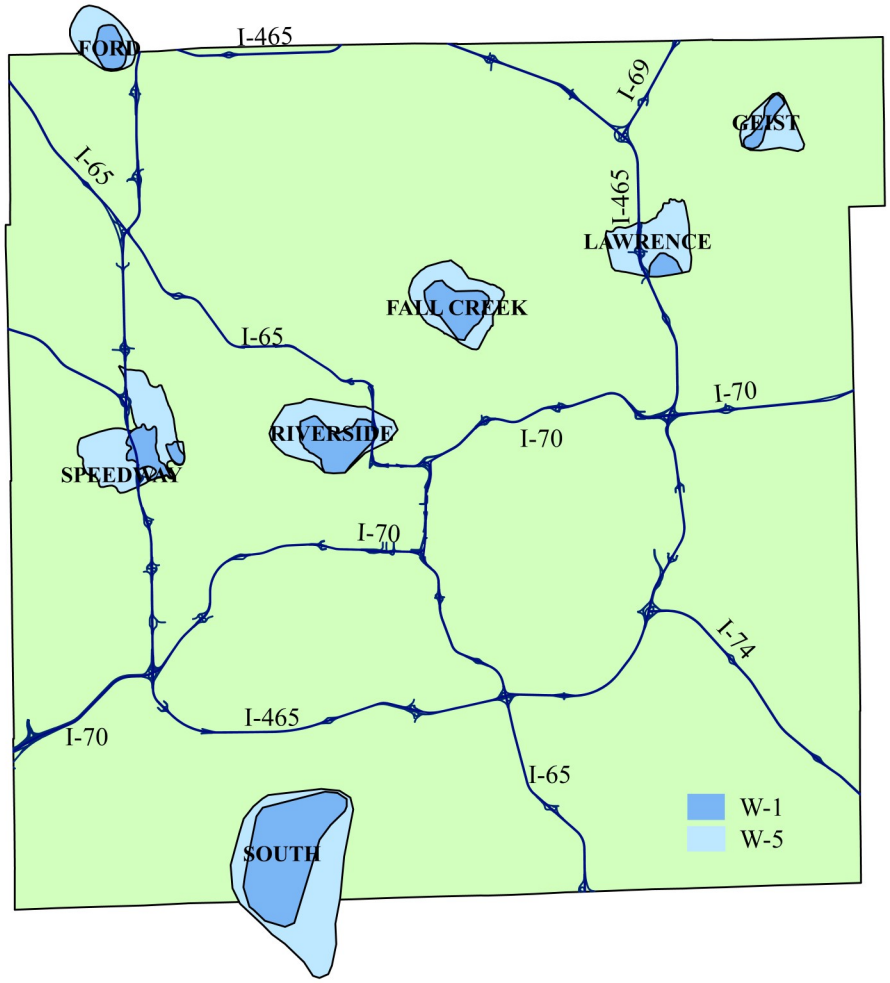
Marion County
Wellfield Education Corporation
www.mcwec.org

2019 Wellfield Protection Activities Report



Marion County Wellfield Protection Areas

Drafted by MUNDELL & ASSOCIATES, INC. on behalf of the Marion County Wellfield Education Corporation.

Marion County Wellfield Education Corporation (MCWEC)
2019 Wellfield Protection Activities Report

Introduction

Marion County's drinking water is provided to approximately 450,000 homes and businesses. Within the City of Indianapolis, drinking water is supplied by Citizens Water and consists of a continuous blend of surface water and groundwater. In the Town of Speedway, drinking water is provided either by surface or groundwater sources depending on the season. The City of Lawrence relies exclusively on groundwater for its drinking water.

Due to the importance of groundwater resources to Marion County, the Marion County Wellfield Education Corporation (MCWEC) was established as a 501(3)c non-profit corporation in 1996 by the Marion County Wellfield Protection Zoning Ordinance to support protection of groundwater and drinking water supplies in Indianapolis. Its mission is:

"To prevent contamination to the groundwater resource of Marion County through public awareness and education."

MCWEC's responsibilities include:

1) Educating the public about ground water concerns and wellfield protection;
2) Educating and providing technical assistance to businesses in Wellfield Protection Districts as to the proper use and storage of materials, as well as general wellfield education;
3) Overseeing the registration of potential business/commercial contaminant sources located within the Marion County wellfields to assist the water utilities in fulfilling their reporting requirements for the state wellhead protection program with the Indiana Department of Environmental Management (IDEM); and
4) Evaluating the effectiveness of wellfield protection program components.

This report summarizes the status of Marion County's wellfield protection program as of December 2019 and provides highlights of the various activities completed from January through December 2019 by MCWEC in support of groundwater protection. The MCWEC board of directors' guides Mundell & Associates (MUNDELL), a local environmental consulting firm under contract with MCWEC, in the implementation of activities to be completed in support of its goals.

General Wellfield Information Summary

There are seven (7) active Wellfield Protection Areas delineated within Marion County. They are known as the Fall Creek Wellfield, Ford Wellfield, Geist Wellfield, Lawrence Wellfield, Riverside Wellfield, Speedway Wellfield and South Wellfield (see report cover page for labelled map illustrating the location of each wellfield).

These wellfield protection areas are defined by the surface land surrounding the withdrawal supply wells where groundwater in the surrounding area could reach the pumping wells within five (5) years. Every ten years, the utilities operating the wellfields are obligated to update their wellfield delineations. In 2018, Citizens Energy completed delineation modelling on the five wellfields that it manages – Fall Creek, Riverside, South, Geist and Ford. The new delineations were approved by the Indiana Department of Environmental Management (IDEM) in the second quarter of 2019 and put into use by MCWEC and the Marion County Public Health Department (MCPHD) in July 2019. The City-County Council of Marion County adopted the new delineations effective December 10, 2019. The new delineations resulted in a marked change in wellfield boundaries for these wellfields compared to previous years except for Ford, which did not change. The delineations for Speedway and Lawrence wellfield delineations also did not change.

Currently, the wellfield protection areas cover a total of approximately 32.99 square miles of land area, a reduction from the previous 45.6 square miles. Based on land use data from the City of Indianapolis updated in March 2018, approximately 71% of the wellfields are used for residential purposes, approximately 13% for commercial and industrial purposes, and about 15.5% is used for other purposes (such as vacant land, agriculture, places of worship, and parks). The three water utilities in Marion County – Citizens, Lawrence Utilities and Speedway Water Works – all use groundwater to different extents. Lawrence Utilities is 100% groundwater, Speedway Water Works is approximately 40% groundwater and Citizens is 25% groundwater. A total of 72 pumping wells are used by the three utilities to supply water to over 450,000 homes and businesses in Marion County wellfields. During 2019, just under ten billion gallons of groundwater was pumped from these 72 wells for use as public water supply.

Wellfield Commercial Use and Contaminant Sources

Databases and Mapping

MCWEC maintains a record of all businesses located within each of the seven wellfields based upon an annual wellfield drive survey. The MCWEC wellfield drive survey is started during the latter part of the fourth quarter of each year. For 2019, there are 1,643 total business records which include all non-residential active, historic, or vacant sites within the wellfields. All business records are categorized with a primary code based on business activities. The code categories are summarized below:

- Agriculture/Turf/Landscaping – farms, golf courses, parks and landscaping businesses
- Auto – gas stations, auto repair, washing and sales facilities, along with truck terminals
- Graphics – printing facilities (paper and textiles)
- Industrial – fire stations, utilities plants, large industry sites
- Laundry – commercial dry-cleaning facilities
- Medical/Scientific – hospitals, clinics, medical training and research facilities
- Waste Management/Chemical Storage – all waste handlers and large chemicals facilities
- Miscellaneous - including unknown businesses, food and beverage productions
- Non-Potential – includes vacant properties with no know history of sources and other businesses that are considered low to no risk of having potential groundwater contaminants on-site

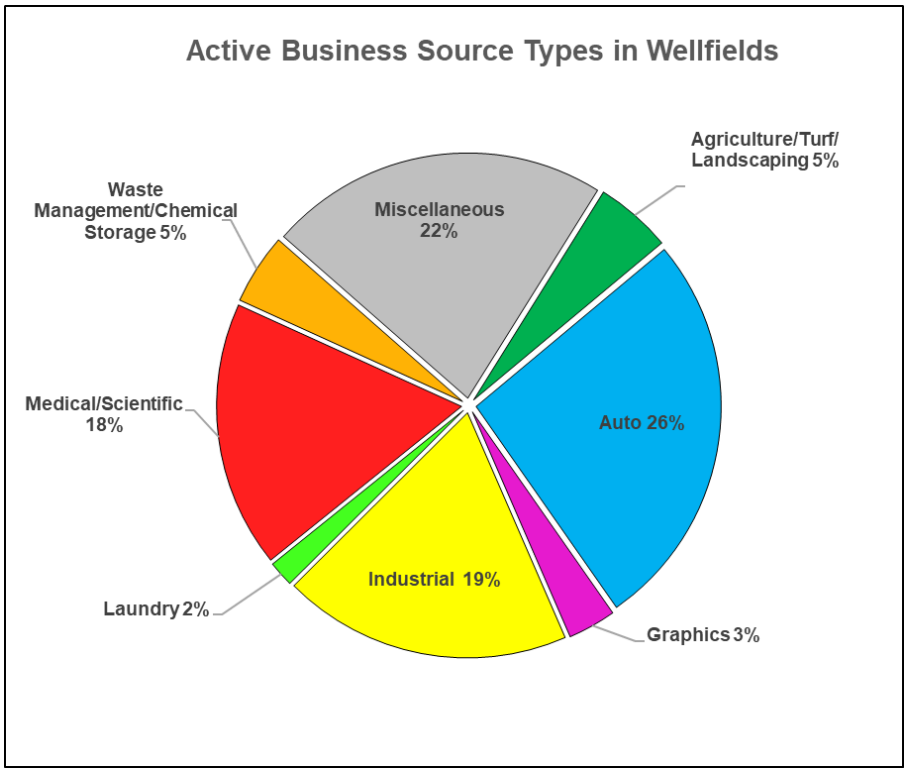
There are limitations to the MCWEC databases due to the nature of the data sources. The drive survey data relies on being able to identify business names, types and addresses. The regulatory databases also have limitations with regards to the accuracy of the information within them. As such, the provided site totals represent conservative estimates based on the various limitations of the source data.

