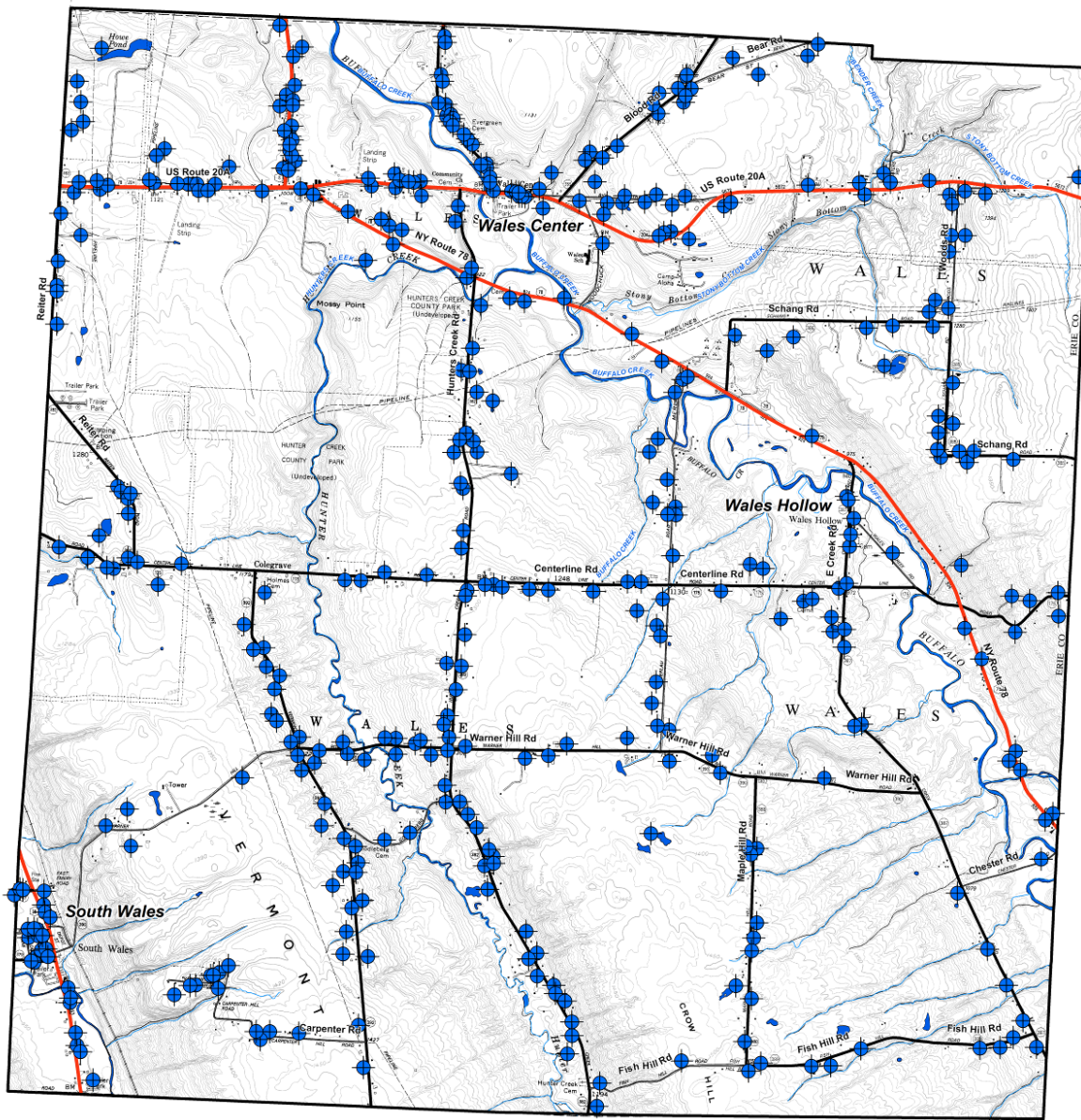
# **Wales Source Water Protection Plan**

