

# Allegan County Water Study Workgroup

## Meeting Minutes

Wednesday, July 19, 2023 2:00 pm

Member Name	Group	Attendance	Notes
Dean Kapenga	County Commission	In Person	
Chad Kraai	Well Driller	Absent	Joined via Zoom at the end of the meeting
Brian Talsma	Conservation District	Zoom	
Doug Sweeris	Municipal Water Supply	Absent	
Jaclyn Hulst	Community	In Person	
Ruth Kline	MSU Extension	Zoom	
Brad Lubbers	Agriculture	Absent	
John "Ric" Curtis	Community	In Person	
Liz Binoniemi-Smith	Tribal	Zoom	
Tom Kunetz	Community	In Person	
Zachary Curtis	Consultant	Zoom	

Guests and staff: In Person: Randy Rapp  
Zoom: Angelique Joynes, Scott Jones and Jill Dunham

Next meeting: Wednesday, July 19, 2023

### I. Approval of Agenda

- A. Agenda approved

### II. Action Items from previous meeting

- A. Chad will review the list once he gets it from Zach and report whether the high nitrates site (60-100 ppm) north of Martin is on it. Zach provided the addresses for the Martin sites to Randy. **DONE**
- B. Tom will meet with the County Administrator to discuss the plan for partnering with Michigan Geologic Society to drill 12-13 wells by year end. **DONE**
- C. Randy Rapp – set up meeting with the three EGLE contacts and invite Tom, Angelique and possibly other workgroup members. Purpose to explain to them about our Ground Water Study workgroup and what we are doing. **DONE** Meeting set up with EGLE plus MDHHS, on July 28th via Teams
- D. Angelique will check into all the details about well testing programs for private well owners – EGLE and MDHHS – **DONE Launch late August or early fall.**

- E. Randy Rapp – check with Valdis on the status of the contract with Williams & Works. **DONE**
- F. Jaclyn will send Tom the info on the monitoring equipment and contact David. **DONE**

### III. Discussion

- A. Groundwater Protection Strategy RFP Update (Rapp)
  - 1. Need to kick-off the project with Williams & Works. Jill will schedule a pre-kickoff with the County team, prior to scheduling the W&W kickoff.
- B. Monitoring Wells and MI Geological Survey (MGS) (Rapp)
  - 1. Randy reported that the language is almost complete for the agreements with the county and townships for the installation and maintenance of the monitoring wells on their property. Valdis will adapt the language for use with townships. Rob commented that the agreement for non-county properties will be a 3-party agreement to account for the county paying with ARPA funds for the installation of the monitoring well.
  - 2. Randy is reviewing the list of recommended properties to select next target locations. Jaclyn suggested the need for monitoring wells in areas of growth.
  - 3. Rob commented on a gap in the language regarding guarantees of monitoring. MGS is willing to provide necessary monitoring and maintenance on the monitoring wells for a 2-year period. If the well is accepted into the National Ground Water Network, then MGS will continue to monitor and maintain the well. But if not accepted, MGS will not monitor and maintain the well.
  - 4. Zach offered input on various wireless sensors. Vendor that sells the sensor sends data via satellite to their database, which allows the client to view the data and download the data. The data is coming in real-time. Typically, the vendor allows you to relay the data to the client's database. Need to find out from the vendors whether they require a subscription service and the cost. Could be free or could be free for a set amount of time and then a fee.
- C. Commissioners Presentation (Kunetz)
  - 1. Tom reported on the presentation to the BOC
  - 2. Board requested we commit our funds by end of 2023.
  - 3. Board is pleased to see that W&W is researching growth and the risk of Allegan County "running out of water."
- D. Private Residential Wells Assistance Discussion (Kunetz)
  - 1. Tom reviewed the attached Framing Questions for the discussion.
    - a. Rob responded with the County's perspective.
      - i. Can we leverage ARPA to get additional funds?
      - ii. Not use ARPA when there is another resource.

- iii. Outreach to residents with education - Importance of clean drinking water and testing well water.
  - iv. Repair and replacement for residents that are without water due to a well failure.
  - v. We can likely leverage existing agencies in Allegan County to administer any programs for residents. Rob suggested 2 county organizations that have previously offered resources for water issues - Community Action of Allegan County and Allegan Community Foundation.
  - vi. Get info from Midwest Strategies on Statewide programs for which our residents could be eligible.
  - vii. Angelique will inquire during the meeting with EGLE and MDHHS about State resources to support private well owners.
- b. Jaclyn asked what programs our ACHD is currently offering.
- i. Angelique stated ACHD doesn't get funding for water testing. If a home owner test and finds contamination, ACHD can connect resident with EGLE bottled water program. If a site is PFAS contaminated, ACHD can provide filters and reimbursement for installation of a filter system.
  - ii. MDHHS has funding for PFAS contamination, reimburse for cost to install a filter.
  - iii. EGLE has a bottled water program if part of a remediation program.
  - iv. MDHHS or EGLE will pay for water testing if it's part of an investigation of contamination in that area. Example bio slug investigation in Otsego area.
  - v. The county has resources to direct residents on how to get their water tested, but ACHD doesn't currently pay for the testing.
  - vi. Jaclyn has seen Ottawa County offer free well testing in the past.
- c. Ruth re: testing. Be sure to ask Sarah Pearson about well testing during the EGLE meeting on 7/28. MDARD (MI Dept of Ag & Rural Development) is another group to check with. MDHHS has a "Care for my Well" program, which encourages private well owners to test their wells. We will want to loop these agencies into future conversations.
2. Jaclyn offered that the State has a program to assist with an abandoned well.
  3. Tom asked Ruth if there are programs for infrastructure funding. Ruth is not aware of any.
  4. Jaclyn offered resources she found. Ruth will follow up and check on what might be available from these programs
    - a. National Groundwater Association (NAG) – well education
    - b. Rural Community Assistance Partnership (RCAP) -
  5. Angelique also offered that EGLE may have funding for well and septic issues. Tom will add this to the agenda for the meeting with EGLE and MDHHS on 7/28. Do have loan funds for septic with flexible repayment plans.

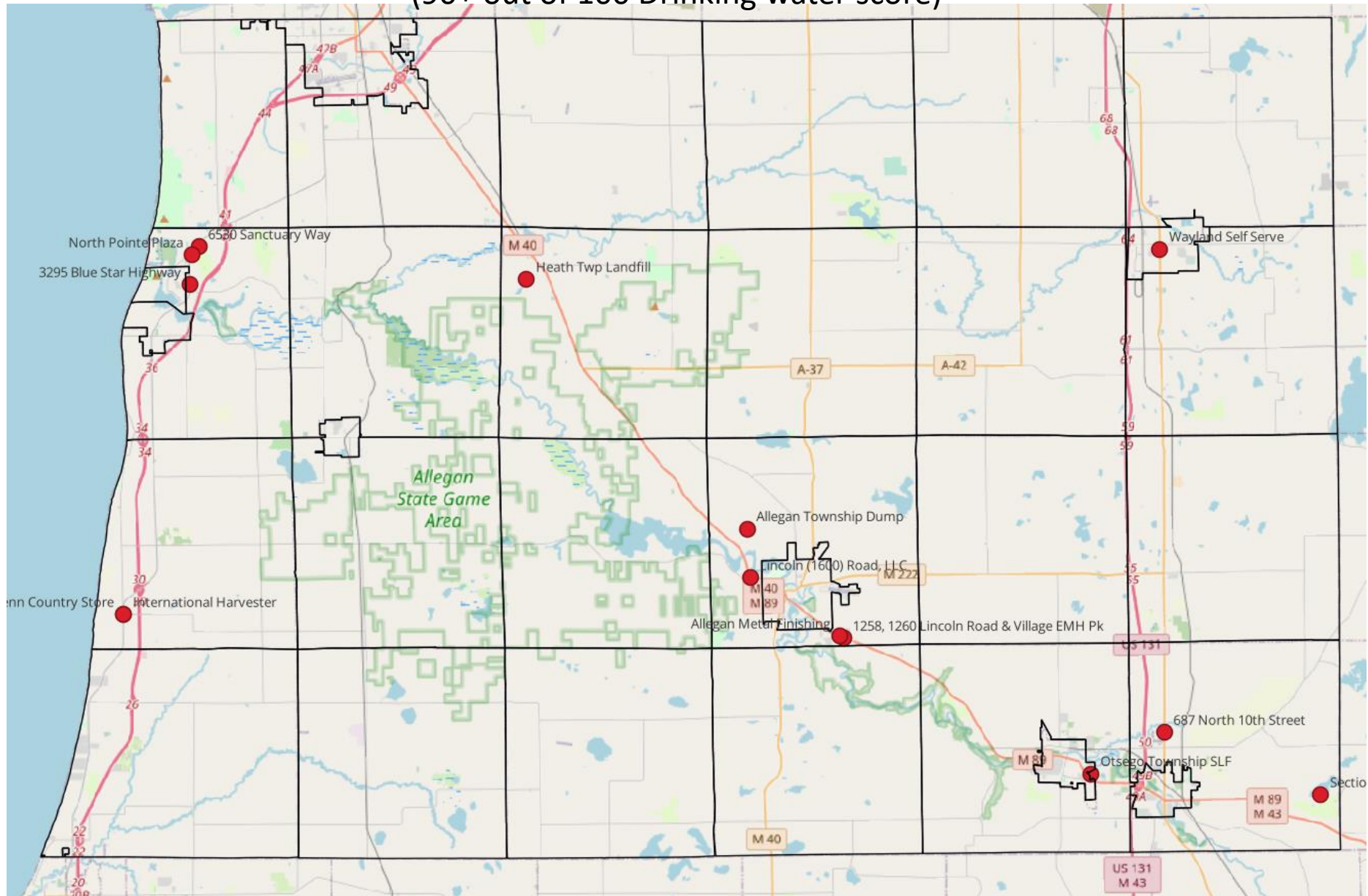
6. Tom asked Brian for input on outreach to the community. Conservation District is geared toward farmers. Nothing geared toward water drinkability. Brian also said Holland has a Water Festival.
7. Ruth asked Brian if they have a MEAP (Michigan Environmental Assurance Program) technician (they do.) Ruth suggested working in well testing as part of their farmstead assessment of environmental risks. The Conservation District hosts a “Field Day” which we can leverage for education.
8. Tom asked how do we identify the residents with problems, what types of problems?
  - a. Jaclyn offered hosting an event at a library, newspaper articles or stand at bottled water at a grocery store and ask shoppers.
  - b. Angelique offered - Well Drillers get calls when a well has issues – long before they call the HD. Reach out and ask them how often they get these calls?
9. Zach reviewed the Top Ten Drinking Water Risk sites in the County.
  - a. Ruth agrees that maps can be powerful. Would like to see the updated Water Chem db in the mix. When SOM completed their source water assessment for Type 1 and Type 2 wells, they looked at 4 parameters – 1) water chemistry, 2) well construction (age and depth,) 3) soils and 4) potential sources of contamination. Be careful about displaying just chemistry – other factors are part of contamination susceptibility.
10. Survey Questions – Chad joined the call and offered the following items for the well driller survey:
  - a. How many have subpar or low supply wells?
  - b. How many have smaller than 4” wells?
  - c. How many wells are 40+ years old?
  - d. How many are testing their water? How often? What are they testing for? For anything more than Bacteria and Nitrates?
  - e. What to test for? Nitrates, arsenic and VOCs. PFAS is expensive and very sensitive.
  - f. How many gallons per minute? Really need at least 5 gallons per minute.

