

# MAHOMET AQUIFER TASK FORCE – GROUNDWATER ASSESSMENT AND PROTECTION TOOLS

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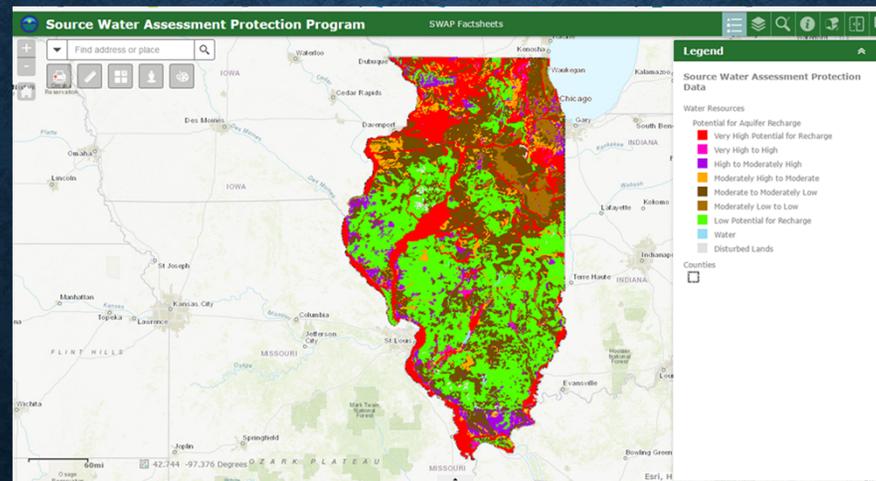