## **What Has Been Done To Date:**

- February 2014 – NYRWA started to compile aquifer and well data.
- May 2014 – Initially met with Town Aquifer Protection Committee
- June-August 2014 – Conducted water well survey both online and through mailing to residents

# Water Well Survey

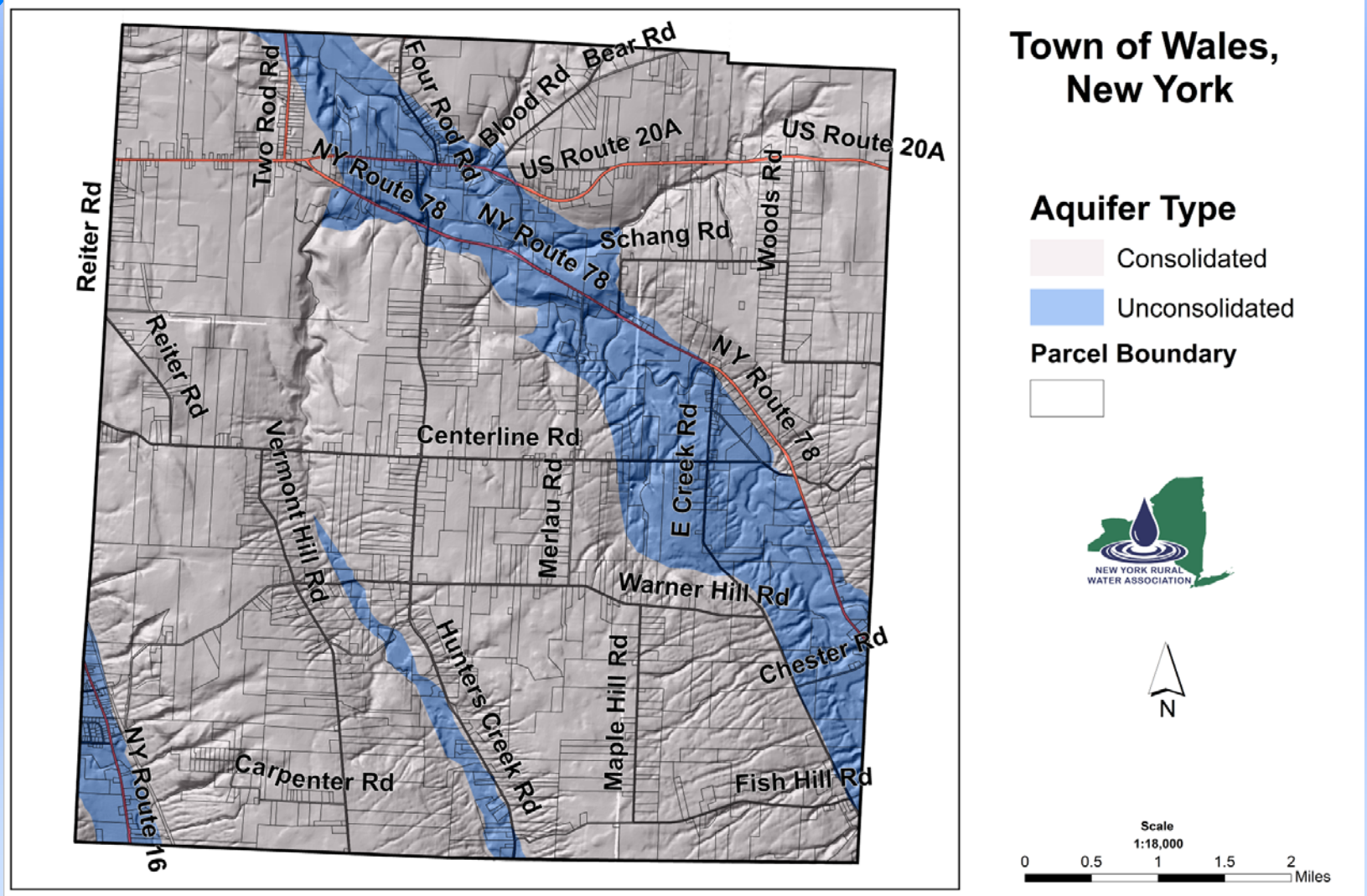
- 359 responses to mailing
- 58 online responses
- Very evenly distributed across Town.