## IV. Action Items

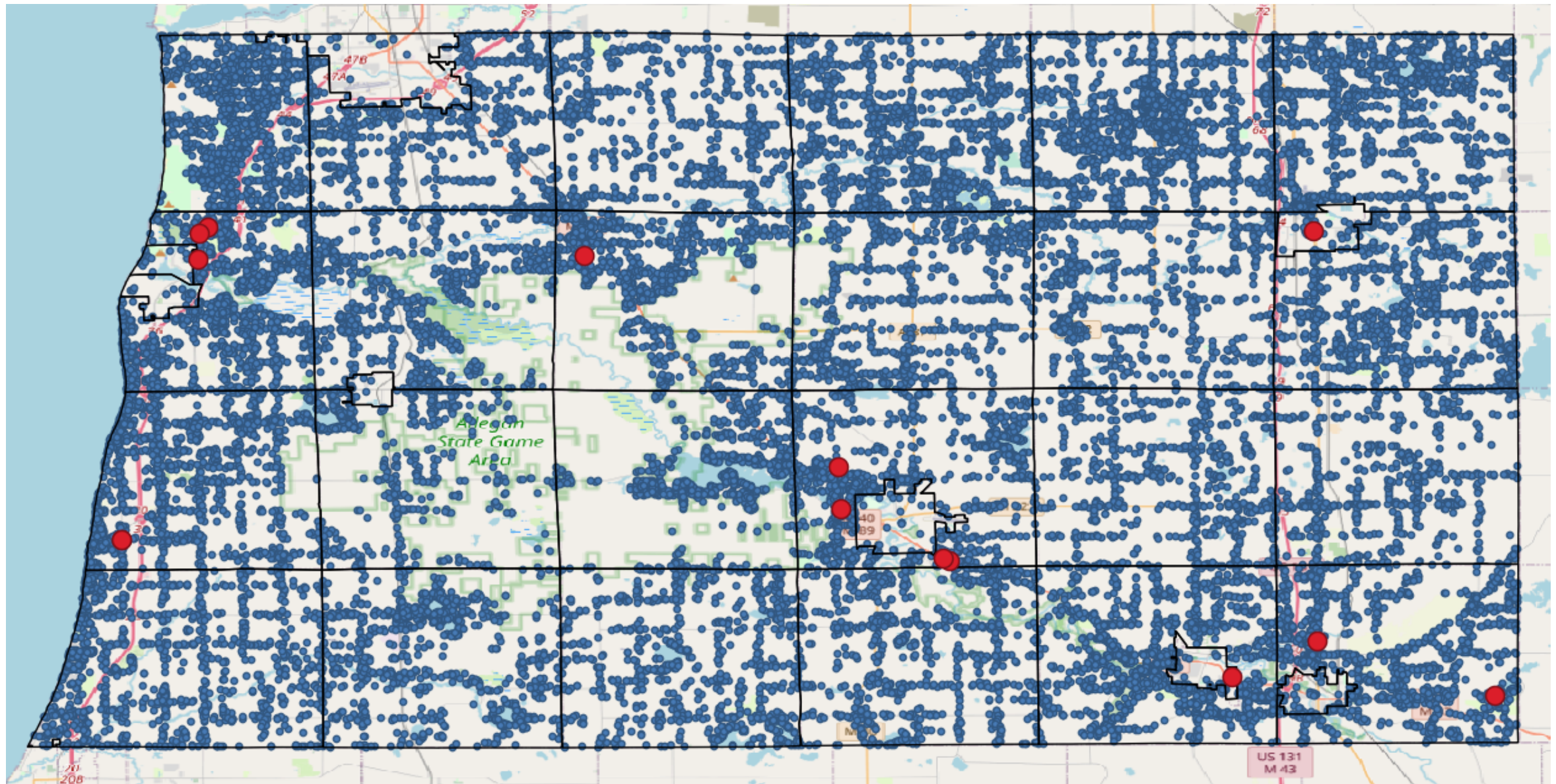
- A. Jill will set up a pre-kickoff meeting with Tom, Ric, Valdis, Randy and Jill. Then Jill will schedule the project kick-off with Williams & Works.
- B. Randy and Zach will meet to review the nitrates sites in Martin area.
- C. Rob will follow up with Midwest Strategies about State resources. Midwest Strategies could come present to the GWS workgroup.
- D. Tom will work with Chad on questions for well driller survey. Angelique can push out a survey using Qualtrics.

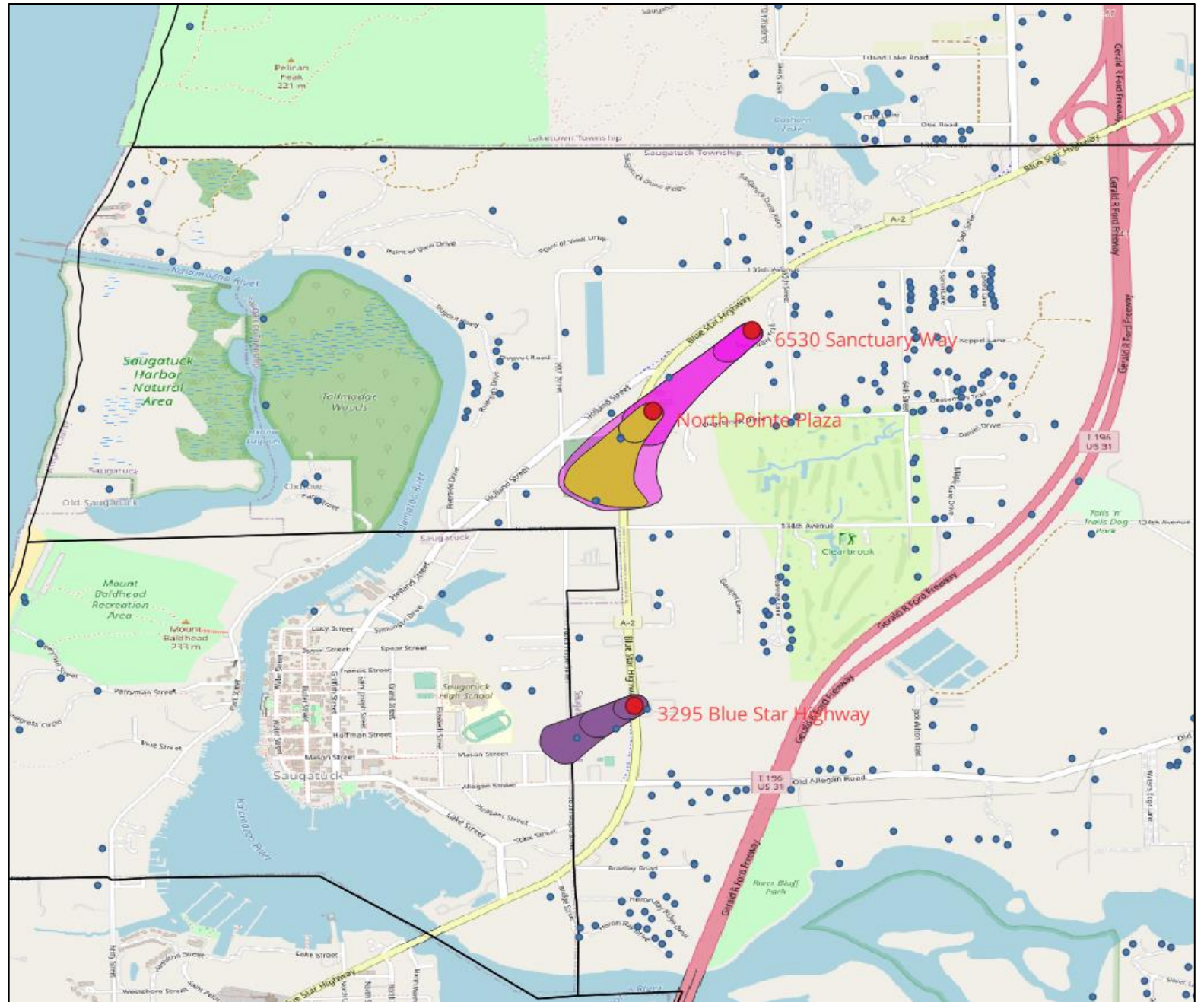
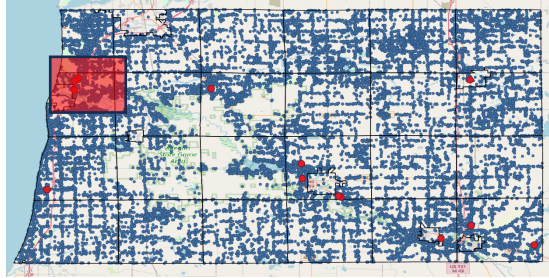
# Phase 2 – Top Ten “Drinking Water Risk” Sites