Illinois Environmental Protection Agency

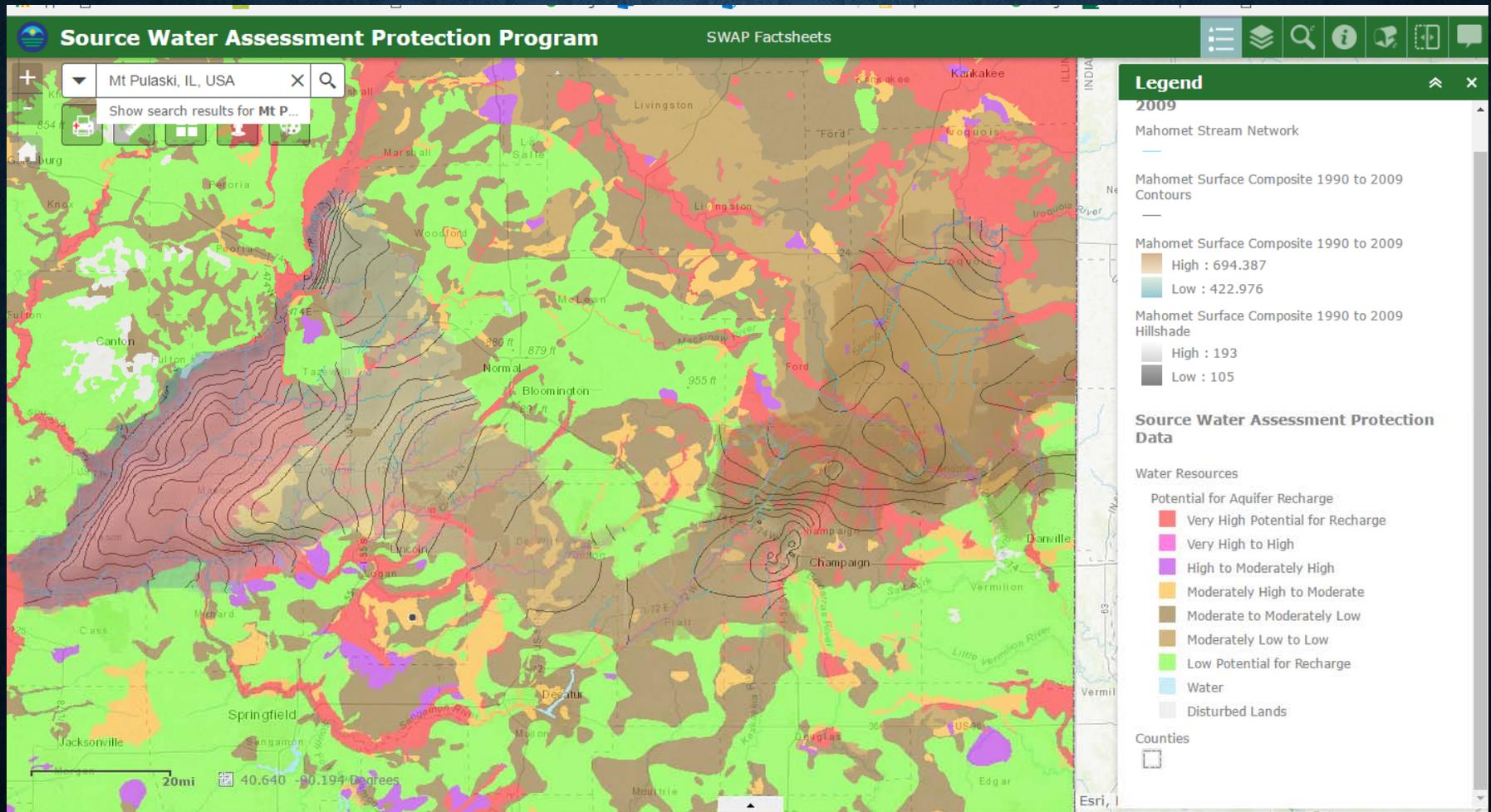
2/23/2018

# I. PRIORITIZATION OF RESOURCE GROUNDWATER

## Illinois Regional Potential for Aquifer Recharge Map (415 ILCS 5/17.2)



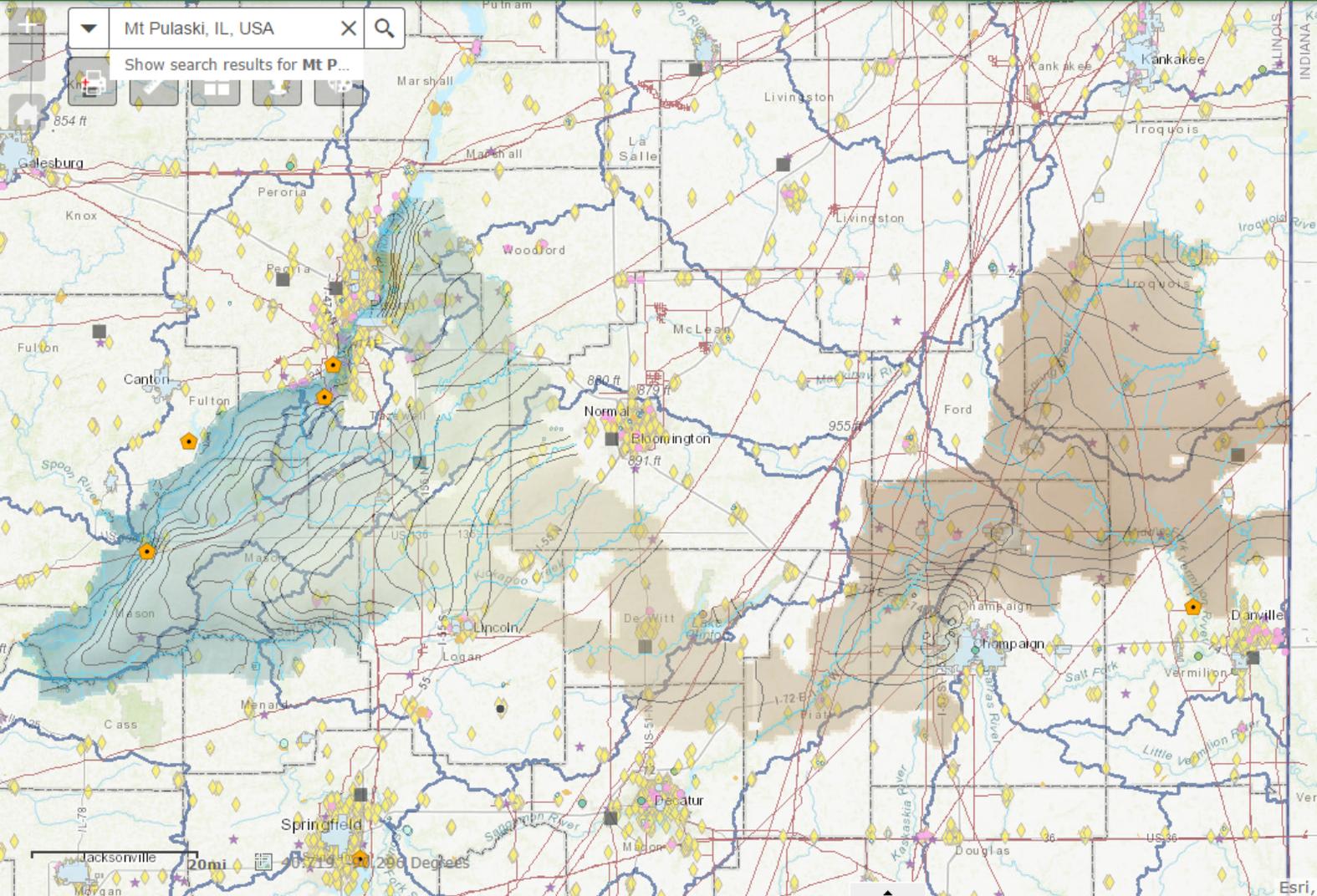
# POTENTIAL FOR AQUIFER RECHARGE MAHOMET AQUIFER



## **II. EXISTING POTENTIAL CONTAMINATION SOURCES**

# POTENTIAL CONTAMINATION SOURCES

- Electric Coal Fired Power Plants – Ash Impoundments
- Center-pivot irrigation wells
- Active landfills/historical landfills
- Toxic Release Inventory Sites (TRI)
- Leaking Underground Storage Tanks (LUST)
- Resource Conservation and Recovery Sites
- Agricultural cropland
- Voluntary Site Remediation
- Restricted Use Groundwater Ordinances
- Comprehensive Environmental Response Compensation and Recovery Act (CERCLA) Sites
- Nuclear Power Generating Plants
- Oil and Gas Pipelines
- Oil and Gas Storage and Production
- Confined Animal Feeding Operations