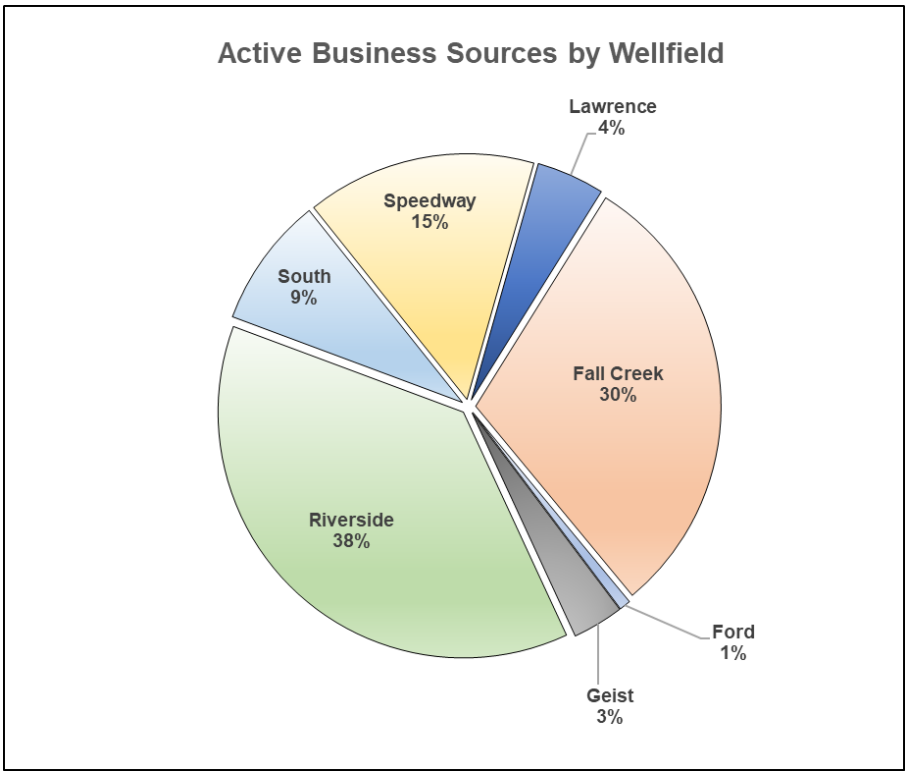
Database entries are used to generate maps using ArcGIS to display the locations of wellfield businesses and regulated sites. The maps provide an effective visual representation of potential wellhead contaminant sources in the event that unexpected impacts to the drinking water supply should occur. These locations are displayed by geocoding the street addresses within ArcGIS which has limitations related to the complexity of Indianapolis street naming and numbering. In some circumstances, location points will still appear to be ‘outside’ the wellfield boundaries due to the presence of a parcel shape which contacts the wellfield but also partly lies outside of it. If a parcel contacts a wellfield boundary, even in part, then the entire parcel is considered to be part of that wellfield.

Marion County Source Data

Wellfield Drive Survey – Active and Vacant Sites
Within the seven Marion County wellfields, there are a total of 1,454 active and vacant non-residential sites present. 1,362 of these sites are active (non-historic, non-vacant) business sites (see **Table 1**). Of these active sites, 533 have been identified as potential contaminant sources, including: 141 automobile-related source sites, 102 industrial source sites, 94 medical or scientific source sites, 27 agriculture/turf/landscaping source sites, 25 waste management or chemical storage source sites, 17 graphic production source sites, nine (9) commercial laundry source sites, and 120 miscellaneous source sites (including unknown businesses, food and beverage productions). The remaining 827 active

non-residential sites are considered low to no risk regarding potential contaminant sources, as are the 92 vacant non-residential sites. The Riverside Wellfield contains 38% of all potential contaminant source sites, followed by Fall Creek with 30%, Speedway Wellfield with 15%, South with 9%, Geist with 3% and Ford with 1%. Detailed contaminant source summaries and maps of each wellfield are provided as **Attachments 1** through **7.**

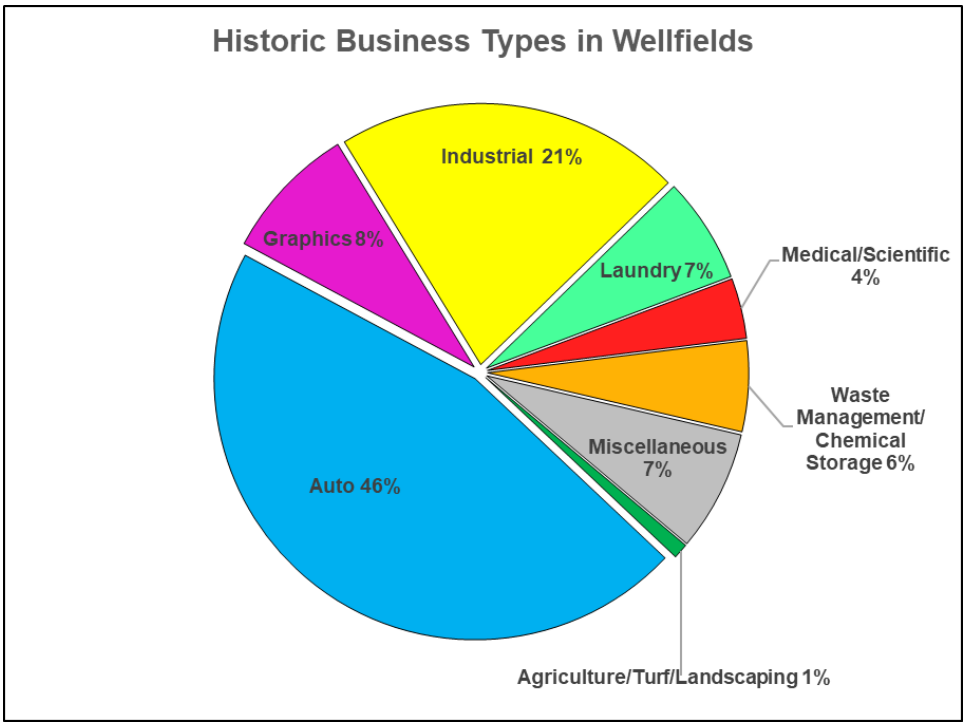




Wellfield Drive Survey – Historic Sites

As a new addition to the annual MCWEC report, MUNDELL is presenting data on historic sites located within the wellfields. These historic sites are of interest as there is the possibility of remaining contamination at these sites. The historic site data currently comes from wellfield drive survey information, noted as facilities change operations over the years. As this does not currently integrate all known sites with IDEM oversight, it is most likely an underestimate of all historic potential source sites within the wellfields.

Within the seven Marion County wellfields, there are 134 historic sites (see **Table 2**). Of these, there are 49 automobile-related source sites, 23 industrial source sites, nine (9) graphic production source sites, seven (7) commercial laundry source sites, six (6) waste management or chemical storage facilities, four (4) medical or scientific source sites, one (1) agriculture/turf/landscaping source site, eight (8) miscellaneous source sites (including unknown businesses, food and beverage productions) and 25 are considered to be non-potential sources. Fall Creek and Riverside wellfields currently have the largest number of historic sites due to their history as industrial areas.

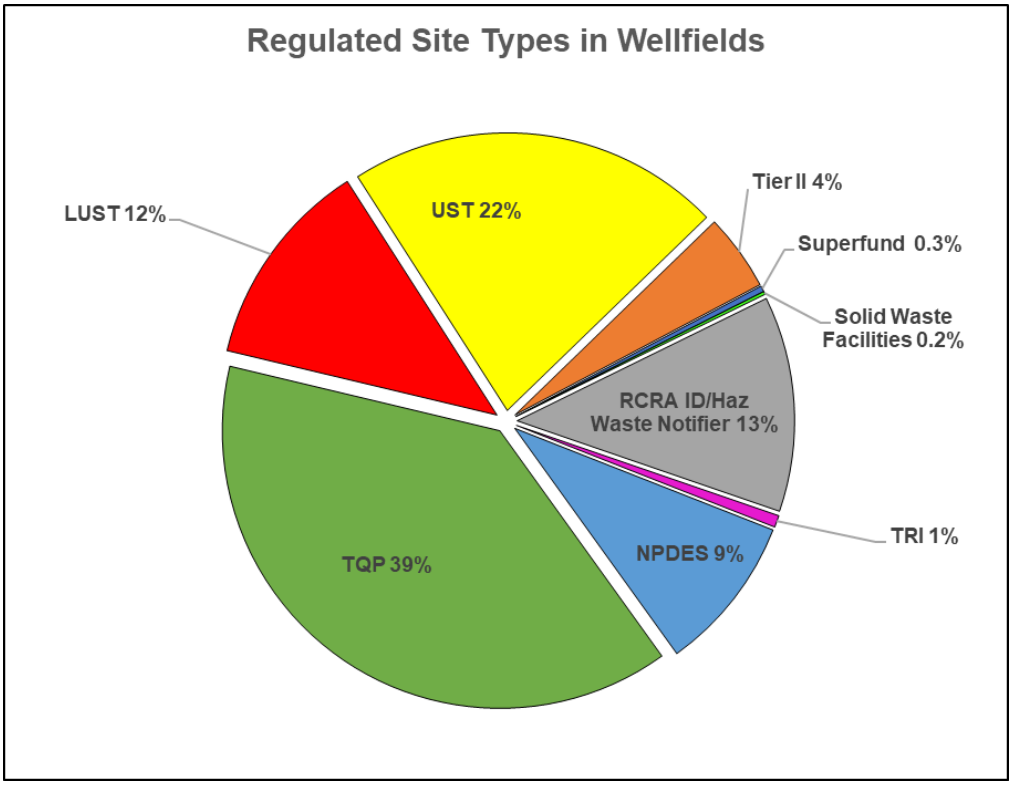


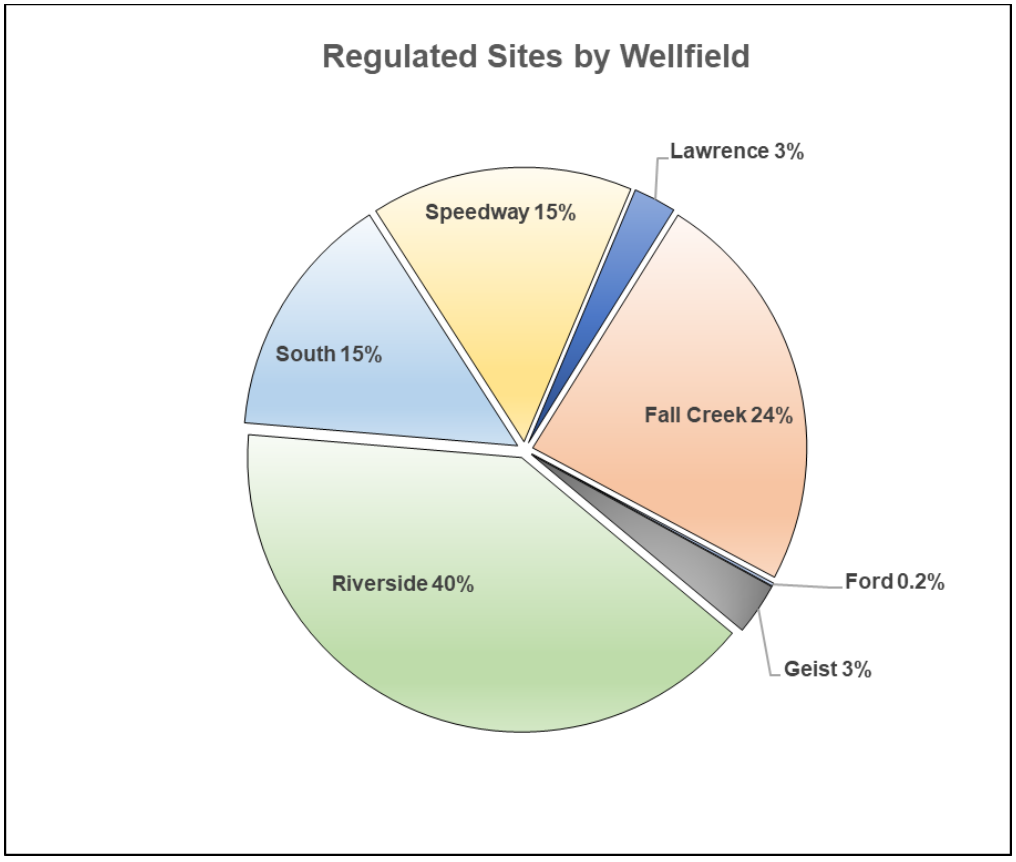
Regulated Sites

There are many different regulatory data sources available, representing different types of potential source types and business operations. MUNDELL has selected regulatory information that it believes are most useful to illustrate major classes of potential sources in each wellfield. Updated information for 2019 was obtained from the following regulatory data sources:

- RCRA hazardous waste notifiers database (U.S. EPA);
- Underground Storage Tank (UST) and Leaking Underground Storage Tank (LUST) reports (ULCERS; IDEM);
- IDEM solid and e-waste facilities list;
- National Priority List/Superfund Sites (NPL) database (U.S. EPA);
- Toxic Release Inventory (TRI) database (U.S. EPA);
- NPDES permit database (U.S. EPA);
- Tier II Sites, and
- City of Indianapolis Technically Qualified Person (TQP) program.

Details on each regulatory category are provided on the following pages and in **Tables 3** through **5**.





Based on the available data, the Riverside Wellfield contains 40% of the regulated sites, followed by Fall Creek at 24%, Speedway and South at 15% each, Lawrence and Geist at 3% each and Ford at 0.2% (see **Tables 3** through **5** for a breakdown by wellfield). The most dominant regulated site types are the TQP review sites, followed by USTs, RCRA Hazardous Waste Reporters, LUSTs, NPDES, Tier II, TRI, Superfund and Solid Waste facilities.

Technically Qualified Person (TQP) Reviews
Since the adoption of the 1996 Marion County Wellfield Ordinance, the construction of new facilities in wellfield protection zoning areas has required development plan reviews by a Technically Qualified Person (TQP) to ensure compliance with wellfield zoning regulations. As of end-of-year 2019, 416 sites have received TQP reviews, with 225 of these sites located within the boundaries of the current wellfield delineations (see **Figure 1**). Ten new ILP sites were reviewed in 2019.

Underground Storage Tanks (USTs)
There are 127 address locations with a record of USTs across the seven Marion County wellfields. Many locations have or had multiple USTs on-site. On an individual tank level, most of the USTs are listed as permanently out-of-service. For currently in-use USTs, Speedway has 21 tanks at six locations, Riverside has 20 tanks at six locations, South has 9 in-use tanks at four locations, Fall Creek has 8 in-use tanks at four locations and Lawrence has 3 in-use tanks at one location. UST locations within Marion County wellfields are illustrated on **Figure 5** and documented in **Table 4**.

Leaking Underground Storage Tank (LUST) Incidents
There is a total of 101 LUST incident numbers associated with 71 locations across the seven Marion County wellfields. Riverside, Fall Creek and Speedway Wellfields have one (1) active LUST incident each, and South Wellfield has two (2) active LUST incidents. In terms of total LUST incidents (including active, deactivated, discontinued, closed or referred to another IDEM program), Riverside Wellfield has 36, followed by Fall Creek Wellfield with 30, Speedway Wellfield with 24, South Wellfield with 8 and Lawrence Wellfield with three. LUST locations within Marion County wellfields are illustrated on **Figure 6** and documented in **Table 5**.

Resource Conservation and Recovery Act (RCRA) IDs/Hazardous Waste Notifier
The Resource Conservation and Recovery Act (RCRA) is a law that creates the framework for the proper management of hazardous and non-hazardous solid waste. In order to dispose of, store or handle hazardous wastes, a facility needs to have a RCRA ID and provide regular reports notifying their hazardous waste handling to both the state and the U.S. EPA. Within the seven Marion County wellfields, there are 73 sites that are hazardous waste reporters with active RCRA IDs (see **Figure 2** and **Table 3**).

National Pollutant Discharge Elimination System (NDPES)
The National Pollutant Discharge Elimination System (NDPES) is a permit program that addresses water pollution from point sources. Within the seven Marion County wellfields, there are 55 sites that have active NPDES permits (see **Figure 3** and **Table 3**). Of these sites, two (2) located within the Riverside Wellfield have violations identified within the last 3 years.

Tier II Facilities
Tier II reports are required by the U.S. EPA to be submitted by organizations and businesses in the United States with hazardous chemicals above certain quantities. Tier II Reports are submitted annually by these facilities to local fire departments, Local Emergency Planning Committees (LEPC) and State Emergency Response Commissions (SERCs) to help those agencies plan for and respond to chemical emergencies. Previously, Tier II information was available to the public through the Community Right to Know program. After 2014, Tier II facility reports came under the purview of the Indiana Department of Homeland Security. Tier II reporting facilities are only required to provide information to fire departments and local emergency planning committees (LEPC) that have jurisdiction over the facilities, and as such, the information is no longer readily available to the general public. Within the seven Marion County wellfields, there are 26 sites that are Tier II reporters.

Toxics Release Inventory (TRI)
The Toxics Release Inventory (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. U.S. facilities in different industry sectors must report annually how much of each chemical on the TRI list is released to the environment and/or managed through recycling, energy recovery and treatment. TRI helps support informed decision-making by companies, government agencies, non-governmental organizations and the public. Within the seven Marion County wellfields, there are four (4) sites that are listed in the TRI database, all of which are in Riverside Wellfield (see **Figure 4** and **Table 3**).

Superfund
In 1980, the U.S. EPA established the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The CERCLA Act is informally known as 'Superfund'. It allows the EPA to clean up contaminated sites with EPA funding or to force responsible parties to clean up sites. Within the seven Marion County wellfields there is currently one United States Environmental Protection Agency (U.S. EPA) Superfund Site (National Priority List) located within the Fall Creek Wellfield (see **Table 3**). In the Riverside Wellfield, Site 0153 originally qualified for Superfund status but is currently under IDEM management. It is included in the Superfund category in order to account for it.

Solid Waste Facilities
There is currently only one (1) solid waste facility located in Marion County wellfields. This facility is listed as a Transfer Station and is located in the Riverside Wellfield (see **Table 3**).

Summary of 2019 Program Activities

Outreach and Education

The MCWEC educational program focuses on direct contact and technical support for actively operating wellfield businesses identified as potential contaminant sources to prevent or minimize future chemical leaks or spills from impacting the drinking water supply. In 2019, the focus of MCWEC outreach and education activities shifted to providing assistance and education regarding best management practices (BMPs) to achieve compliance with the newly implemented Marion County Public Health Department (MCPHD) Wellfield Protection Standards (http://www.hhcorp.org/hhc/images/HHCcode/chapter_13.pdf). The MCPHD code was passed in November 2016 with an effective date of January 2017. Enforcement inspections began in 2018.

Participation in the MCWEC outreach and education program is voluntary, confidential, and flexible in nature. In general, MCWEC connects with business owners and operators through referrals from the MCPHD, outreach by MCWEC through email, referrals through the MCWEC website, or in-person drop-offs of educational materials with MCWEC contact information. After establishing contact, MCWEC is able to connect with the business representative and determine what level of technical support is requested. In most cases, MUNDELL conducts an in-person site assessment to provide detailed, personalized recommendations regarding site improvements in order to achieve compliance with the MCPHD Wellfield Protection Standards. During site assessments, MUNDELL reviews facility chemical product storage and waste management procedures in order to recommend modifications that minimize the potential for groundwater contamination. In other cases, MUNDELL answers questions via telephone and email for businesses uninterested in site assessments or with simple questions. For businesses not interested in personal contact, many resources and answers to frequently asked questions are available on the MCWEC website (http://mcwec.org/).

During 2019, MUNDELL received 25 business request cards from the MCPHD for compliance assistance concerning the MCPHD Wellfield Protection Standard. MUNDELL conducted 19 unique site assessments of businesses ranging from auto repair, landscaping, manufacturing, and large institutional uses. MUNDELL also provided telephone or email-based compliance assistance to 3 businesses regarding wellfield protection, which typically took the form of providing copies of forms and guidance with filling out the forms. MUNDELL purchased and donated secondary containment equipment for 8 businesses in 2019 in order to assist them in gaining compliance with the Wellfield Protection Standard. MUNDELL also produced four (4)

technical guidance memos for the MCPHD regarding the management of potential groundwater contaminant chemicals.

In addition, MUNDELL provided a blog post to the Hoosier Environmental Council website and spoke with a school about waste disposal and the ToxDrop service that the City of Indianapolis provides.

Current Educational Tools

The MCWEC business education program has a number of practical tools available to participating businesses. In 2019, MCPHD provided educational tools to support the Wellfield Protection Standards. MCWEC utilizes MCPHD-produced documents, when available, as part of a document package provided to businesses during site visits. The following support documents are currently being used as part of the educational program. These documents are also available on http://mcwec.org/businesses/guides-forms/.

GUIDES:

1) Are You Ready to be Inspected Checklist?
   - Breaks down the MCPHD Wellfield Protection Standards into a one-page checklist for businesses to easily assess if they are following the new standards.

2) MCPHD's Wellfield Ordinance Guidebook for Marion County Businesses
   - Provides a guide to groundwater and wellfields in Marion County and provides easily digestible information regarding the MCPHD Wellfield Protection Standards.

3) Reportable Quantities and Your Facility's Emergency Response Spill Prevention Plan
   - Helpful breakdown of the reportable quantity concept and how to determine that quantity for a variety of chemicals.

FORMS & SIGNS:

1) MCPHD's Important Phone Numbers Chart
   - Provides a customizable form for business owners to fill-out to post important emergency phone numbers for their business.

2) Chemical Inventory Worksheet
   - Provides a simple template chemical inventory worksheet for business owners to customize for their business.

3) Notice Signs
   - Provides example notice signs as required by the MCPHD Wellfield Protection Standards that can be used as is or customized by businesses, as desired.
   - These are split into three groups - one set for Citizens, one set for Speedway and one set for City of Lawrence.

4) MCPHD's Notification of Change of Occupant or Change of Occupant Operations Form
   - Provides a template form for businesses to submit to the MCPHD if a change of occupant or occupant operations occurs at their site.