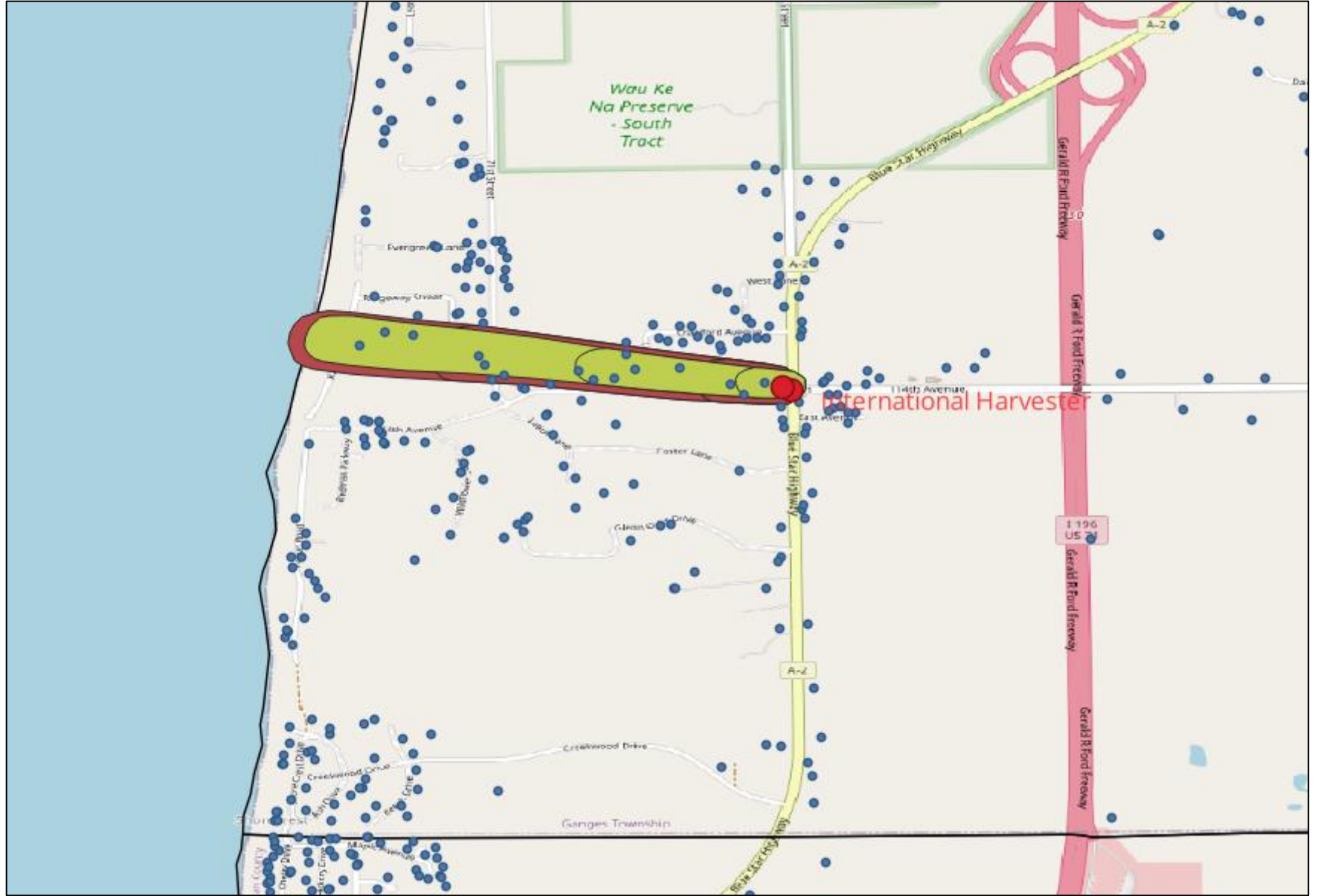
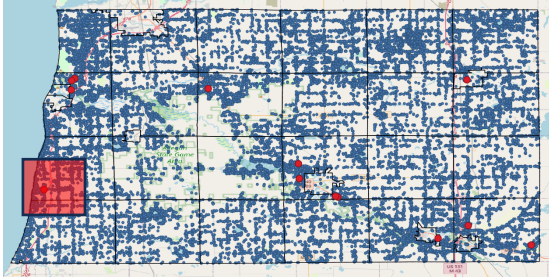
(90+ out of 100 Drinking water score)



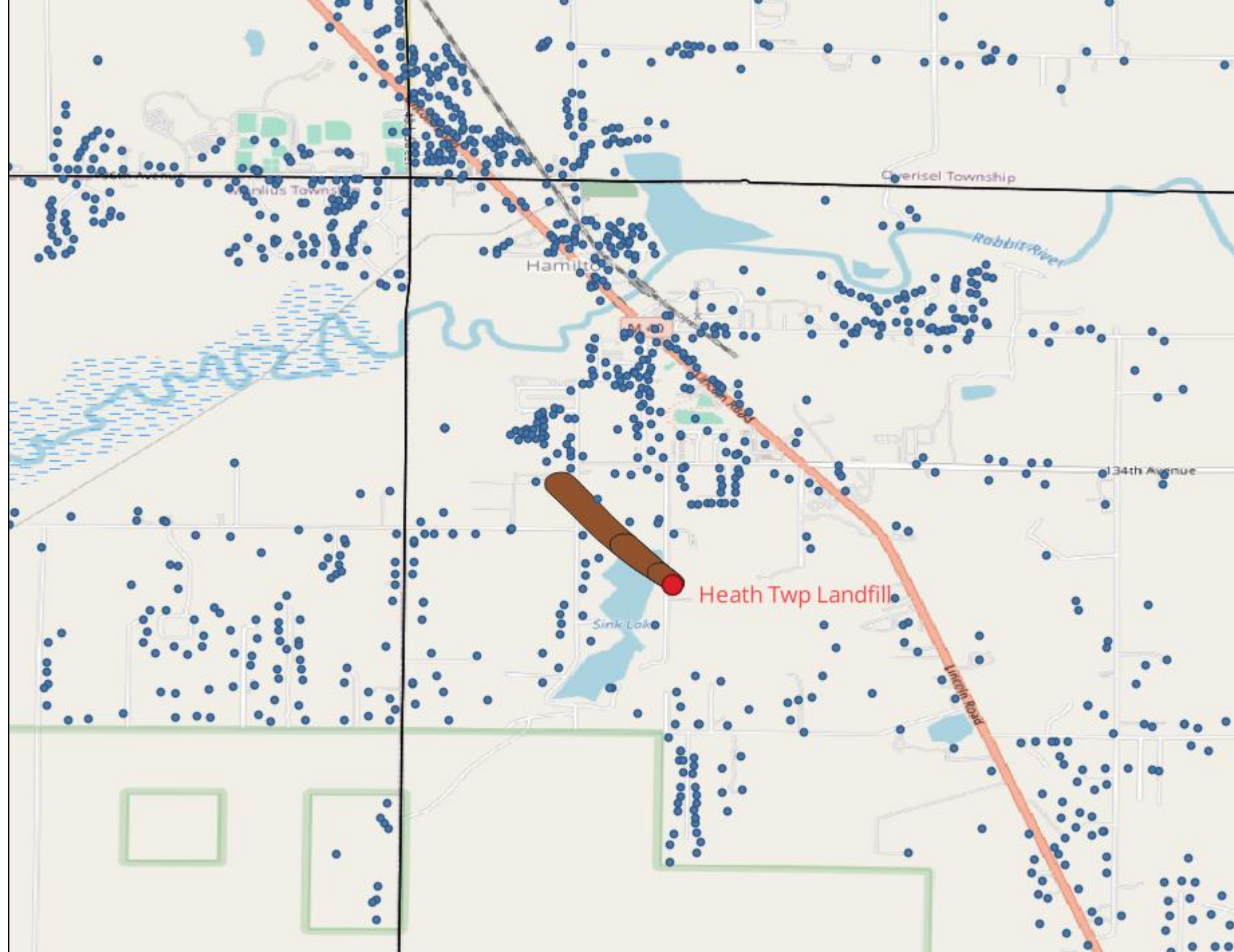
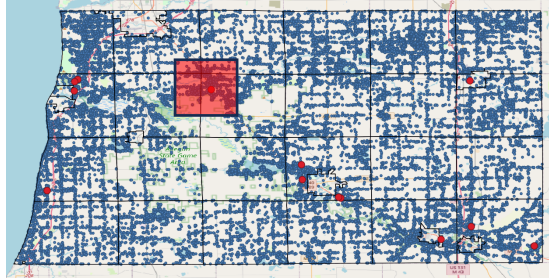
# Top Ten "Drinking Water Risk" Sites – with Household wells