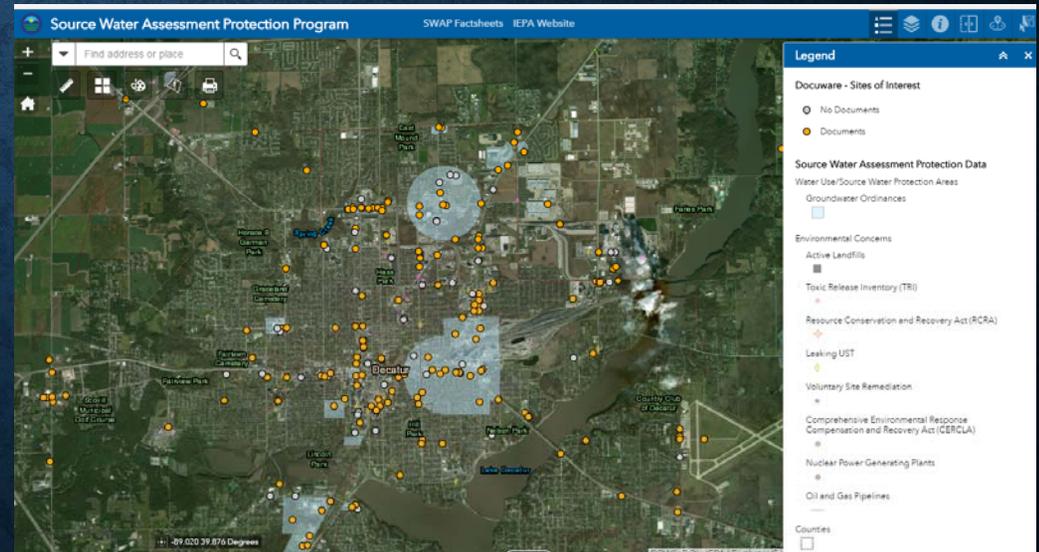
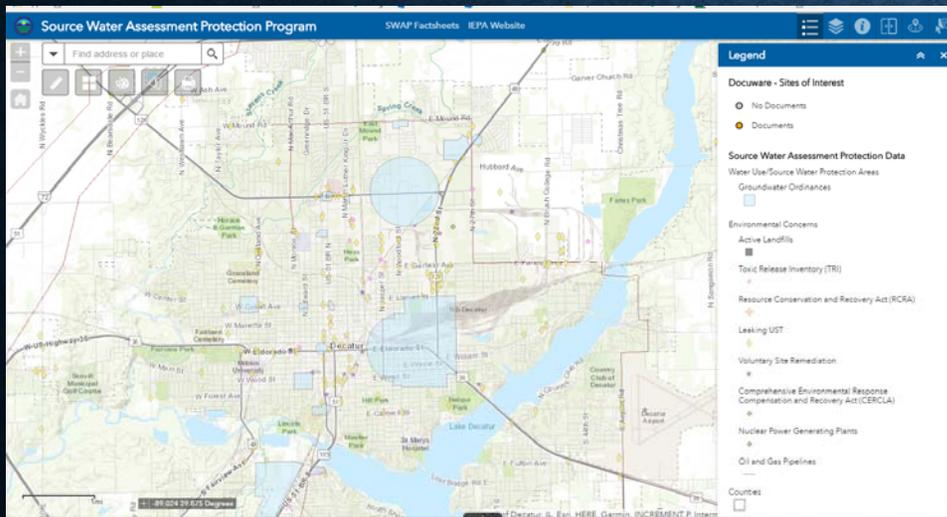


### Legend

- Illinois EPA Site Related Right to Know
- Groundwater Ordinances
- Environmental Concerns
  - Active Landfills
  - Toxic Release Inventory (TRI)
  - Resource Conservation and Recovery Act (RCRA)
  - Leaking UST
  - Voluntary Site Remediation
  - Comprehensive Environmental Response Compensation and Recovery Act (CERCLA)
  - Nuclear Power Generating Plants
  - Oil and Gas Pipelines
- Water Resources
  - NRCS 8-Digit HUC
  - Counties

# PUBLIC GIS WEB SERVICE

[HTTP://WWW.EPA.ILLINOIS.GOV/TOPICS/COMMUNITY-RELATIONS/SITES/MAHOMET-AQUIFER-TASK-FORCE/INDEX](http://www.epa.illinois.gov/topics/community-relations/sites/mahomet-aquifer-task-force/index)



### **III. SOURCES OF KNOWN GROUNDWATER CONTAMINATION**

# GROUNDWATER MONITORING

- Illinois Groundwater Protection Act
  - 415 ILCS 5/13.1 – Agency State Wide Groundwater Monitoring Network
- Illinois Groundwater Protection Act
  - 415 ILCS 55/7(b)(1) – Long-term groundwater monitoring network
- Interagency Coordinating Committee on Groundwater (ICCG) 415 ILCS 55/4
- Governor Appointed Groundwater Advisory Council (GAC) 415 ILCS 55/5