5) MCPHD's Emergency Response/Spill Prevention Plan
   - Provides a template form to comply with the MCPHD Wellfield Protection Standards customizable by each business for all operations.

6) MCPHD's Documentation of Employee Training Emergency Response/Spill Prevention Plan
   - Provides a simple template for employers to log that their employees have received appropriate training with their site Emergency Response/Spill Prevention Plan.

7) MCPHD's Documentation of Employee Training Spill Kits
   - Provides a simple template for employers to log that their employees have received appropriate training with their site spill kits.

8) Drinking Water Protection Area Sign
   - Provides an example sign to inform others that the business is within a wellfield.

9) Sink Sign
   - Provides an example sign to post above sinks reminding that chemicals may not be discharged into the sink.

10) Notification to Chemical Product Suppliers, Chemical Transporters, and Waste Transporters
   - Provides the MCPHD required form for businesses receiving or transporting chemicals or liquid waste.

11) Special Requirements Notice Agreement
   - Provides the MCPHD required form for leased businesses.

12) Spill Kit Information
   - Provides general guidance regarding spill kits.

13) Spill Kit Use
   - Provides information about how to properly use a spill kit and clean up spills.

14) Floor Sealant Guidance
   - Provides general technical guidance regarding the importance of floor sealants and product options available.

MCWEC Website

MUNDELL maintains the MCWEC website (found at http://mcwec.org/). The purpose of the website is to provide information about Marion County's wellfields, MCWEC, and the resources available for groundwater protection for business owners, the general public, and all other parties interested in wellfield protection. In 2019, MUNDELL completed updates to the website and added information, including:

- Produced 48 blog posts for the News section of the website throughout the year;
- Posted the 2018 Annual MCWEC Report to the website;
- Updated resources and forms available to businesses, and
- Updated waste disposal options list.

MUNDELL analyzed data from the website including page views, user information, and document download history in order to better understand how the website is used and how to improve it in the future. From 2016 to 2018, website traffic increased by nearly 40%. In 2019, there was a slight decrease in total website traffic. This is likely related to the smaller number of business assistance requests received in 2019. A significant portion of the web traffic is based on search engine results for spills and wellfields. 76.6% of users visiting the site in 2019 were not from Indiana. This indicates that the website provides information about groundwater wellfield protection that is useful across the country.

3% of 2019 visitors were returning visitors from Indiana, and 20.3% were new visitors from Indiana. Of the users from Indiana, 68.5% accessed the site via search engine and 21.1% accessed the site by typing in the URL (likely from paper materials provided during site visits). The remaining 10.4% came to the website via links from other sites including the City of Lawrence, the MCPHD and Facebook. In Indiana, the website was accessed via desktop or laptop computer 73.8% of the time and via mobile/tablet users 26.2% of the time.

Wellfield maps were the top performers of documents downloaded in 2019. Other popular downloads were related to the ordinance such as guidebooks and the "*Are you ready to be inspected?*" checklist and the

emergency response spill prevention plan template. Overall, site downloads decreased from 2018, which matches the lower number of business assistance requests.

MUNDELL will continue to analyze data from the website in order to improve it for the benefit of visitors. Based on the information gathered in 2019, MUNDELL will continue to provide content regarding best practices for containment and spill prevention, search out and add resources for businesses and increase the use of website blog posts to convey information and tips relevant to the protection of water resources.

Business Education Program Successes and Challenges

Since the initiation of the program in 2001, the education program has communicated with many of the wellfield businesses to increase wellhead protection awareness and encourage use of best management practices. The program has conducted approximately 235 site assessments, providing free and confidential waste management and chemical storage technical advice. In addition, when budgets have permitted, free spill prevention materials and secondary containment equipment have been provided to those facilities requesting support for controlling potential releases. In accordance with the original wellfield ordinance, the educational approach has been conducted in a voluntary, non-threatening, non-regulatory manner.

One of the greatest historical challenges for the wellfield protection program has been the voluntary nature of the program, which has, in the past, limited the number of businesses encountered, even with outreach. The 2016 MCPHD Wellfield Protection Standard, which requires all businesses present in the wellfields to engage in wellfield protection activities, dramatically changed the rate at which MCWEC interacts with businesses. For example, during 2017, while MCWEC contacted nearly 100 businesses to provide information regarding the upcoming MCPHD Wellfield Protection Standard, only 15 businesses requested site assessments, with another 10 businesses requesting assistance via phone or email. However, in 2018, MCWEC conducted 36 business site assessment visits and provided phone or email-based assistance to an additional 6 businesses. This increase in business contact illustrates the synergistic nature of working with the MCPHD on their Wellfield Protection Standard.

For 2019, MUNDELL received 25 business assistance requests. This lower number can be attributed to the completion of the bulk of the W-1 wellfield zone inspections by the MCPHD in 2018 and the first part of 2019. A smaller number of businesses are anticipated to be present and request assistance within the W-5 wellfield zones.

MCWEC spent over $15,959.09 in purchasing and donating spill containment equipment to businesses in 2019. **Donation of spill materials remains a concrete and most successful method of ensuring and encouraging compliance with the Wellfield Protection Standard.**

The major ongoing challenge to wellfield protection in Marion County is the rapid pace of turnover in property ownership, leased space, business operations, and personnel, all of which result in loss of institutional awareness and knowledge of wellfield protection requirements and practices. This turnover within Marion County's densely populated urban wellfields necessitates rigorous data management and continuous wellfield business assessment to support a successful wellfield protection program.

2020 Wellfield Activities

As a result of enforcement of the MCPHD Wellfield Protection code, additional efforts have been required to educate impacted businesses about changes in the requirements for operating in the wellfields. The bulk of this effort was put forth in 2018, with a decrease in activity in 2019. Once the MCPHD has completed the initial round of wellfield inspections, re-inspections of businesses will begin to ensure ongoing compliance.

As such, MCWEC, MCPHD and MUNDELL will continue to work together to:

1) Provide outreach, education, and compliance assistance to wellfield businesses. MUNDELL will always remain available for compliance assistance referrals from the MCPHD. These activities will be achieved by distributing information and visiting wellfield businesses to conduct site

assessments. MUNDELL will provide secondary containment and spill protection materials to businesses as the MCWEC budget allows.

2) Continue to promote public awareness of MCWEC and wellfield and groundwater protection. This can be achieved by collaborating with businesses that depend on clean public water supplies as an integral part of their product. Opportunities to present and learn from other professionals involved in groundwater protection will be sought out, along with educational events designed for the general public.

3) Improve the accuracy and efficiency of the MCWEC database and continue to make it available to the water utilities to fulfill the utilities reporting requirements for the state wellhead protection program under IDEM.

4) Continue to pursue an online GIS mapping solution for the MCWEC database to provide interactive maps that will present the data in a clearer and more readily usable manner.

5) Continue to work on the MCWEC website (www.mcwec.org) as a distribution point of free technical support, answers to frequently asked questions (FAQs), relevant links and guidance documents. MUNDELL will continue to generate content for the blog section of the website.

6) Produce a report summarizing annual activities conducted during 2020.

7) Consider future MCWEC objectives and activities as the Marion County Public Health Department moves into the next phase of enforcement of the Wellfield Code and its changing impact on MCWEC's focus, purpose and utilization.

TABLES

Table 1. 2019 Marion County Wellfield Active Business Types

WELLFIELD	Total Active/Vacant Sites	*BUSINESS TYPE*								
		Agriculture/ Turf/Landscaping	***Auto (Trucks & Cars)***	***Graphics***	***Industrial***	***Laundry***	***Medical/Scientific***	***Waste Management/ Chemical Storage***	***Miscellaneous***	***Non-Potential Source (includes Vacant)***
Fall Creek	**520**	4	59	6	27	1	15	2	47	359
Ford	**4**	2	0	0	1	0	0	0	1	0
Geist	**49**	1	1	1	2	1	5	0	7	31
Riverside	**358**	10	53	8	53	3	31	11	32	157
South	**134**	4	8	1	14	1	5	6	7	88
Speedway	**339**	3	18	1	4	3	32	1	19	258
Lawrence	**50**	3	2	0	1	0	6	5	7	26
Totals	**1,454**	**27**	**141**	**17**	**102**	**9**	**94**	**25**	**120**	**919**

Notes:

1. Each site was assigned to a single category.
2. This table is based on drive survey information. Drive surveys were conducted in November and December 2019.

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Table 2. Marion County Wellfield Historic Business Types

WELLFIELD	Total Historic Sites	*BUSINESS TYPE*							
		Agriculture/ Turf/Landscaping	***Auto (Trucks & Cars)***	***Graphics***	***Industrial***	***Laundry***	***Medical/Scientific***	***Waste Management/ Chemical Storage***	***Miscellaneous***
Fall Creek	39	1	22	1	5	4	1	1	4
Ford	0	0	0	0	0	0	0	0	0
Geist	0	0	0	0	0	0	0	0	0
Riverside	64	0	24	8	18	3	3	4	4
South	0	0	0	0	0	0	0	0	0
Speedway	10	0	8	0	0	0	1	0	1
Lawrence	1	0	0	0	0	0	0	0	1
Totals	**114**	**1**	**54**	**9**	**23**	**7**	**5**	**5**	**10**

Notes:

1. Historic businesses are businesses whose historic operations are located within the current wellfield delineations. This table is based on drive survey information. Additional historic sites may be present.

Table 3. 2019 Regulated Marion County Wellfield Businesses

WELLFIELD	*REGULATORY DATABASE*									
	Superfund	***Solid and E-Waste Facilities***	***RCRA ID Hazardous Waste Reporters***	***RCRA Violations***	***Toxic Release Inventory (TRI)***	***NPDES Permits***	***NPDES Permit Violations***	***Marion County TQP Reviews***	***UST Locations***	***LUST Locations***
Fall Creek	1	0	15	0	0	3	0	54	39	21
Ford	0	0	0	0	0	0	0	1	0	0
Geist	0	0	4	0	0	1	0	12	0	0
Riverside	1*	1	34	1	4	21	2	82	55	26
South	0	0	8	0	0	17	0	43	7	6
Speedway	0	0	11	0	0	11	0	24	25	15
Lawrence	0	0	1	0	0	0	0	9	1	3
Total	**2***	**1**	**73**	**1**	**4**	**55**	**2**	**225**	**127**	**71**

Notes:

1. * = this includes Site 0153 which qualified for Superfund status but is currently under IDEM management.
2. Regulated sites may be included in more than one regulatory database.
3. TRI is current as of 12/31/2019.
4. Superfund is current as of 12/31/2019.
5. Solid and E-Waste Sites are current as of 08/29/2019.
6. RCRA ID current as of 12/31/2019.
7. NPDES current as of 12/31/2019. This is a total count of permits.
8. Marion County TQP is current as of 12/31/2019.
9. UST/LUST data current as of December 2019. These numbers are for address locations, not individual tank or incident counts.