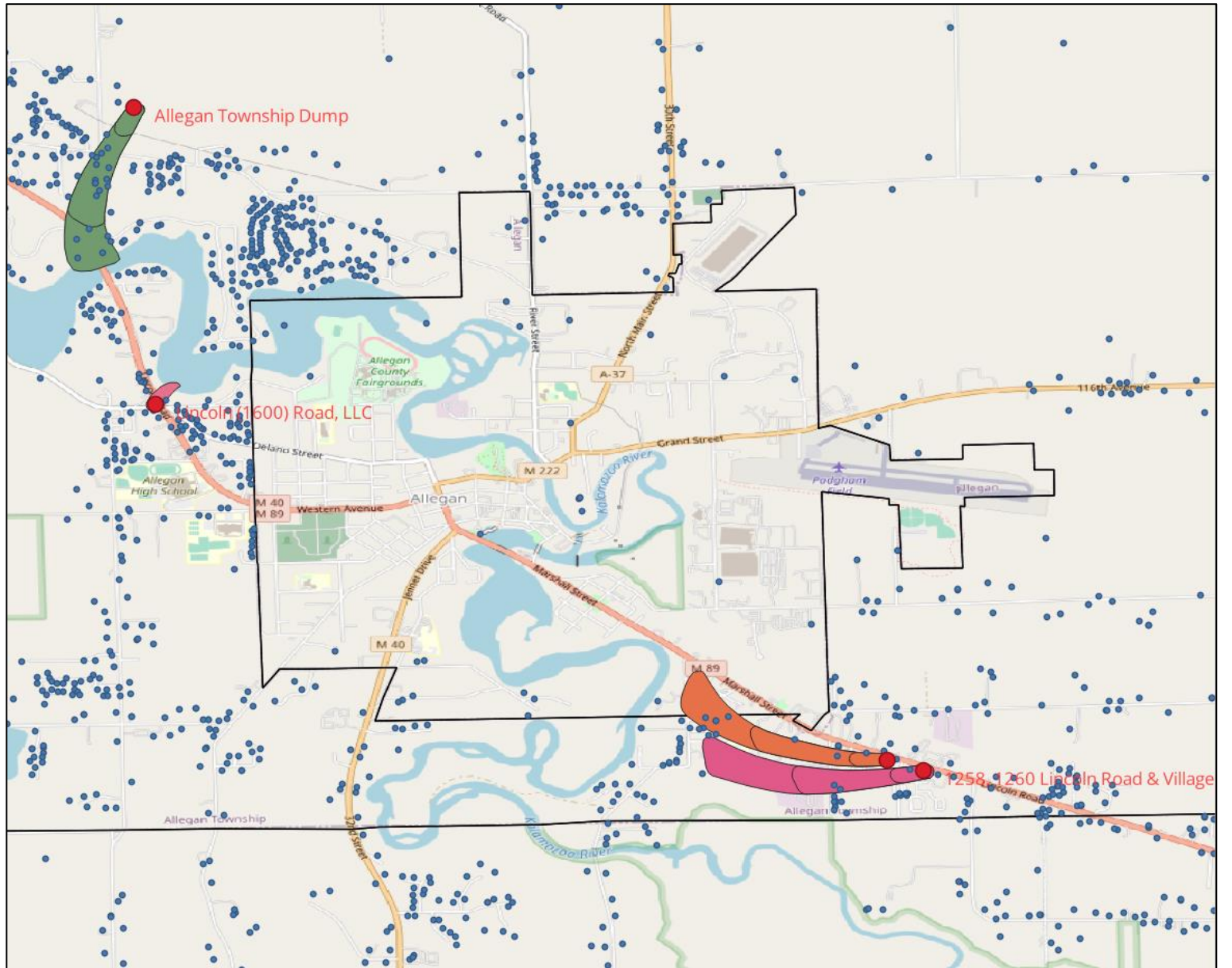
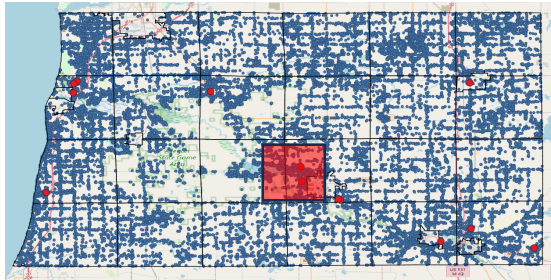


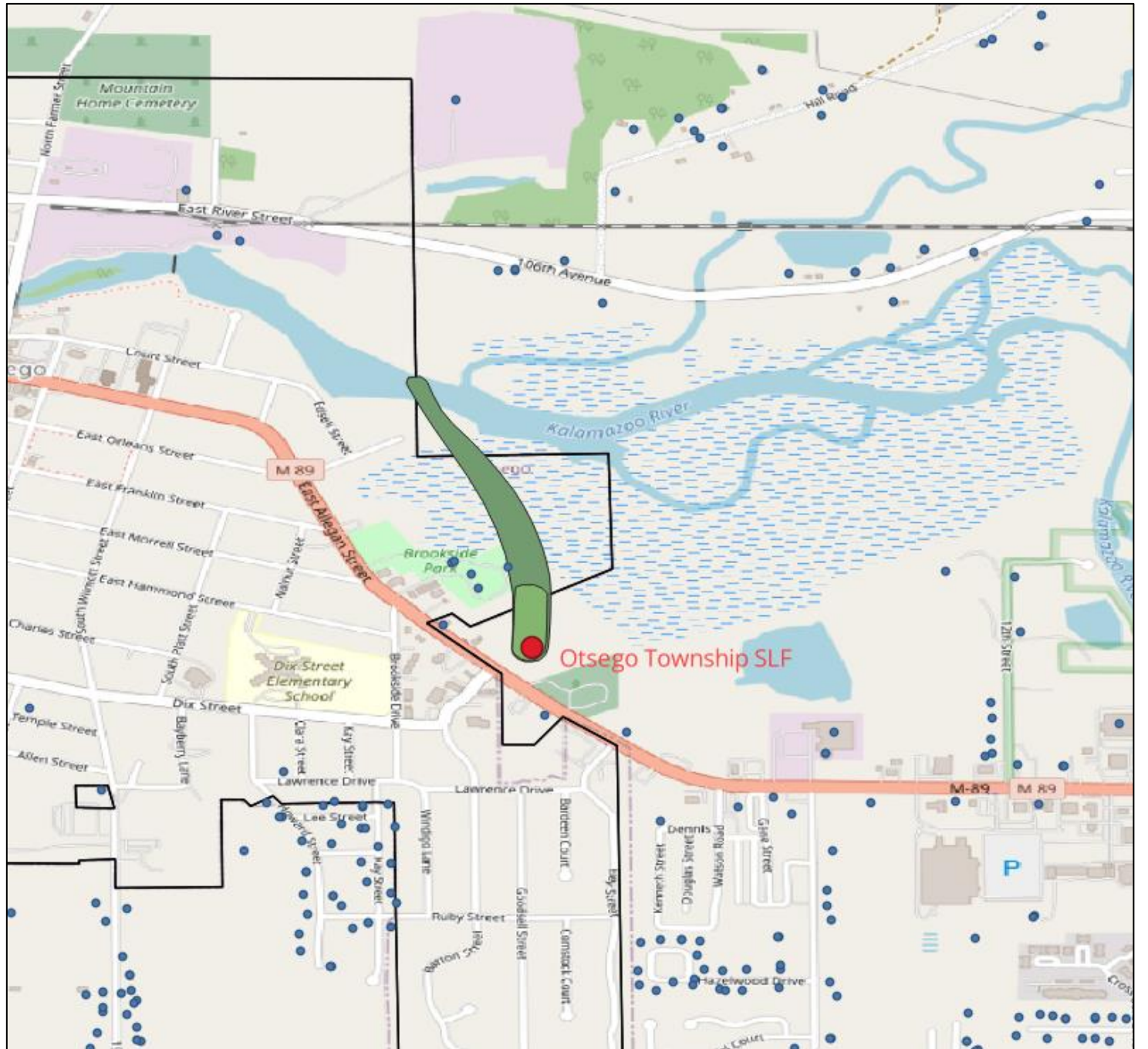
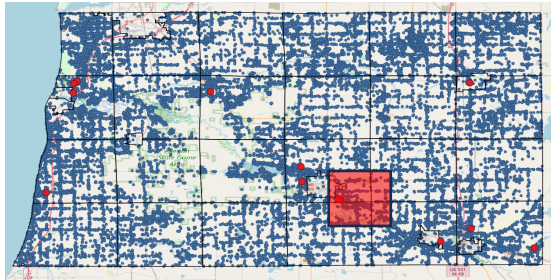