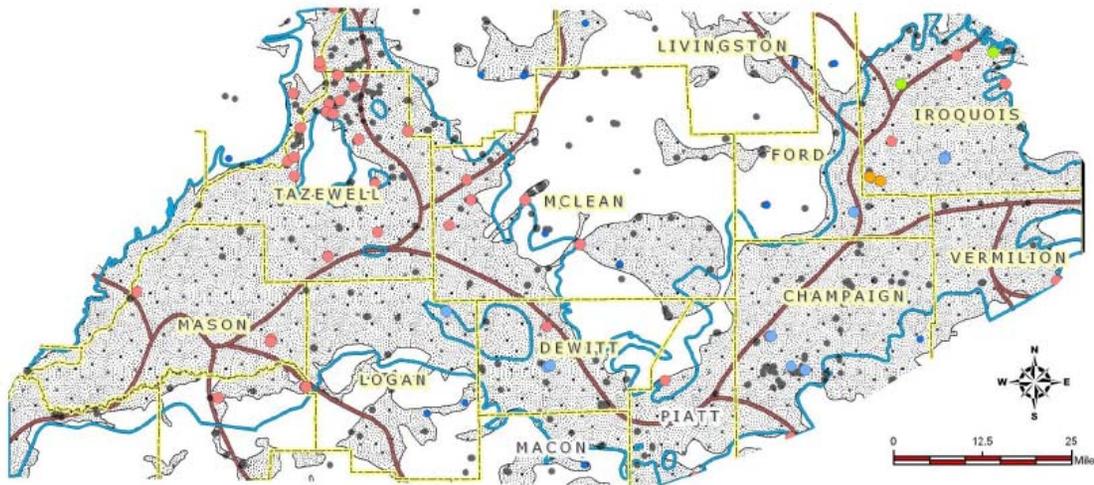
# **GROUNDWATER MONITORING - FOCUS ON THE MBV**

<http://www.epa.illinois.gov/topics/community-relations/sites/mahomet-aquifer-task-force/index>

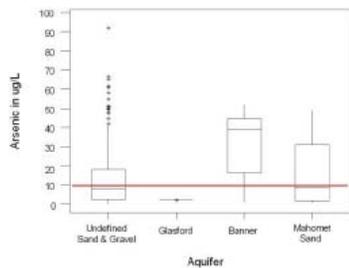


# EXAMPLE OF RESULTS FOR ONE CONTAMINANT BY AQUIFER

CWS Network Wells in the Mahomet - Teays Aquifer

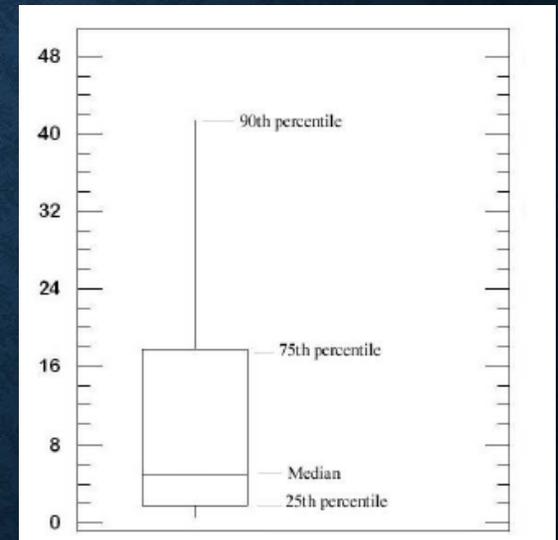


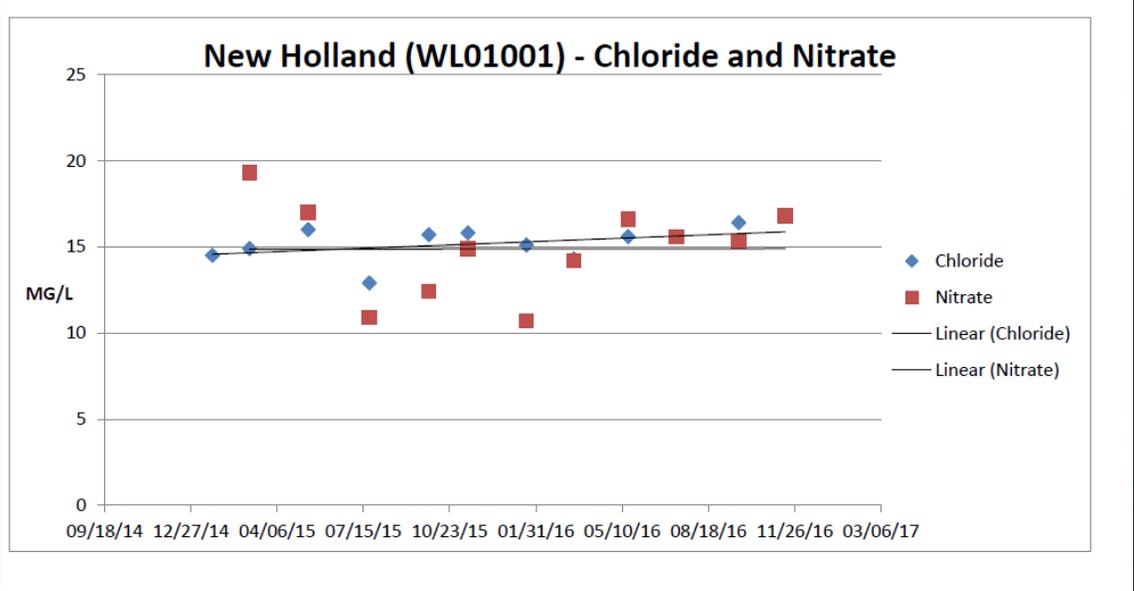
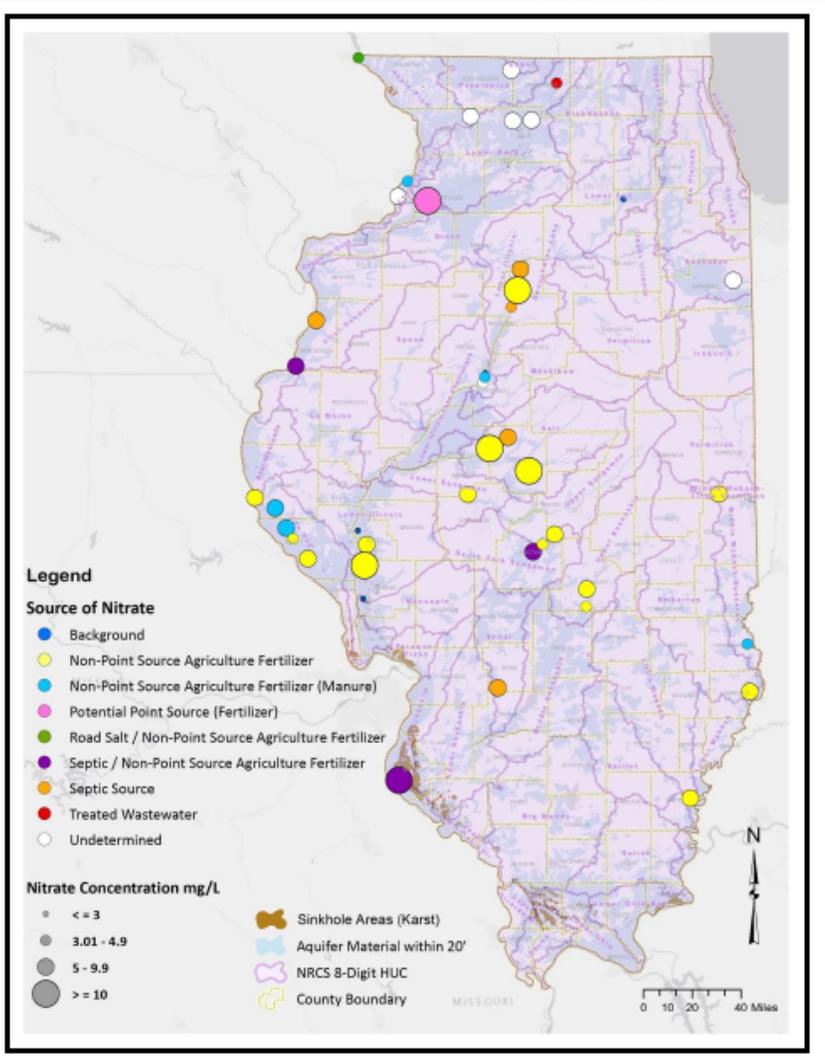
Concentrations of Arsenic in the Mahomet - Teays by Aquifer