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Table 4. 2019 Underground Storage Tank (USTs) Status

UST Status	Wellfield							Total
	Fall Creek	Ford	Geist	Riverside	South	Lawrence	Speedway	
Currently in Use	8	0	0	20	9	3	21	61
Permanently Out of Service	122	0	0	153	8	5	76	364
Temporarily Out of Use	0	0	0	2	0	0	0	2
Total	130	0	0	175	17	8	97	**427**

Note: UST information sourced from IDEM's ULCER database as of December 2019. This table is a count of individual underground storage tanks. Some address locations have multiple USTs on-site.

Table 5. 2019 Leaking Underground Storage Tank (LUST) Incidents

LUST Incident Status	Wellfield							Total
	Fall Creek	Ford	Geist	Riverside	South	Lawrence	Speedway	
Active	1	0	0	1	2	0	1	5
Deactivated (no release confirmed)	2	0	0	2	0	0	2	6
Discontinued (active)	0	0	0	1	0	0	2	3
NFA	23	0	0	28	6	3	19	79
Referred to other IDEM Program	4	0	0	4	0	0	0	8
Total	30	0	0	36	8	3	24	**101**

Note: LUST information sourced from IDEM's ULCER database as of December 2019. Each LUST incident number is counted separately for this table. Some address locations have multiple LUST incident numbers associated with them.