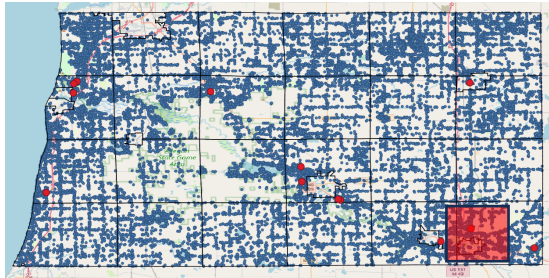


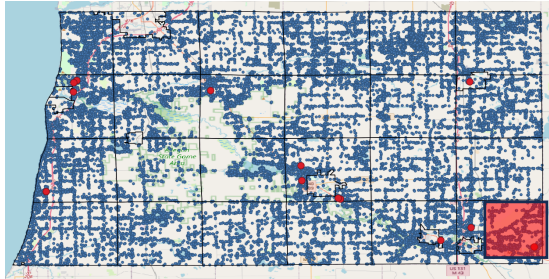


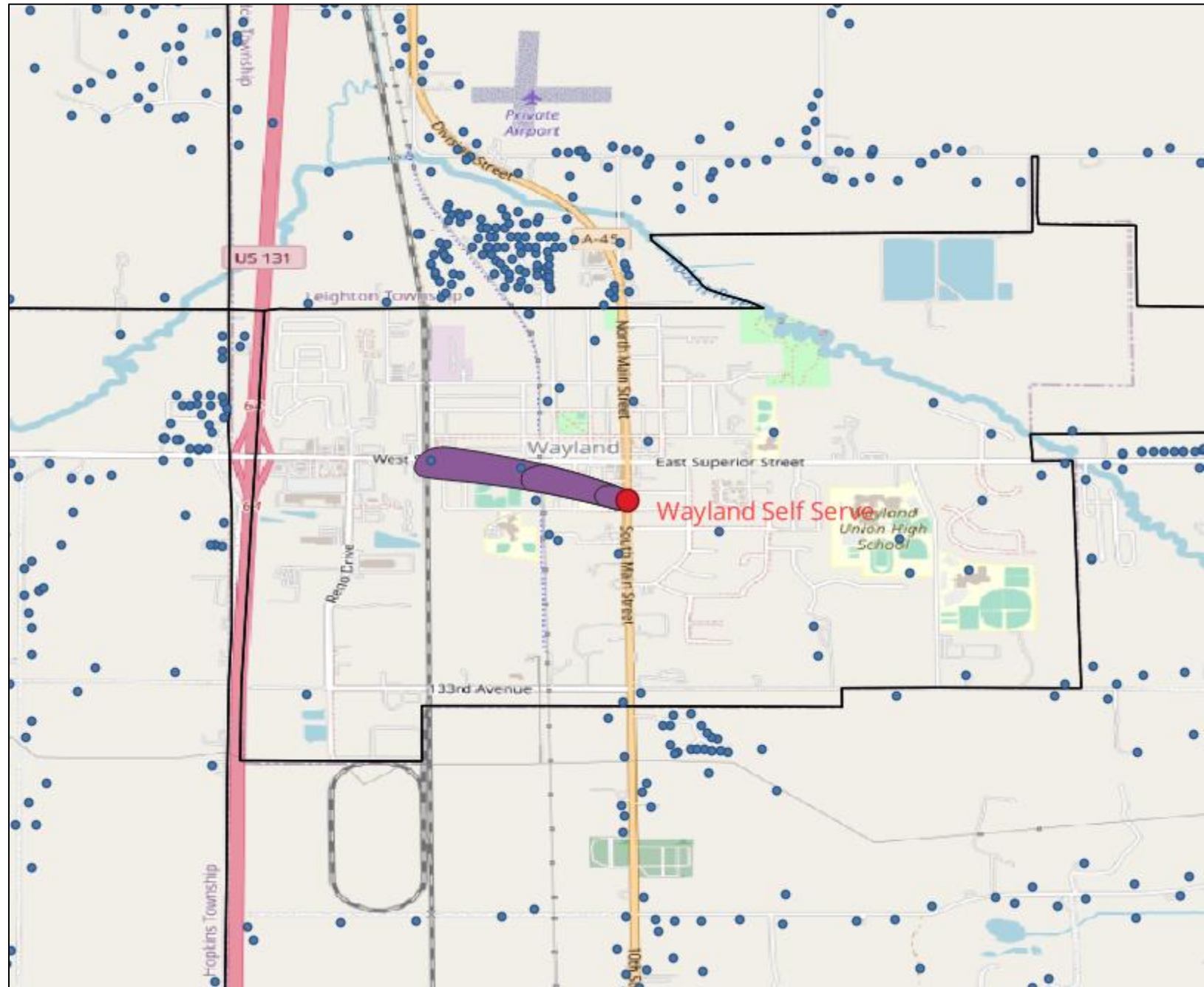
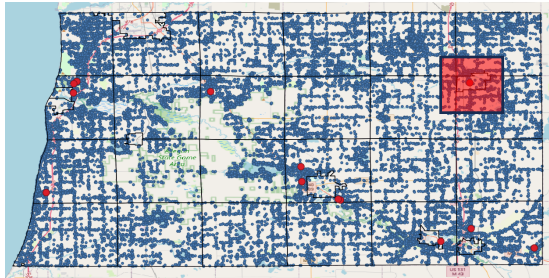












# Mapping of Water Wells and Groundwater Chemistry (Phase 1)

- Water well locations from Wellogic Water quality samples of water wells from WaterCHEM

# Water Well Density (Phase 1 Study)

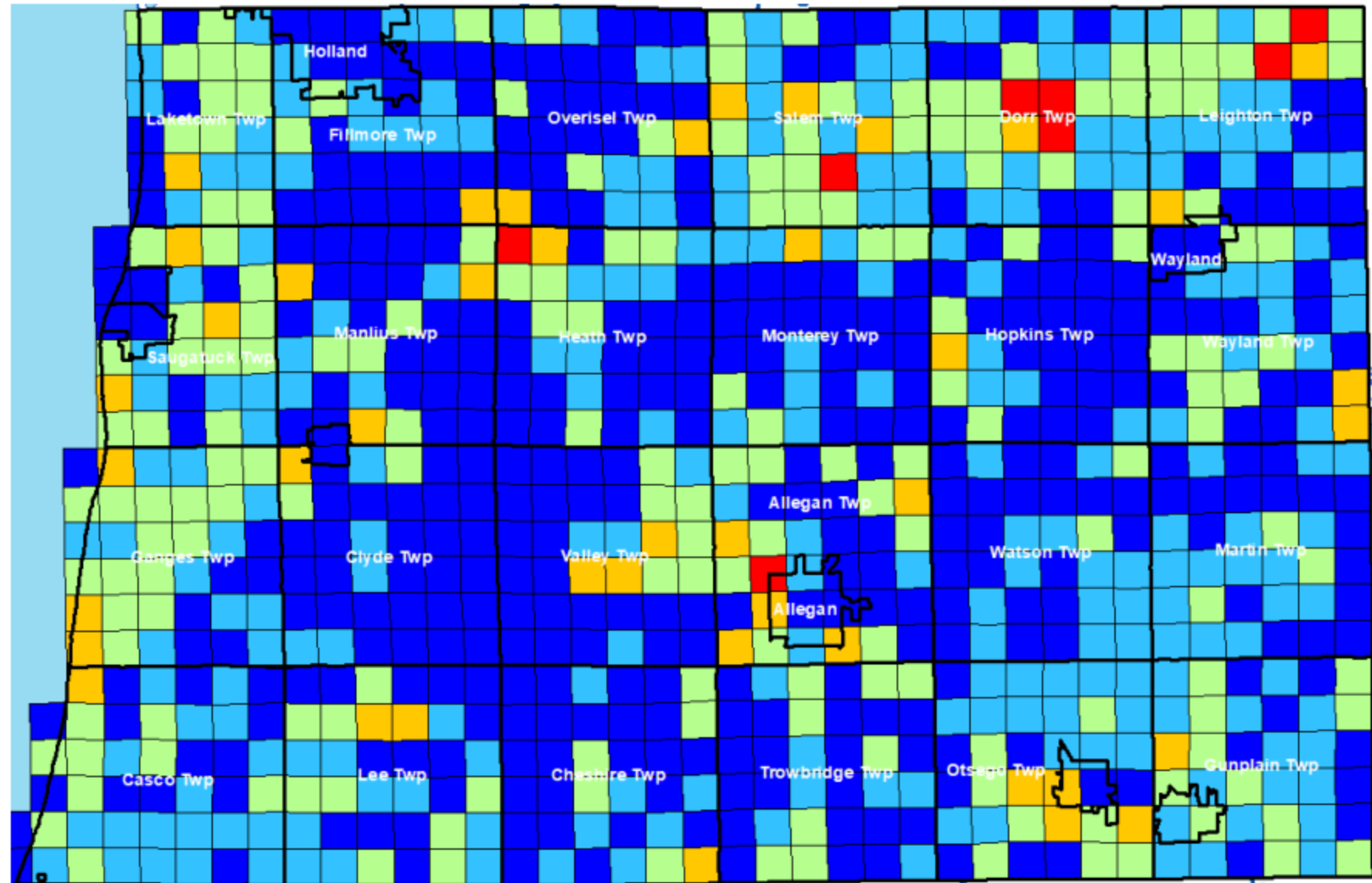
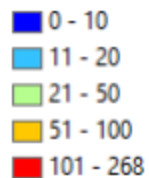
## Section-by-section

This slide shows section-by-section well density distribution for present day (Aug. 2020).