CWS Network Wells in the Mahomet-Teays

- Undefined Sand & Gravel
- Glasford Formation
- Banner Formation
- Mahomet Sand
- Ambient Wells
- CWS Wells
- Mahomet-Teays Boundary
- Bedrock Valleys
- County Boundaries





# ACCESSING GROUNDWATER AND DRINKING DATA OVER THE INTERNET

- Drinking Water Watch
- Ambient monitoring network wells
- CWS wells
- Linked to GIS Web Service

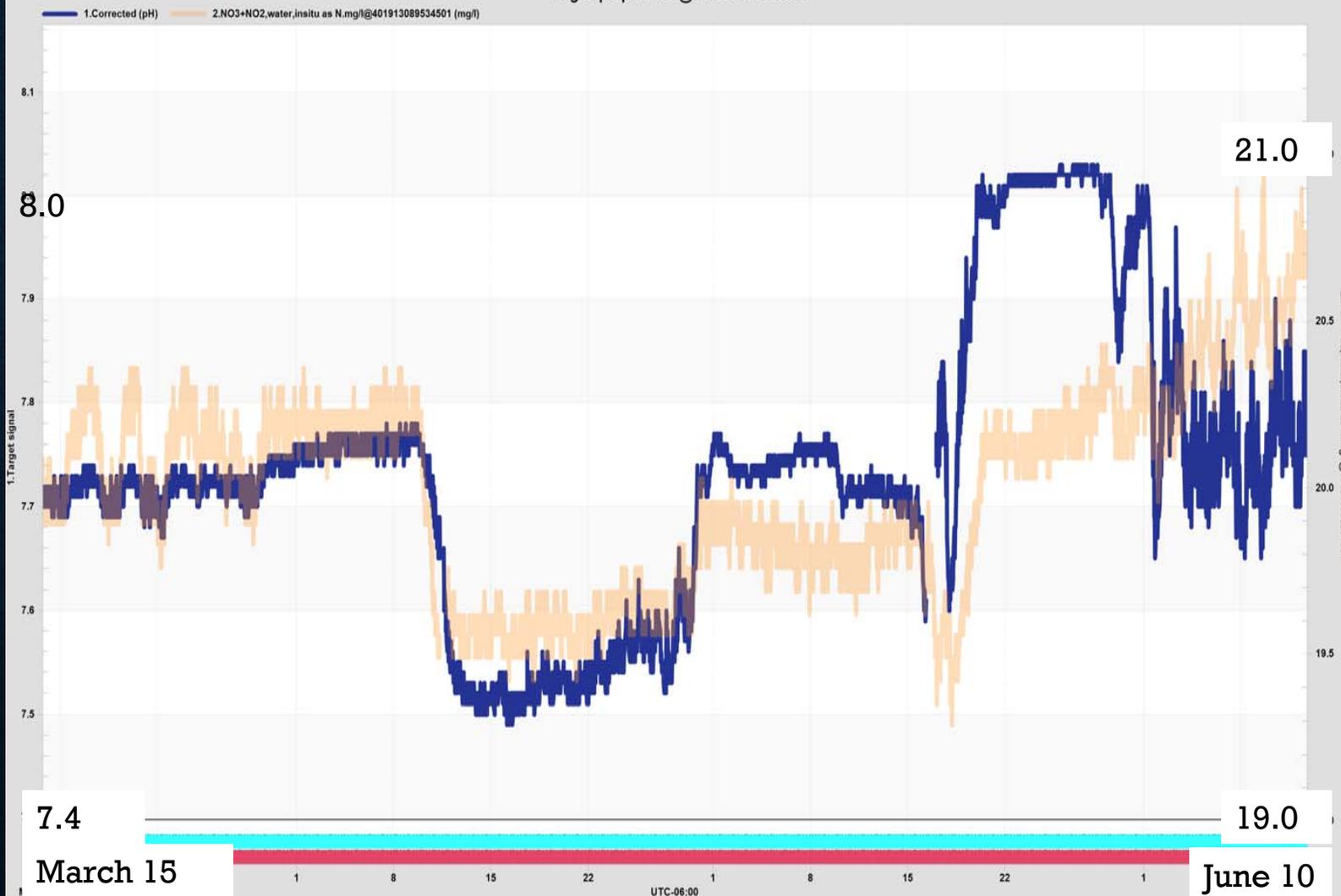
# Real-Time Nitrate Monitoring in Groundwater in Havana, Illinois