FIGURES

TQP Sites (1995-2019)
Annual Report 2019

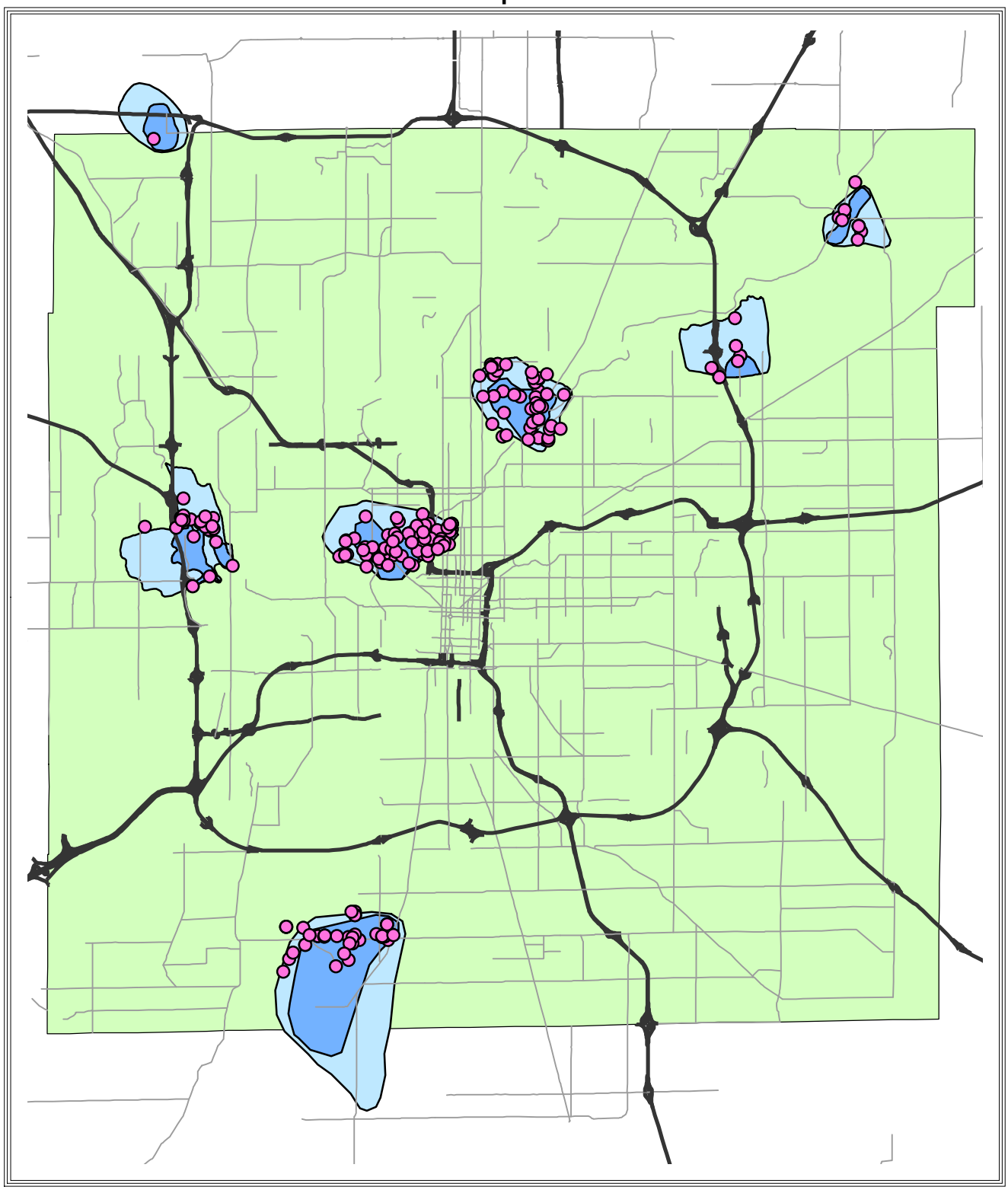


Figure 1

Legend

- **TQP Site**

WellHead Protection Areas

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield

N

0 1.5 3 6 Miles

RCRA Hazardous Waste Notifiers Status
Annual Report 2019

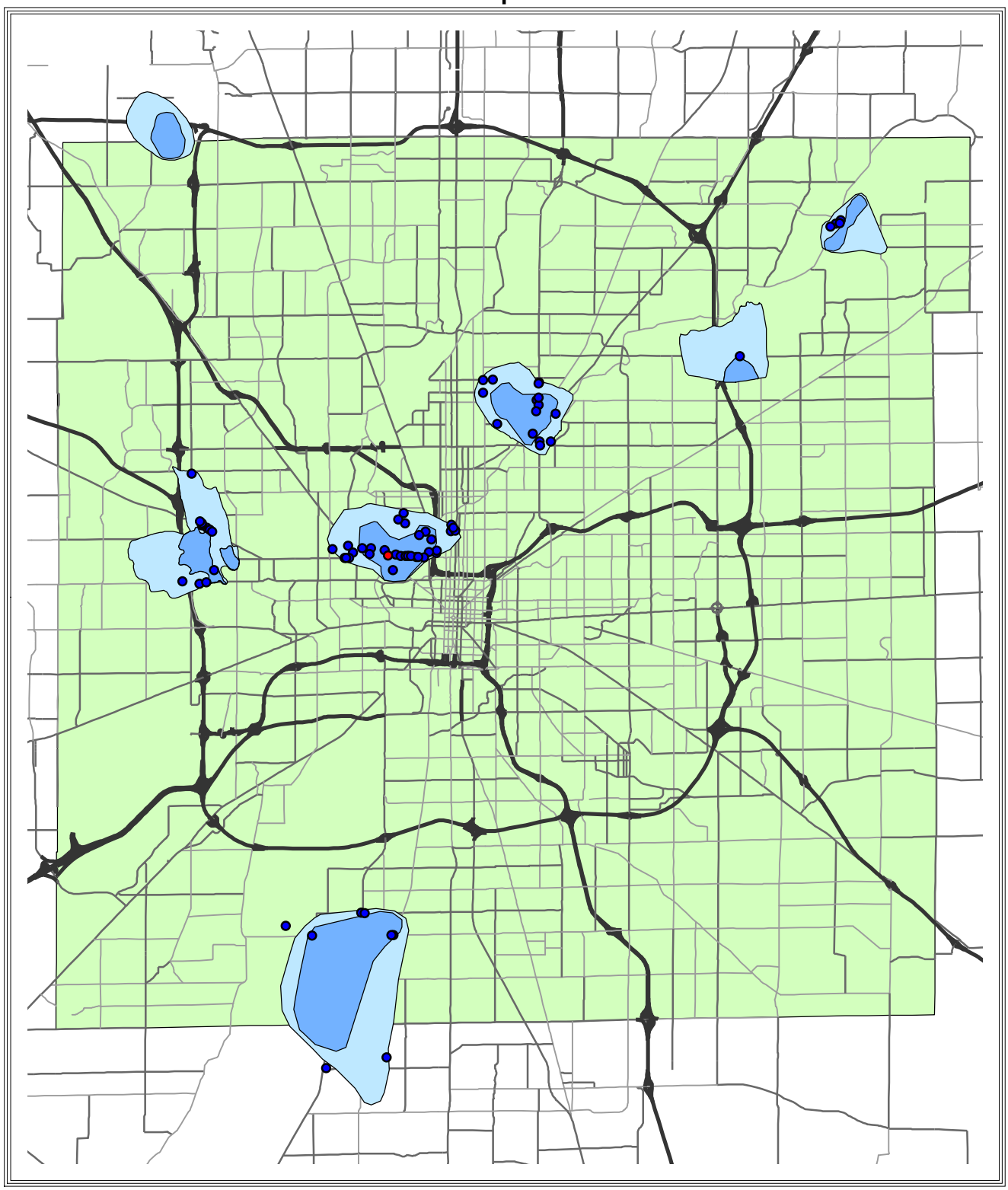


Figure 2

Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County

Violation Status

- No Violation Identified
- Violation

N

0 1 2 4 Miles

NPDES Permit Status
Annual Report 2019

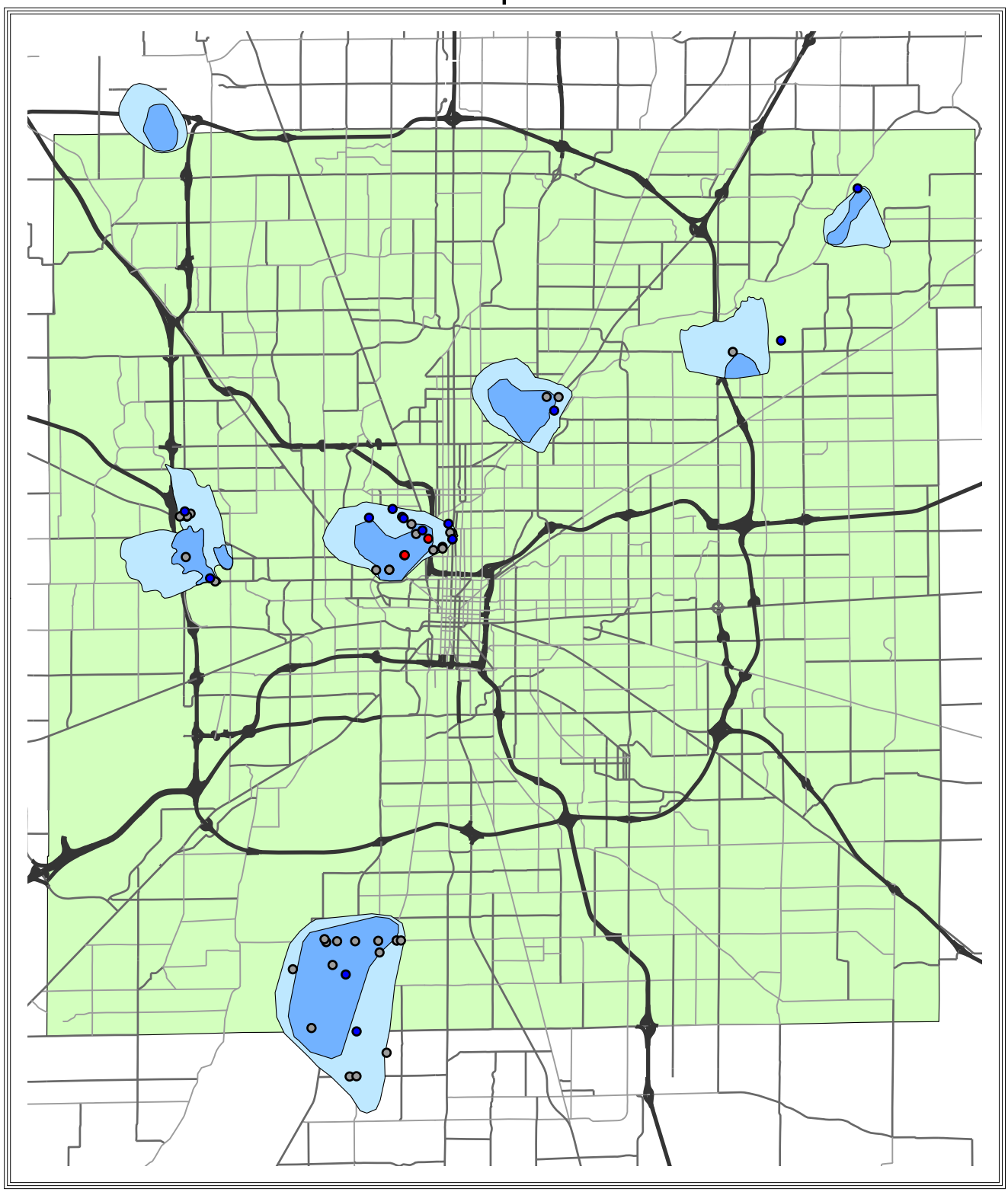


Figure 3

Legend

Permit Status

- Violation Identified
- No Violation Identified
- Unknown

Wellhead Protection Areas

- W-1 (one year TOT) Wellfield
- W-5 (one year TOT) Wellfield

N

0 1 2 4 Miles

Toxic Release Inventory (TRI) Status
Annual Report 2019

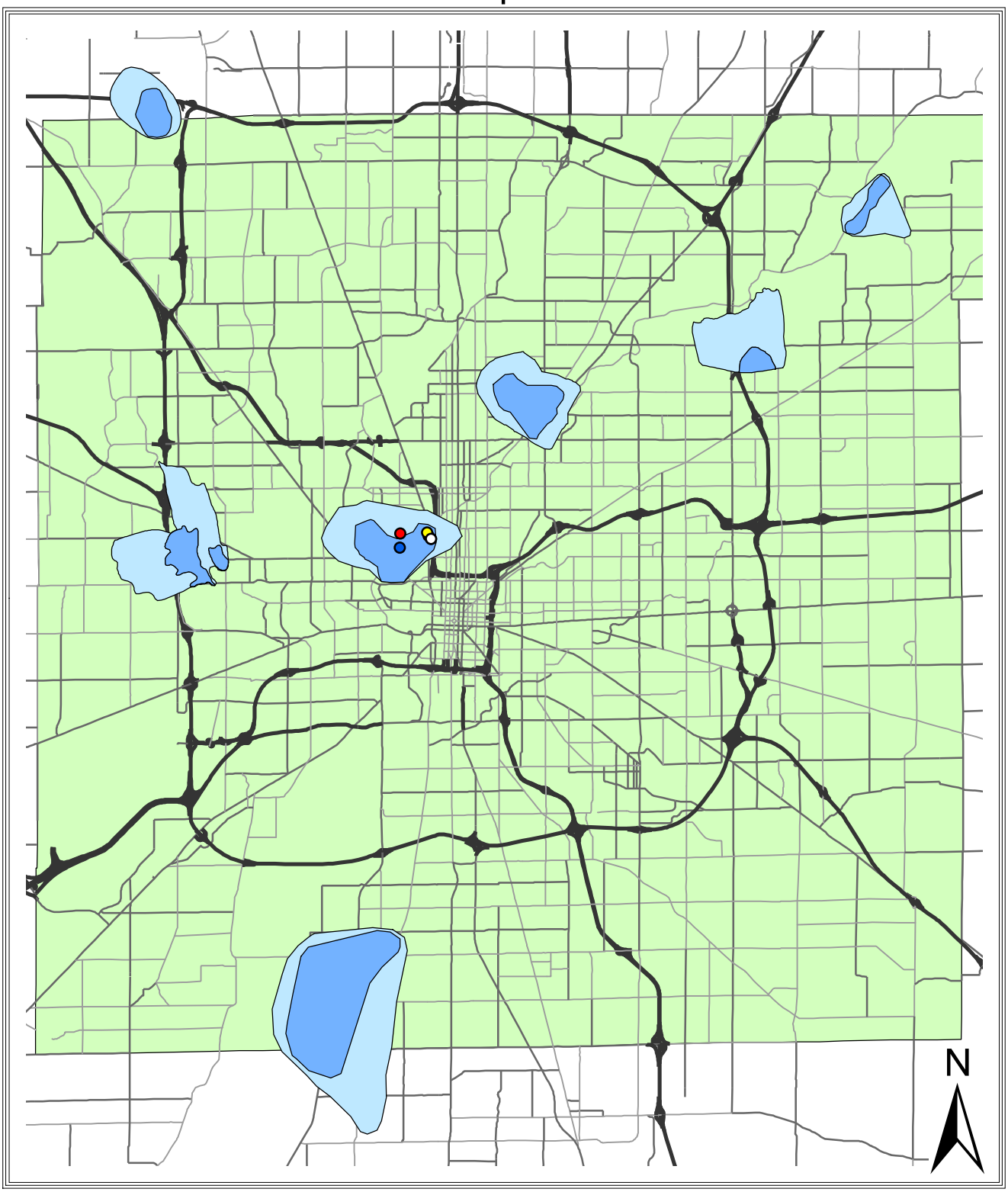


Figure 4

Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County
- Food
- Transportation Equipment
- Fabricated Metals
- Primary Metals
- Machinery