Several "hot-spots" can be seen:

- central Door Township
- north-northeast Leighton Township
- western Allegan Township / Allegan City.
- portions of Saugatuck, Ganges, Laketown, Salem, Otsego and Gunplain Townships

## Number of Wells





# Nitrate Concentrations ( $\text{NO}_3^-$ )

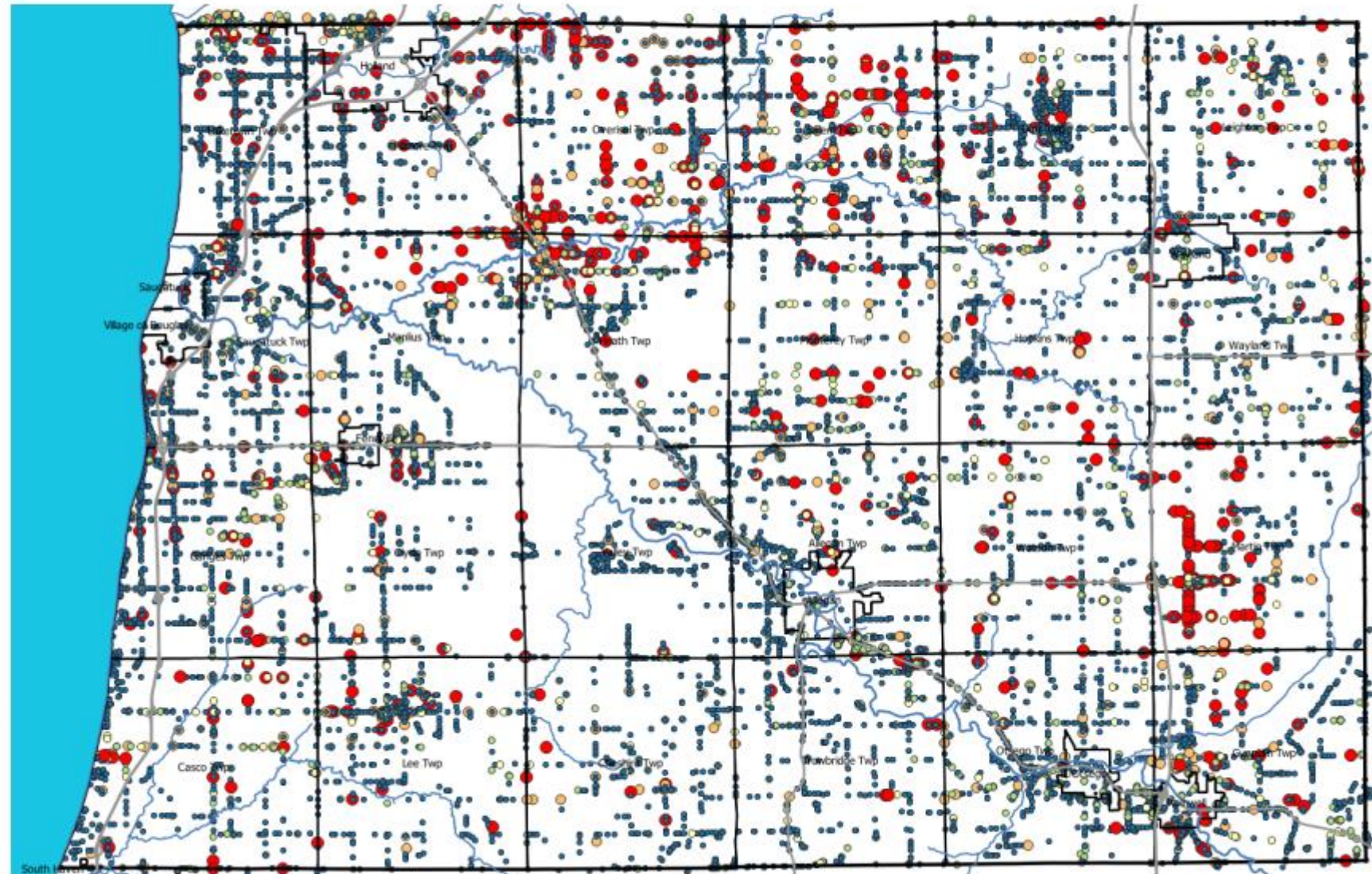
This slide shows the distribution of nitrate point concentration data (water quality samples at approximate well locations) in Allegan County. Note that the large red circles indicate samples with concentrations above the Maximum Contaminant Level (MCL) – legally enforceable standards – set by the United States Environmental Protection Agency (EPA).

Samples with concentrations above the MCL are found throughout the county. Townships with notable visual “clusters” of samples above the MCL include: Overisel, Salem, Heath, Martin, Gunplains, and Manlius (especially along its northern and northwestern township border).

Approximately 4% of the data shown here have concentrations above the MCL for nitrate. The next slides provides a full set of statistics for the nitrate point concentration data.

$\text{NO}_3^-$  Conc. (mg/L)

- 0 - 2
- 2 - 4
- 4 - 7
- 7 - 10
- 10 - 81.3



# Aggregated Spatial Analysis

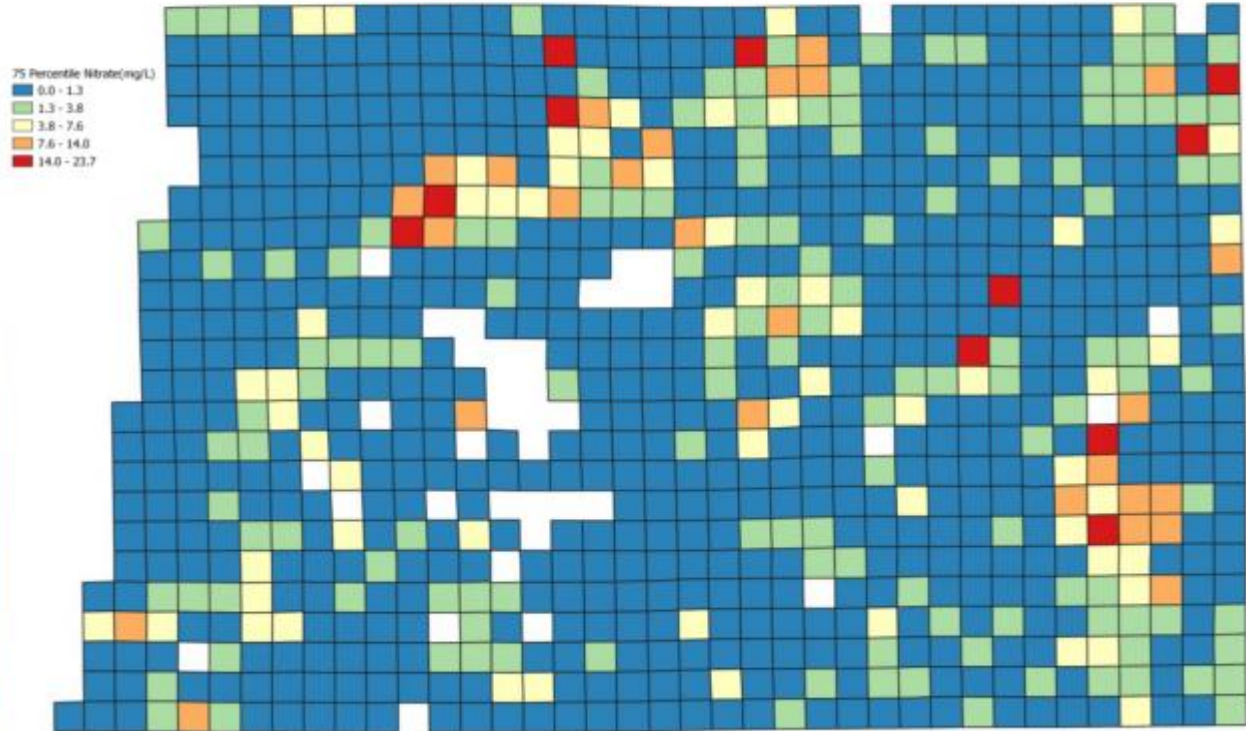
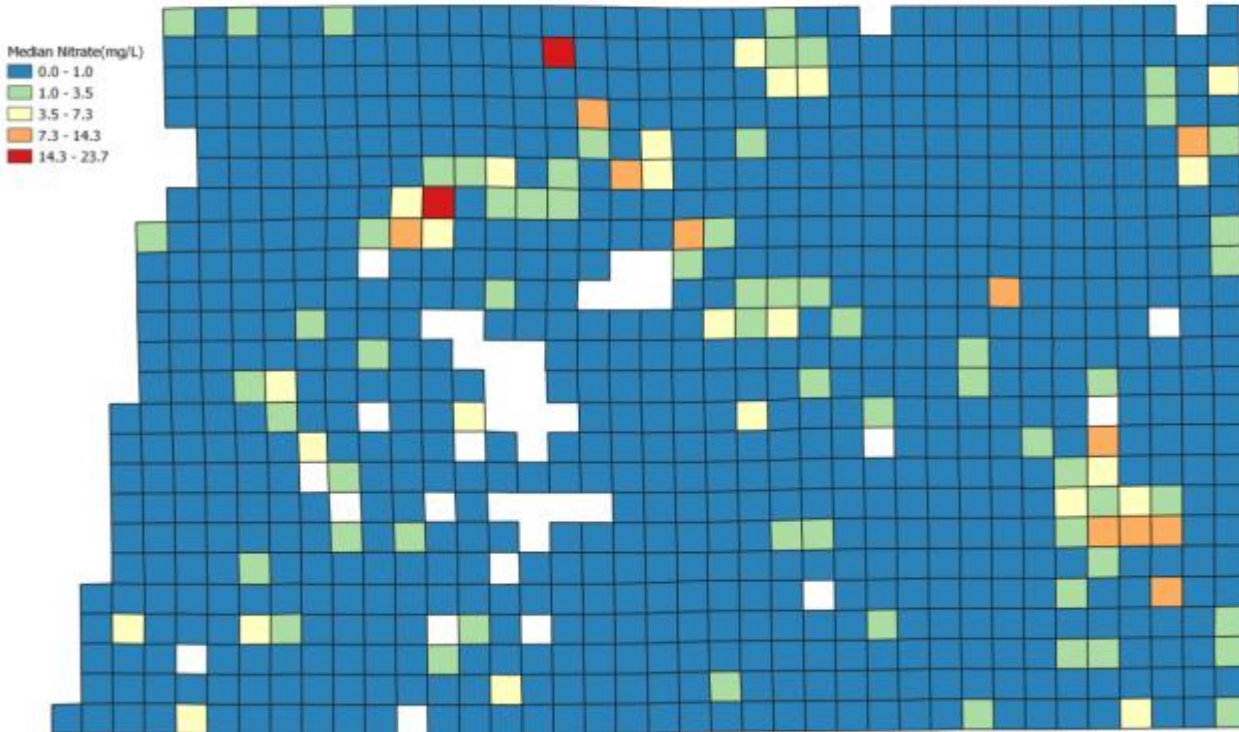
## Section-by-Section

### Median & 75<sup>th</sup> Percentile Concentrations

There was enough nitrate point concentration data available across the county to perform a similar analysis on a section-by-section basis. The results are shown below for both the 50<sup>th</sup> and 75<sup>th</sup> percentiles ("blank" or "missing" sections are sections where no data were available). This map may help to prioritize further data sampling or analysis within townships or cities / villages of concern. However, data density varies from section-to-section, so the computed percentile concentrations may be skewed toward higher values in areas with fewer total samples (again, higher samples in these have more impact relative to areas with more total samples).