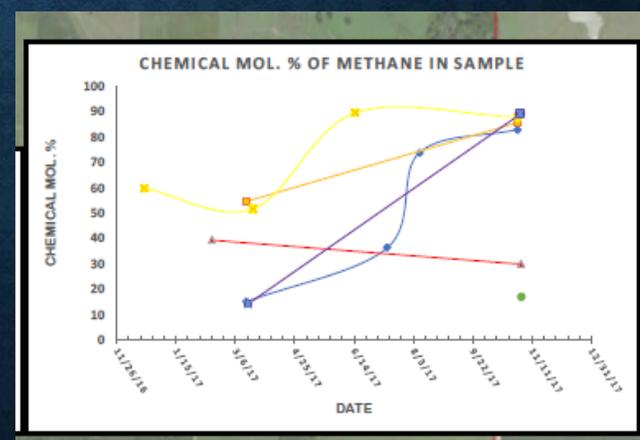
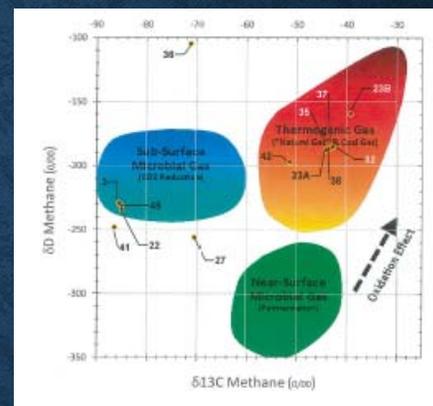
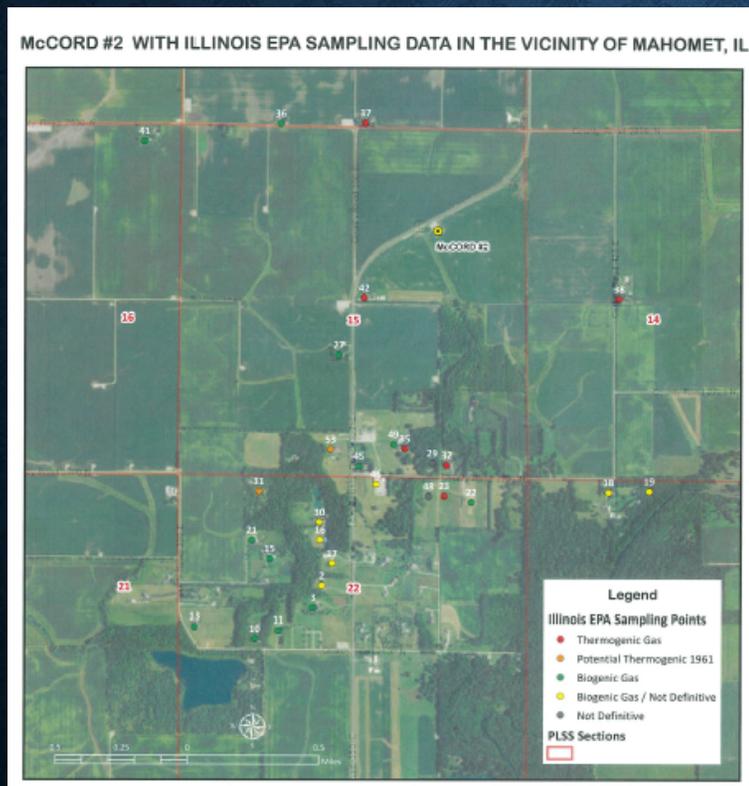
# pH and nitrate – March thru June



Target: pH.pH Units@401913089534501



# THERMOGENIC SOURCE OF NATURAL GAS



## **IV. PUTTING ALL OF THE INFORMATION TOGETHER FOR PUBLIC WATER SUPPLIES TO PROTECT THEIR SOURCE WATER**

- Importance of source water
- Source of supply
- Well data
- Source water quality
- Finished water quality
- Potential contamination sources
- Susceptibility to contamination
- Source water protection efforts

# SOURCE WATER ASSESSMENT FACT SHEETS

Illinois Environmental  
Protection Agency



Source Water Assessment Program  
**FACT SHEET**

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New Holland  
Logan

Prepared in cooperation with the U.S. Geological Survey.  
Information and data used in the preparation of this Fact Sheet are provided by the Illinois EPA and are subject to revision.