Underground Storage Tanks (UST) Status
Annual Report 2019

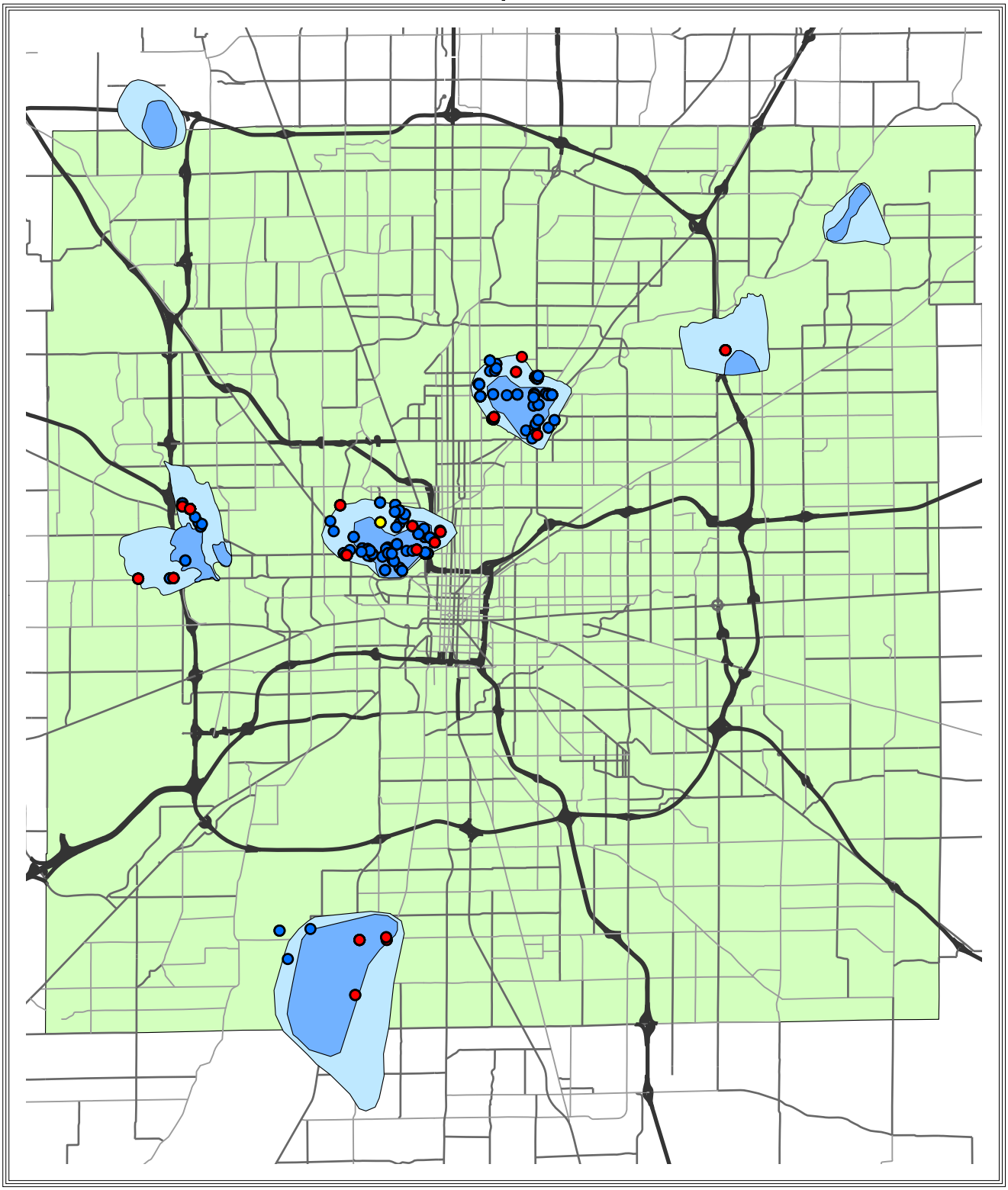


Figure 5

Legend

Tank Status

- Currently in use
- Permanently Out of Service
- Temporarily out of use

Wellhead Protection Areas

- W-1 (one year TOT) Wellfield
- W-5 (one year TOT) Wellfield

N

0 1 2 4 Miles

Leaking Underground Storage Tanks (LUST) Status
Annual Report 2019

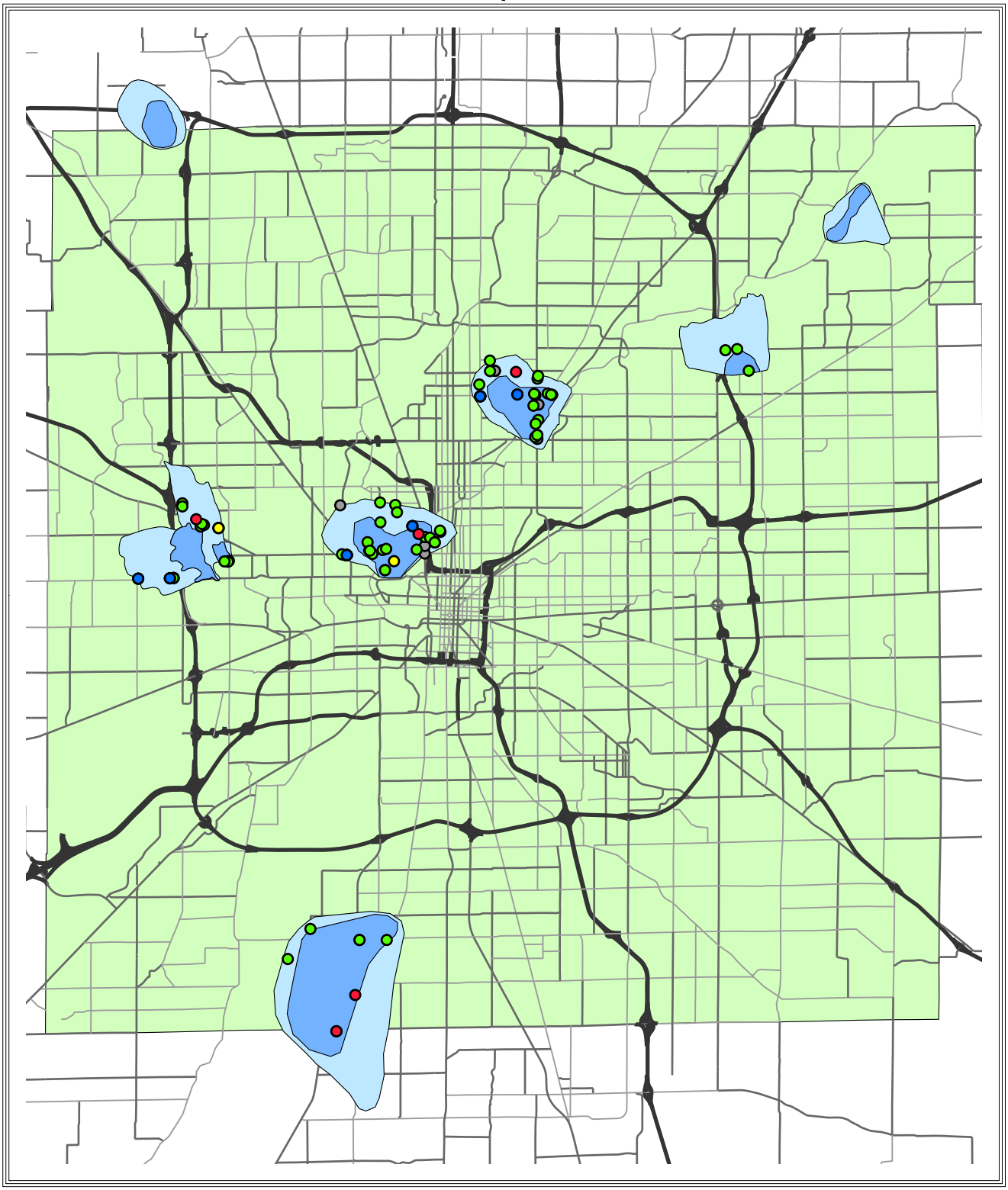


Figure 6

Legend

LUST Status

- Active
- Deactivated (no release confirmed)
- Discontinued (active)
- NFA
- Referred to another IDEM program

Wellhead Protection Areas

- W-1 (one year TOT) Wellfield
- W-5 (one year TOT) Wellfield

N

0 1 2 4 Miles

ATTACHMENTS

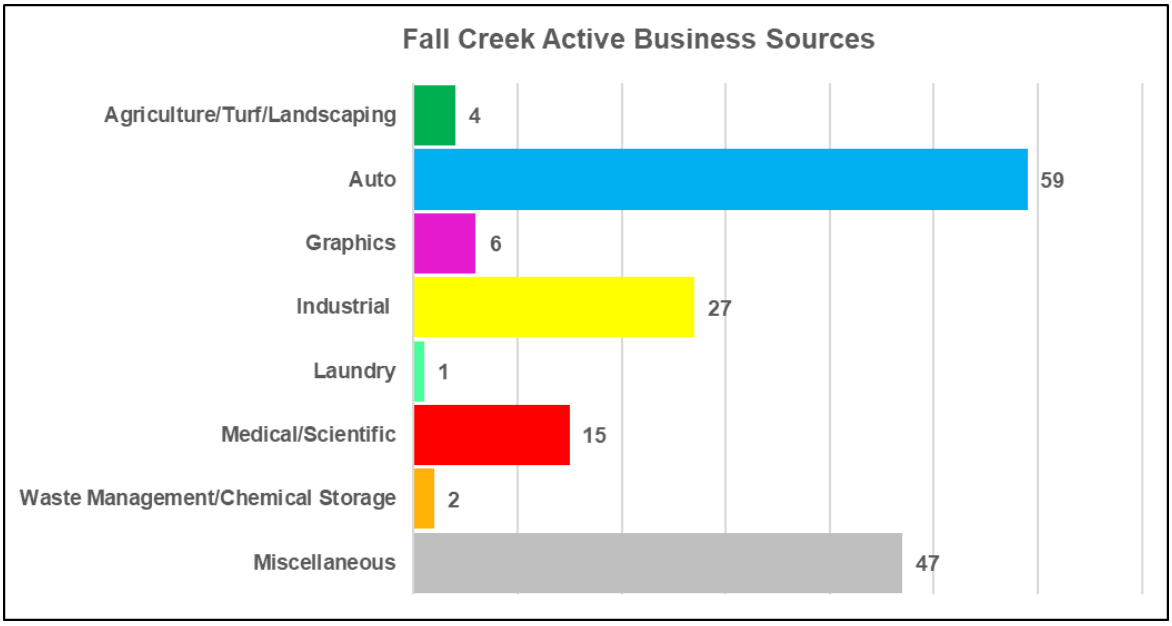
Attachment 1 – Fall Creek Wellfield Summary
Attachment 2 – Ford Wellfield Summary
Attachment 3 – Geist Wellfield Summary
Attachment 4 – Riverside Wellfield Summary
Attachment 5 – South Wellfield Summary
Attachment 6 – Speedway Wellfield Summary
Attachment 7 – Lawrence Wellfield Summary

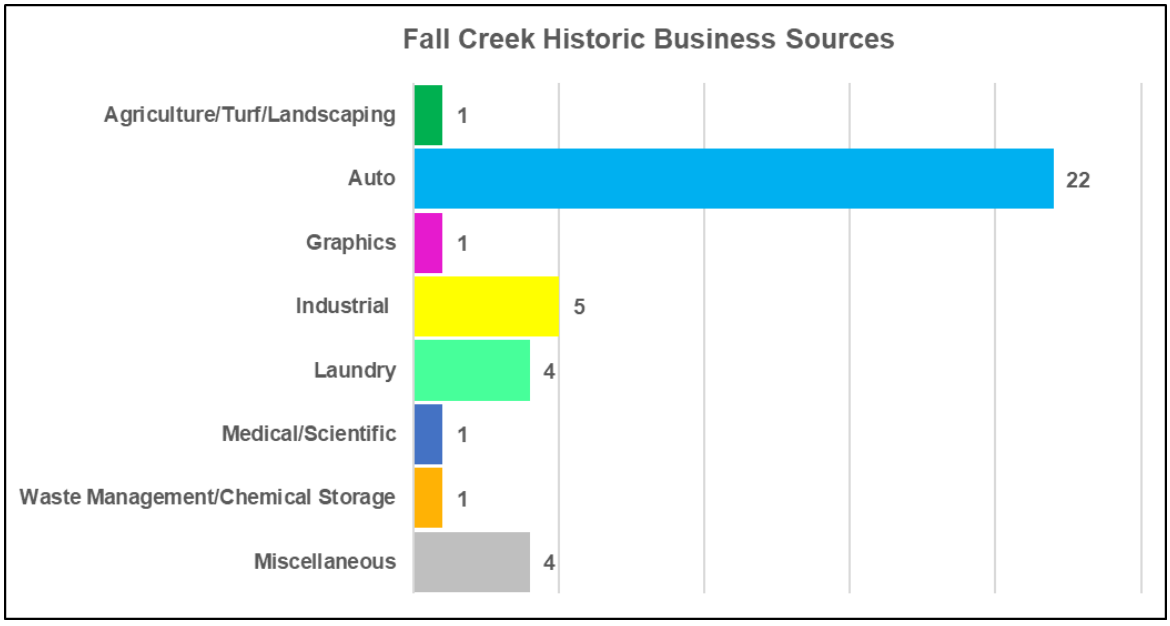
ATTACHMENT 1

Fall Creek Wellfield

Within the Fall Creek Wellfield, there are 482 active non-residential drive survey sites, of which 161 are potential contaminant sources and the remaining 359 (non-potential source and vacant) are considered low to no risk as potential sources of contamination. There are 39 currently identified historic drive survey sites noted within the Fall Creek Wellfield, including agricultural, auto, graphics, industrial, laundry, waste management/chemical storage and miscellaneous categories (see **Tables 1** and **2**).