### Median Nitrate

### 75 Percentile Nitrate



Nitrate MCL: 10 mg/L

# Chloride Concentrations (Cl<sup>-</sup>)

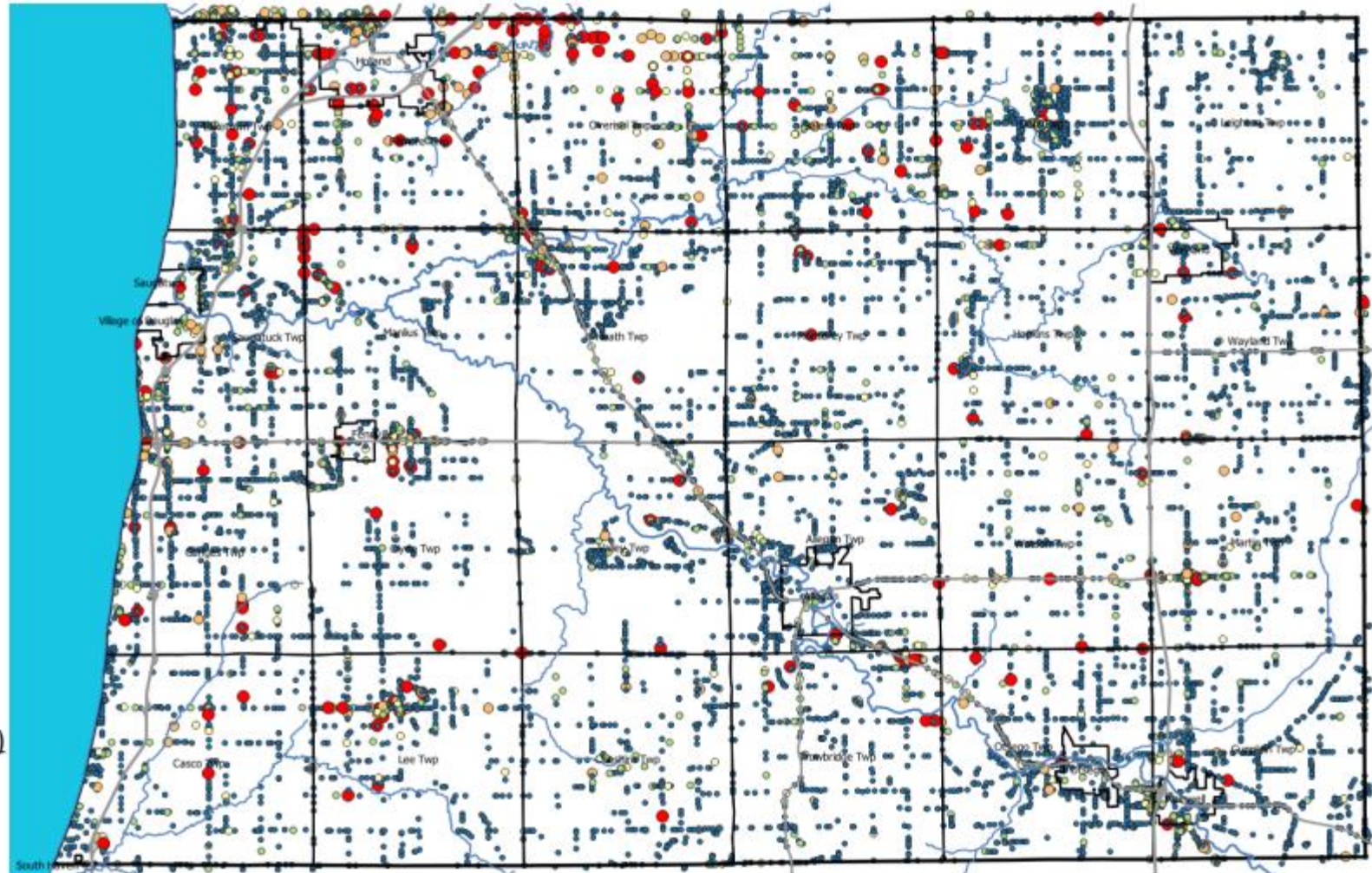
This slide shows the distribution of chloride point concentration data (water quality samples at approximate well locations) in Allegan County. Note that the large red circles indicate samples with concentrations above the Secondary Maximum Contaminant Level (SMCL) of 250 mg/L set by the US Environmental Protection Agency (EPA). SMCLs are non-mandatory guidelines to assist public water systems manage their drinking water for aesthetic considerations (e.g., taste, color, odor). Contaminants are not considered to present a risk to human health at the SMCL.

Samples with concentrations above the SMCL are found throughout the county, although most townships appear to have only a handful of elevated samples relative to the number of samples with low concentrations. Fillmore Twp., Overisel Twp. – and to a lesser degree, Laketown, Salem, Lee Townships – have notable visual “clusters” of samples above the SMCL.

Approximately 2% of the data shown here are above the SMCL. The next slide provides a full set of statistics for the chloride point concentration data.

## Cl<sup>-</sup> Conc. (mg/L)

- 0 - 50
- 50 - 100
- 100 - 150
- 150 - 250
- 250 - 2098



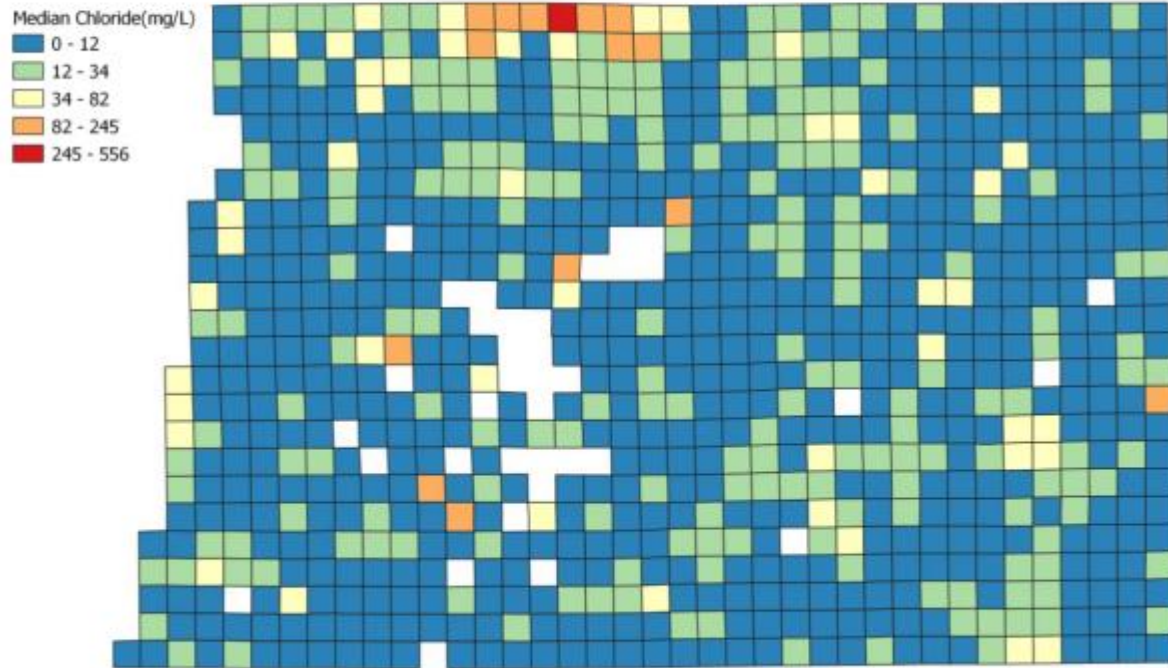
# Aggregated Spatial Analysis

Section-by-section

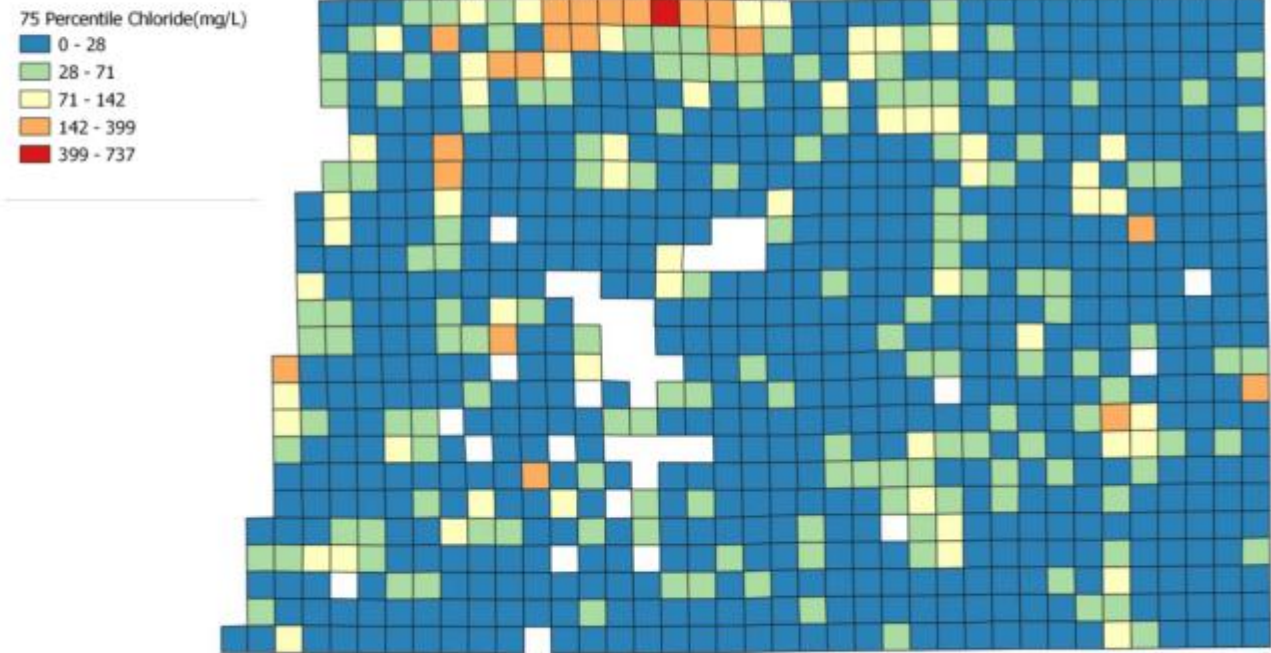
## Median (50<sup>th</sup> Percentile) and 75<sup>th</sup> Percentiles Concentrations

Similarly to nitrate, there was enough chloride point concentration data available across the county to perform a similar analysis on a section-by-section basis. The results are shown below for both the 50<sup>th</sup> and 75<sup>th</sup> percentiles.