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Illinois EPA PWS Number: IL1070450

**WATER PERCENTAGES:**

Surface Water%	Surface Water Purchase%	Ground Water%	Ground Water Purchase%	Ground Water UDI%	Ground Water UDI Purchase%
0	0	100	0	0	0

**IMPORTANCE OF SOURCE WATER:**

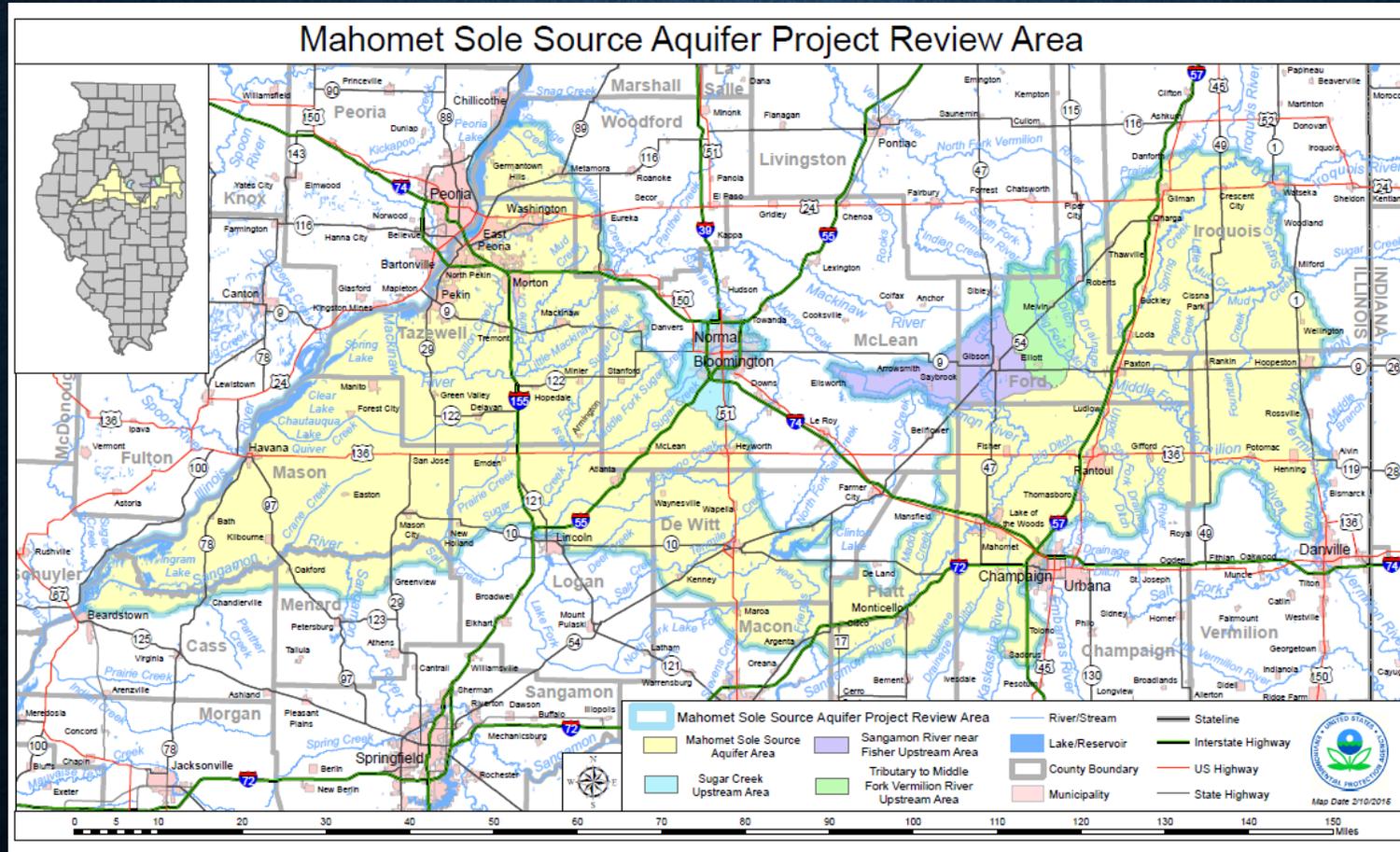
The Village of New Holland (Facility Number 1070450) obtains its water from four (4) active community water supply wells (CWS). Wells #1, 2, 3, and 4 (Illinois EPA #50212, 50213, 50214, and 01001 respectively) supply an average of 20,000 gallons per day (gpd) to 155 connections and a daily population of 333.