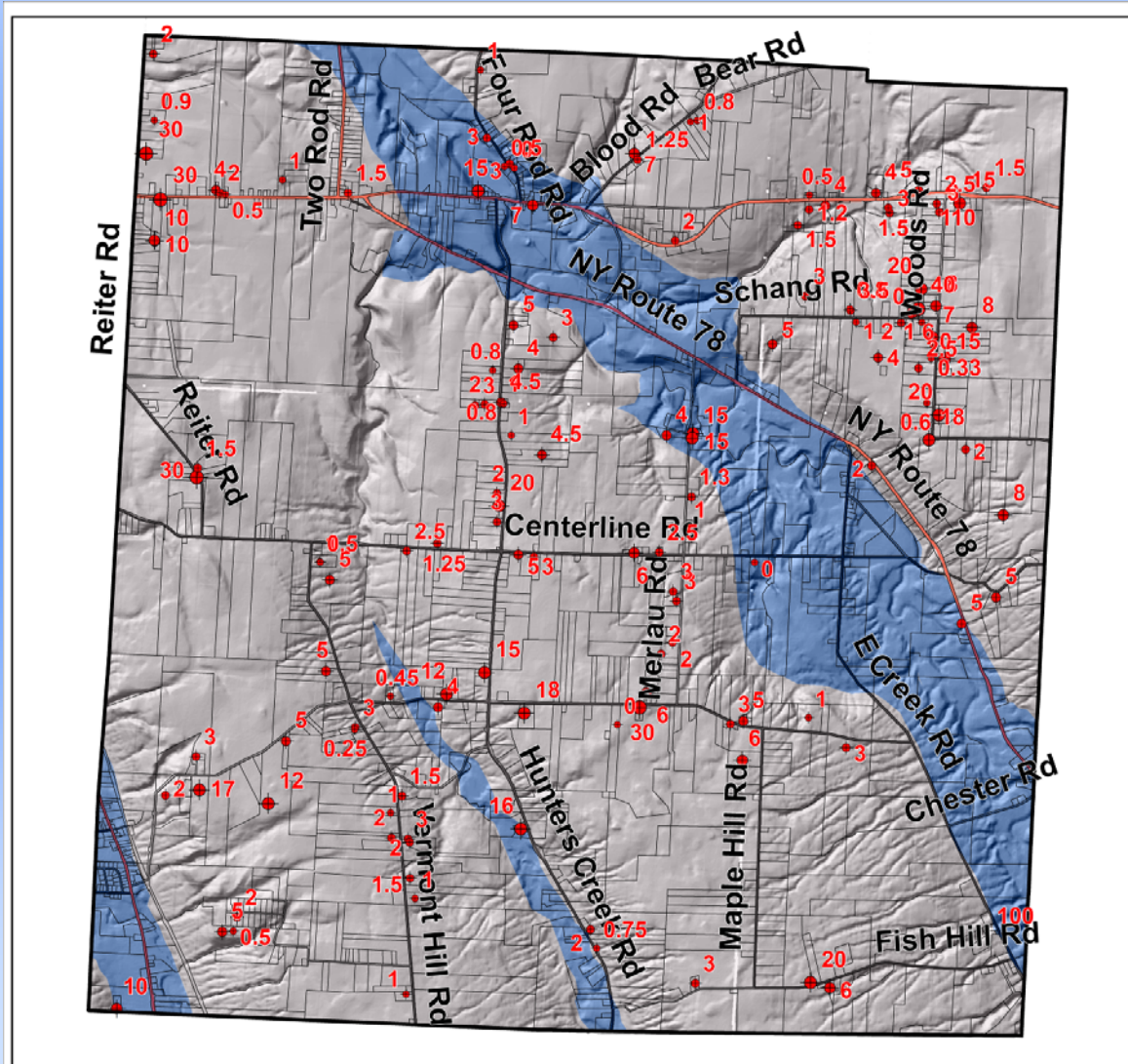
**Total of 417 Survey Responses**



# Unconsolidated Aquifers Have Been Mapped In Detail



# Bedrock Well Data Has Been Compiled and Studied



## Bedrock Well Yields Town of Wales New York

### Well Yield

- ≤ 1 gpm
- 1.25 - 3 gpm
- 3.5 - 5 gpm
- 6 - 10 gpm
- 12 - 20 gpm
- 30 - 40 gpm

### Aquifer Type

- Consolidated
- Unconsolidated

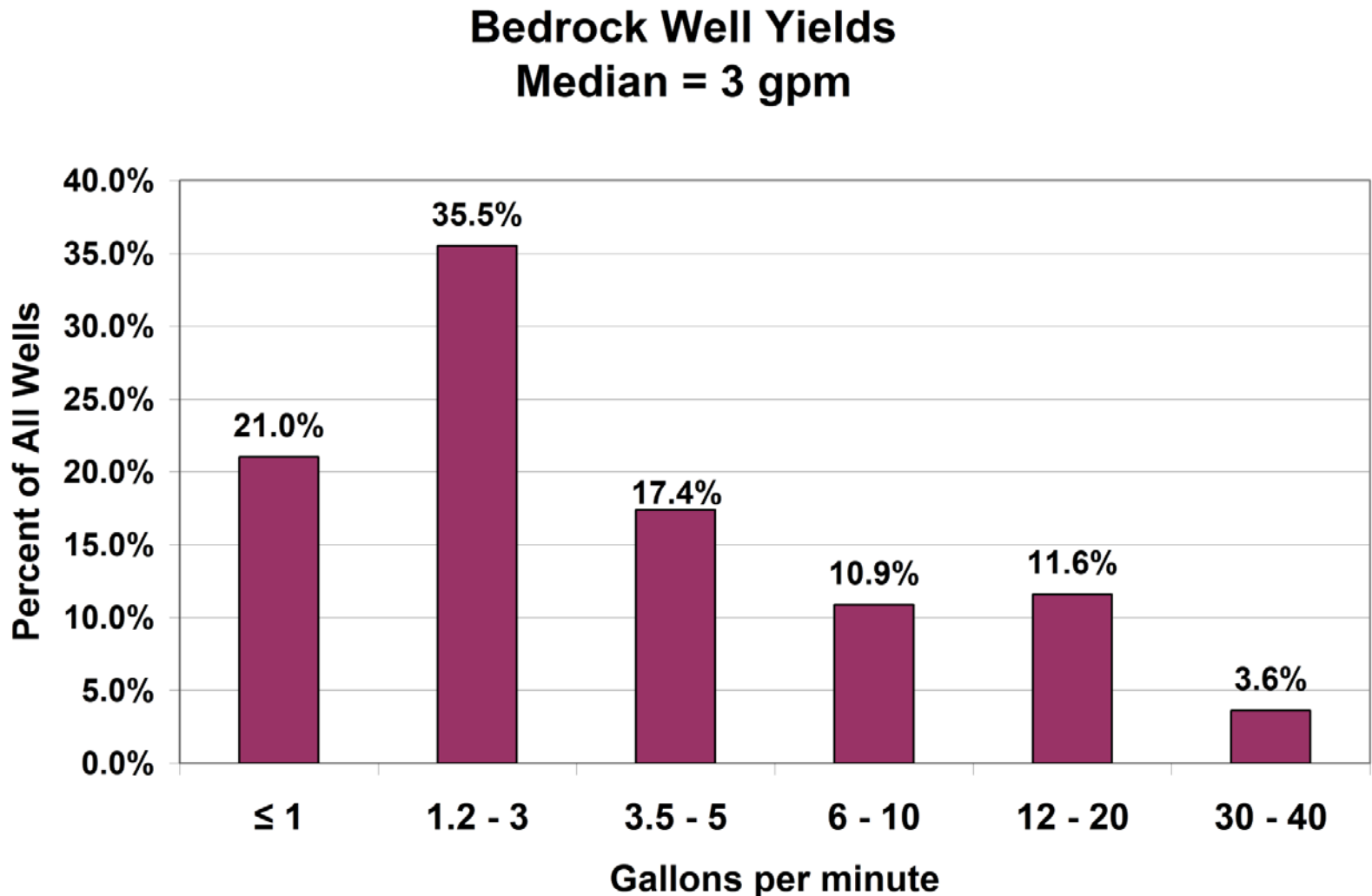


Scale  
1:18,000

0 0.5 1 1.5 2 Miles



# Bedrock Well Data Has Been Compiled and Studied





# **Wales Source Water Protection Plan**

## **What Has Been Done To Date:**

- Nov. 2014 - Held public informational meeting regarding groundwater basics, describing local well supplies, and discussing the results of survey.
- Oct. 2015 – Held second public informational meeting to discuss how individuals and the Town can protect groundwater.

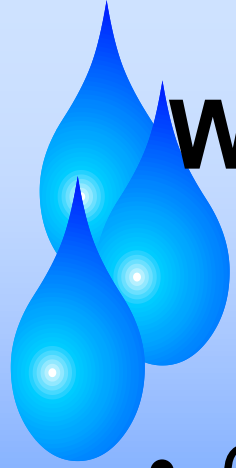