### Median Chloride



### 75 Percentile Chloride



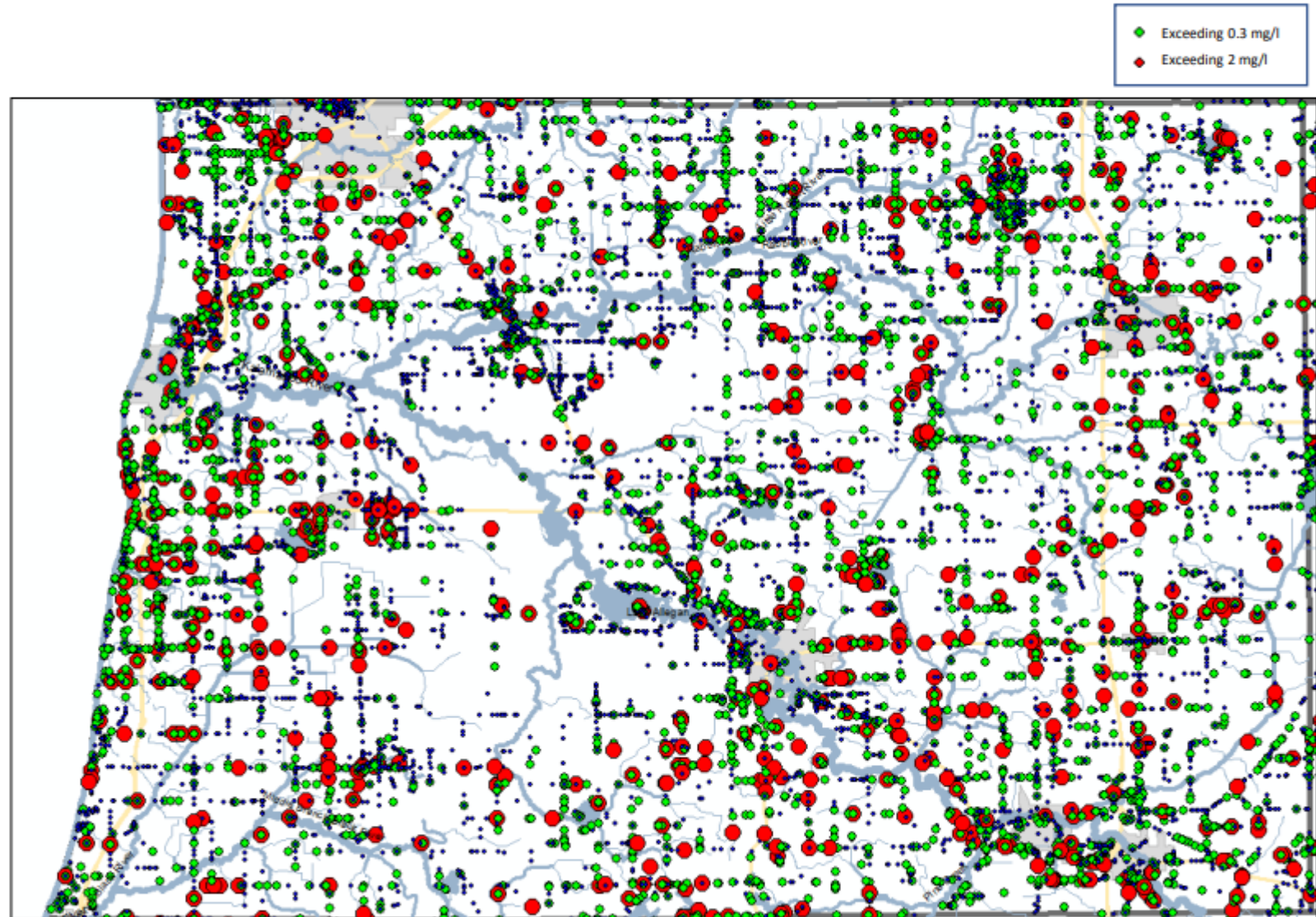
Chloride Secondary MCL: 250 mg/L

# Iron Concentrations (Fe)

This slide shows the distribution of iron point concentration data in Allegan County. Note that the large green and red circles indicate samples with concentrations above the SMCL.

The map shows that significant Iron exceedances occur throughout Allegan County. On a regional scale, the iron patterns and the degree of elevation in concentrations in different areas are statistically similar. On a local scale, the iron concentration pattern is extremely heterogeneous. Iron concentration varies dramatically over very short distances; elevated iron concentrations occur in seemingly random pockets.

Approximately 36% of the data shown here are above the SMCL. The next slides provide a full set of statistics for the iron point concentration data.



**Private Residential Wells Assistance Program  
Problems and Solutions**

Rev. July 19, 2023

Goal: To help private residential well owners who do not have access to safe, reliable drinking water and who are in need of financial assistance by creating a county-wide assistance program that leverages the County’s ARPA funds earmarked for water projects.

<u>Problem</u>	<u>Solution</u>	<u>Cost</u>
Nitrate levels below 0.25 mg/l	Reverse osmosis system	R/O system for whole house: \$6,000. R/O system for single point of use: \$1,500 Nitrate removal softener: \$3,000
Low production well	Drill a new well deeper  You may not have to drill deeper. There are other reasons for low production.  (There may not be a deeper aquifer to drill to)	\$9,000 for 90’ well
Low production well	Connect to municipal supply  (The property may be so far from municipal supply that connection is not feasible.)  Sometimes municipal water is available but the owner may not want to connect. This will probably cost thousands.	\$Hundreds of thousands
VOCs	Air Scrubbers	

Allegan County Ad Hoc Groundwater Workgroup

Chromium	Bottled Water	Free from EGLE for drinking, but not for topical use.
Metals	?	
Properly Abandoned well	Cap the well	\$400 (EGLE may have funds for this?)
PFAS	Carbon Filters	Free, from Mich. EGLE  This is only possible if EGLE designates it as a contamination site.

**Private Residential Wells Assistance Program**

**Activities List**

Rev. 7-20-2023

Goal: To help private residential well owners who do not have access to safe, reliable drinking water and who are in need of financial assistance by creating a county-wide assistance program that leverages the County’s ARPA funds earmarked for water projects.

<u>Activity</u>	<u>Goal</u>	<u>Action By</u>
Send survey to well drillers	Learn what is the prevalence of various well needs	<ul style="list-style-type: none"> <li>• Tom to work with Chad to develop language.</li> <li>• Angelique to distribute to well drillers.</li> <li>• Communications to send out August 11. Response in 10 days.</li> </ul>
Compile a list of agencies that offer some kind of assistance program	Determine if there are already assistance programs out there that we can piggyback onto to make the ARPA funds go farther, and also avoid having to create our own program.	<ul style="list-style-type: none"> <li>• Rob Sarro to collect list from County connections.</li> <li>• Jaclyn and Ruth also investigating.</li> </ul>
Survey state and federal funding announcements.	Learn what other assistance programs are available.	Midwest Strategies (County’s lobbyist.) We will need to tell



		Rob Sarro if we what this to happen.
Compile a list of solutions and estimated costs for solving various well problems	Use this tool along with looking at the prevalence of problems to help determine specifically what problems we could solve with the money we have	Tom to send draft table to full work group for input. Will likely need outside assistance to be more complete.
Meet with EGLE and MDHHS representatives.	Learn what existing or future assistance programs the County can tap into. Learn how EGLE determines how they offer assistance to owners of contaminated wells.	Tom, Ric, Randy, and Angelique to meet with EGLE and MDHHS on July 28.
Public survey of needs.	To ascertain what is the prevalence of problems and how many well owners would take advantage of it.	Work Group to discuss if this is needed
Encourage well owners to sample their well water	To learn the prevalence and type of contamination	<ul style="list-style-type: none"> <li>• Perhaps wait until EGLE offers their free testing program.</li> <li>• Question: if the County encourages testing, should it also have a robust “solutions plan” in place?</li> </ul>

<p>Create a Well Assistance Program</p>	<p>To have the administrative mechanism in place to distribute funds and support to well owners.</p>	<ul style="list-style-type: none"> <li>• Work Group to develop criteria</li> <li>• Allegan County staff to develop and administer program</li> </ul>
<p>Develop a public education and outreach program.</p>	<p>To notify well owners of the assistance available.</p>	<p>Cannot notify homeowners until there is a program in place to advertise about.</p>