**SOURCE OF WATER SUPPLY:**

As noted above, the Village of New Holland utilizes four (4) active CWS wells which are located at the northern and southern edge of the village limits. Wells #1, 2, 3, and 4 operate individually on average at approximately 5 to 75 gallons per minute (gpm) and are 72, 74, 155, and 170 in depth, respectively. The active wells were installed between 1908 and

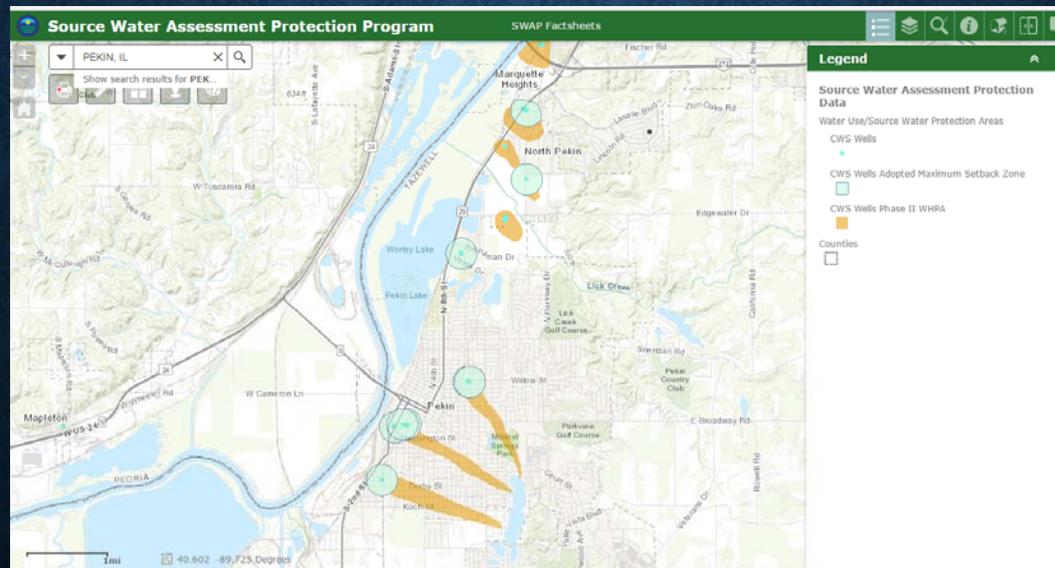
**V. EXISTING LAWS AND REGULATIONS THAT  
ARE AVAILABLE**

# MAHOMET SOLE SOURCE AQUIFER (SSA)



# LOCAL WELLHEAD PROTECTION EFFORTS

- Central Region Groundwater Protection Committee's web page at;
- Tazewell County Groundwater Protection Ordinance and the City of Pekin's Overlay Wellhead Ordinance at:
- <http://www.epa.illinois.gov/topics/community-relations/sites/mahomet-aquifer-task-force/index>

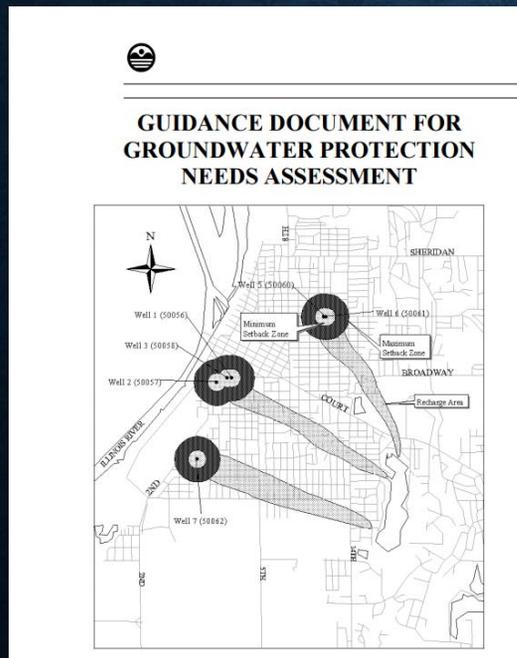




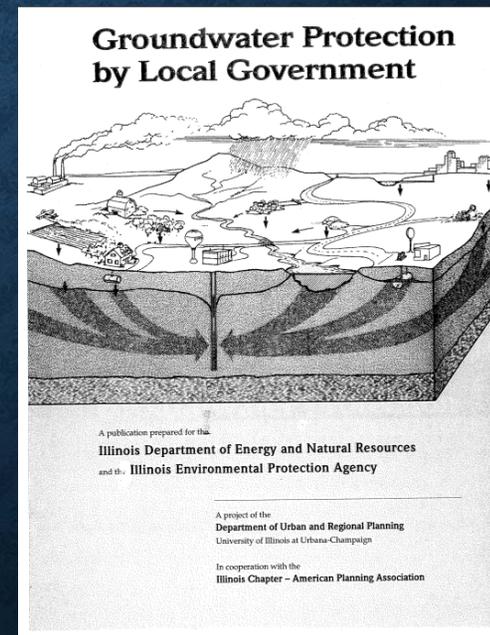
# GUIDANCE DOCUMENTS

[HTTP://WWW.EPA.ILLINOIS.GOV/TOPICS/COMMUNITY-RELATIONS/SITES/MAHOMET-AQUIFER-TASK-FORCE/INDEX](http://www.epa.illinois.gov/topics/community-relations/sites/mahomet-aquifer-task-force/index)

- ***Groundwater Protection by Local Government***



- ***Guidance Document for Groundwater Protection Needs Assessment***



**VI. EVALUATION OF THE EXTENT TO WHICH  
LOCAL, STATE, OR FEDERAL CONTROLS  
DIRECTLY OR INDIRECTLY, PROVIDE SOME  
MEASURE OF GROUNDWATER PROTECTION**