# **Wales Source Water Protection Plan**

## **What Has Been Done To Date:**

- March 2016 - Held meeting with Town Aquifer Protection Committee to review maps and potential protection tools that I suggested.
  - I asked for review of possible strategies to incorporate into the source water protection plan to be prepared.
- April 2016 - Councilwoman Jude Hartrich shared the suggestions with the town's Zoning Board, Planning Board and Conservation Board and requested feedback.

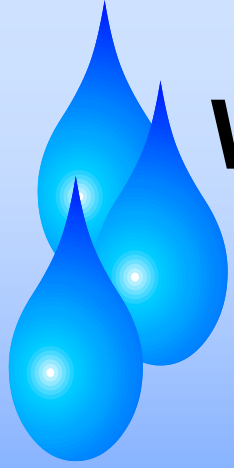


# **Wales Source Water Protection Plan**

## **What Needs to Be Done to Complete:**

- Commitment from the Town that it would like to finalize development and implementation of the source water protection plan
  - Including review of potential protection strategies
  - Selection and prioritization of protection strategies to be implemented
- Preparation of source water protection plan by NYRWA
  - Updating of data (from 2014 to 2019)
  - Map preparation
  - Write plan text

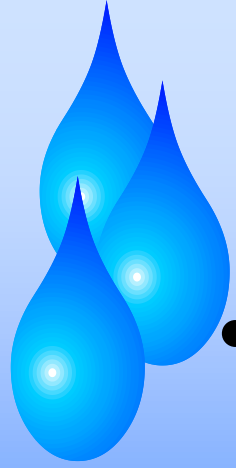




# **Wales Source Water Protection Plan**

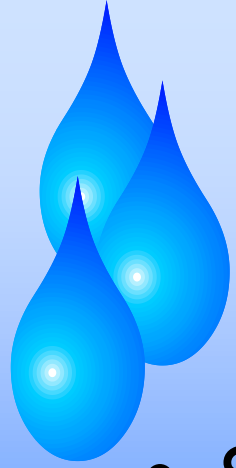
## **What Needs to Be Done to Complete:**

- Review and approval of plan by Town with protection strategies to be implemented



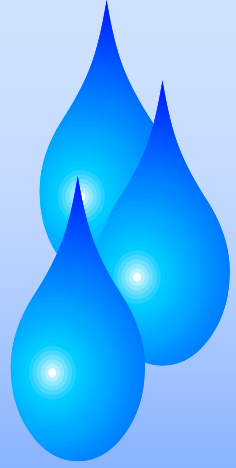
# The Future

- I will commit to having a plan ready for Wales to adopt during my April 1, 2019 - March 31, 2020 program year.
- A resolution or motion to proceed by the Town in the month or two would allow me to start compiling the necessary data and getting plan materials out to the people in Wales for their review.
- I would need a group of individuals (planning team) to work again with.



# My Contact Info.

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# Questions??