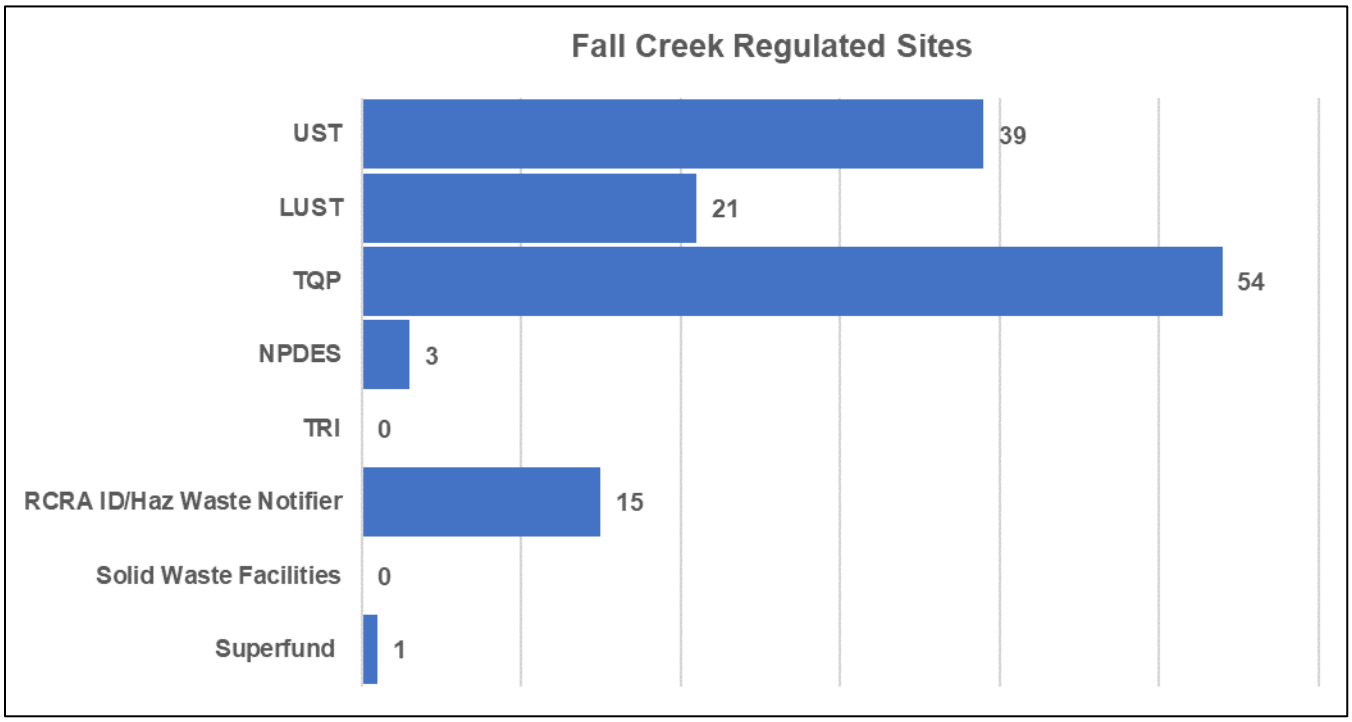
Based on the information obtained from selected regulatory databases, there are 133 regulated sites within this wellfield. The regulated sites include sites with RCRA IDs that perform hazardous waste reporting, underground storage tank (UST) sites, leaking underground storage tank (LUST) sites, superfund sites, NPDES discharge permits, and the Marion County Technically Qualified Person (TQP) program (see **Table 3**).





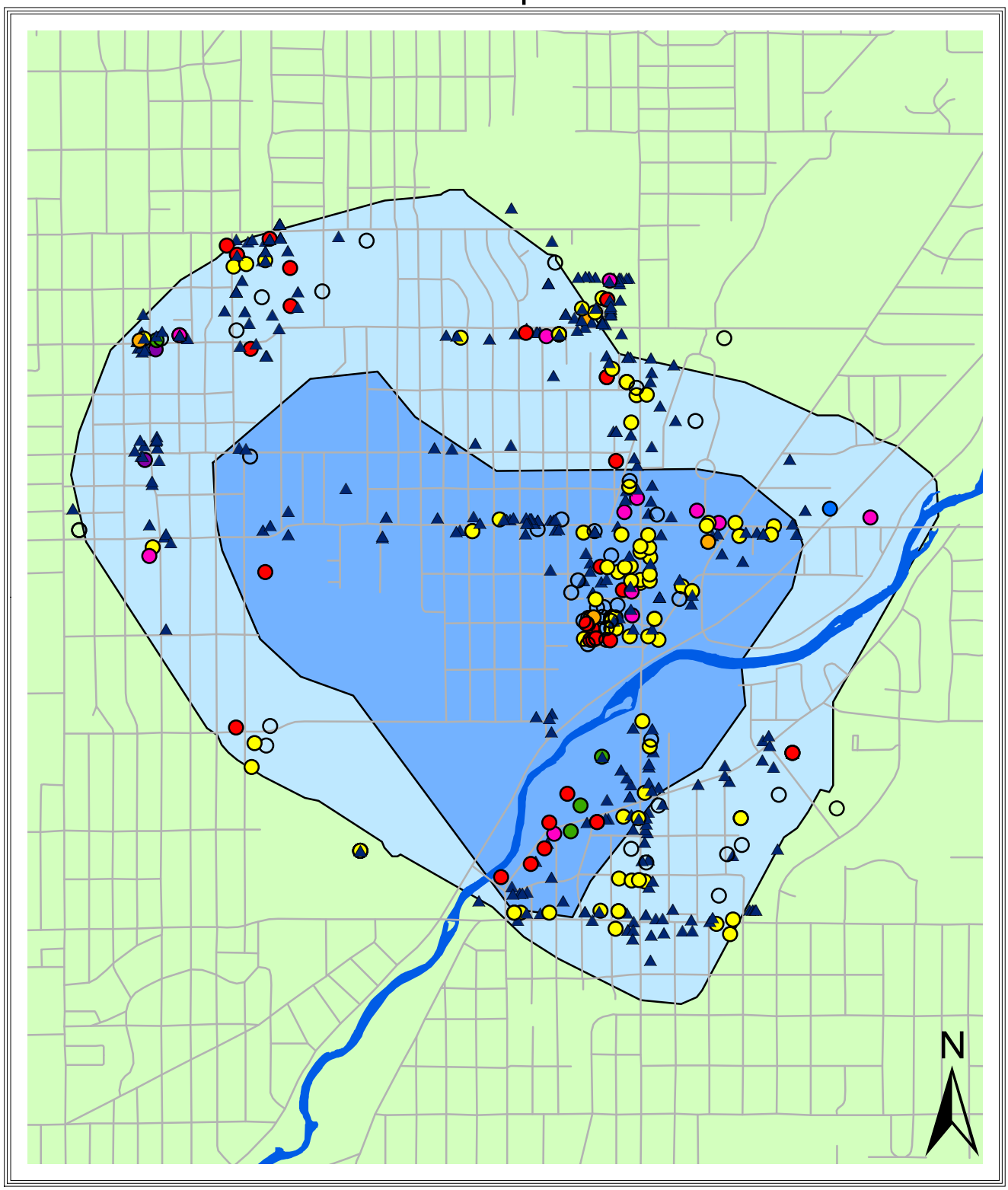
ATTACHMENT 1

Fall Creek Wellfield



Note: UST and LUST are presented as address locations, not as a count of individual tanks or incident numbers.

Fall Creek Wellfield - Active Business Types
Annual Report 2019



Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County
- Interstates
- Roads
- Water Body

Business Type

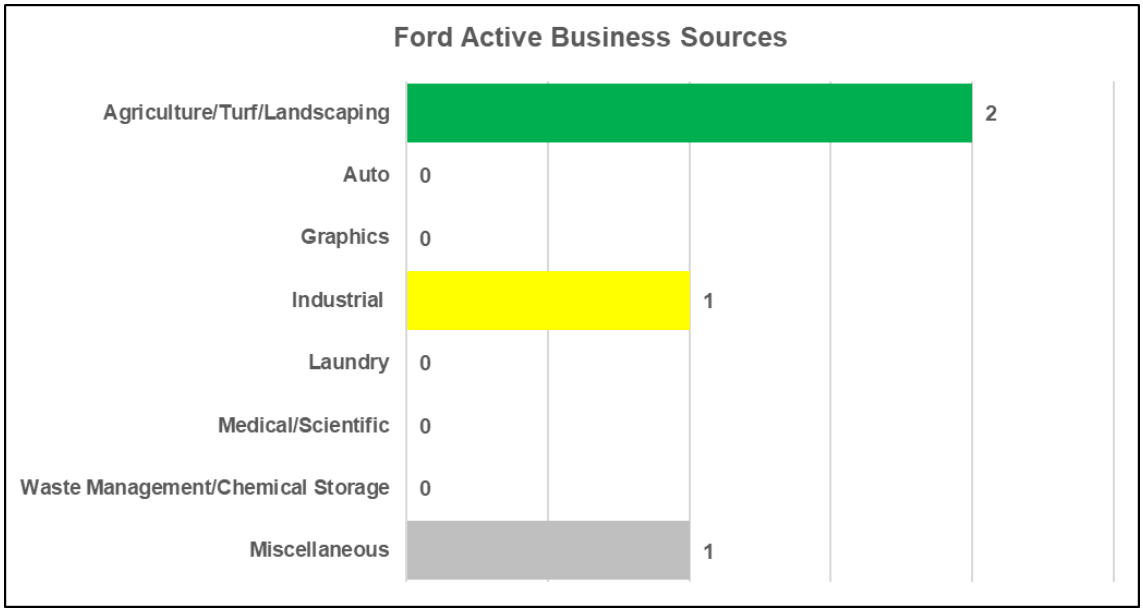
- Agriculture/Turf/Landscaping
- Auto
- Graphics
- Industrial
- Laundry
- Medical/Scientific
- Waste Management/Chemical Storage
- Miscellaneous
- Non-Potential Source

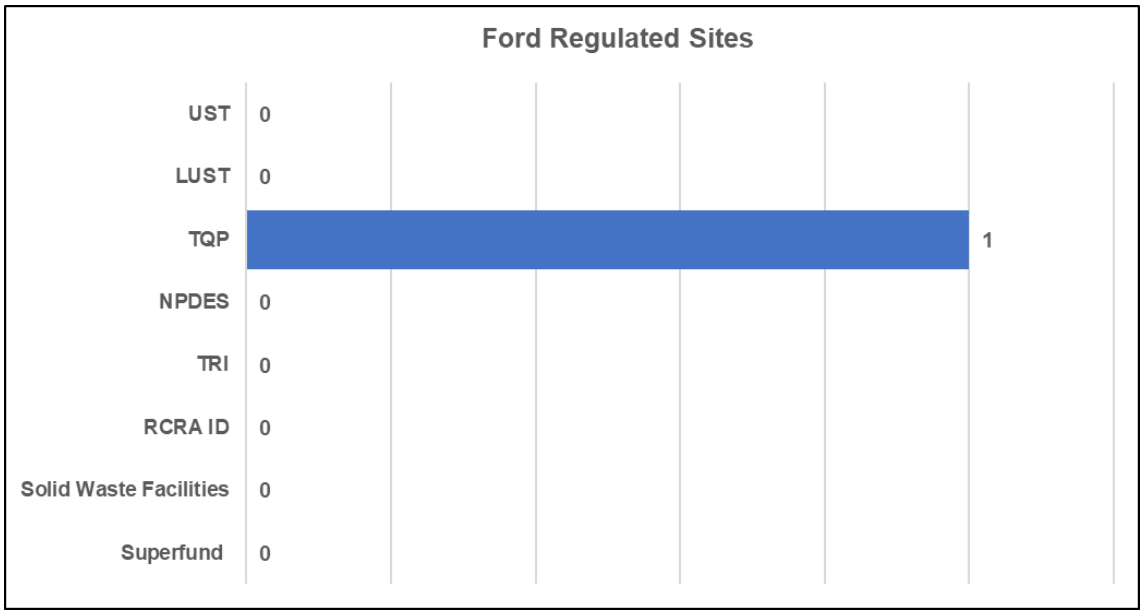
ATTACHMENT 2

Ford Wellfield

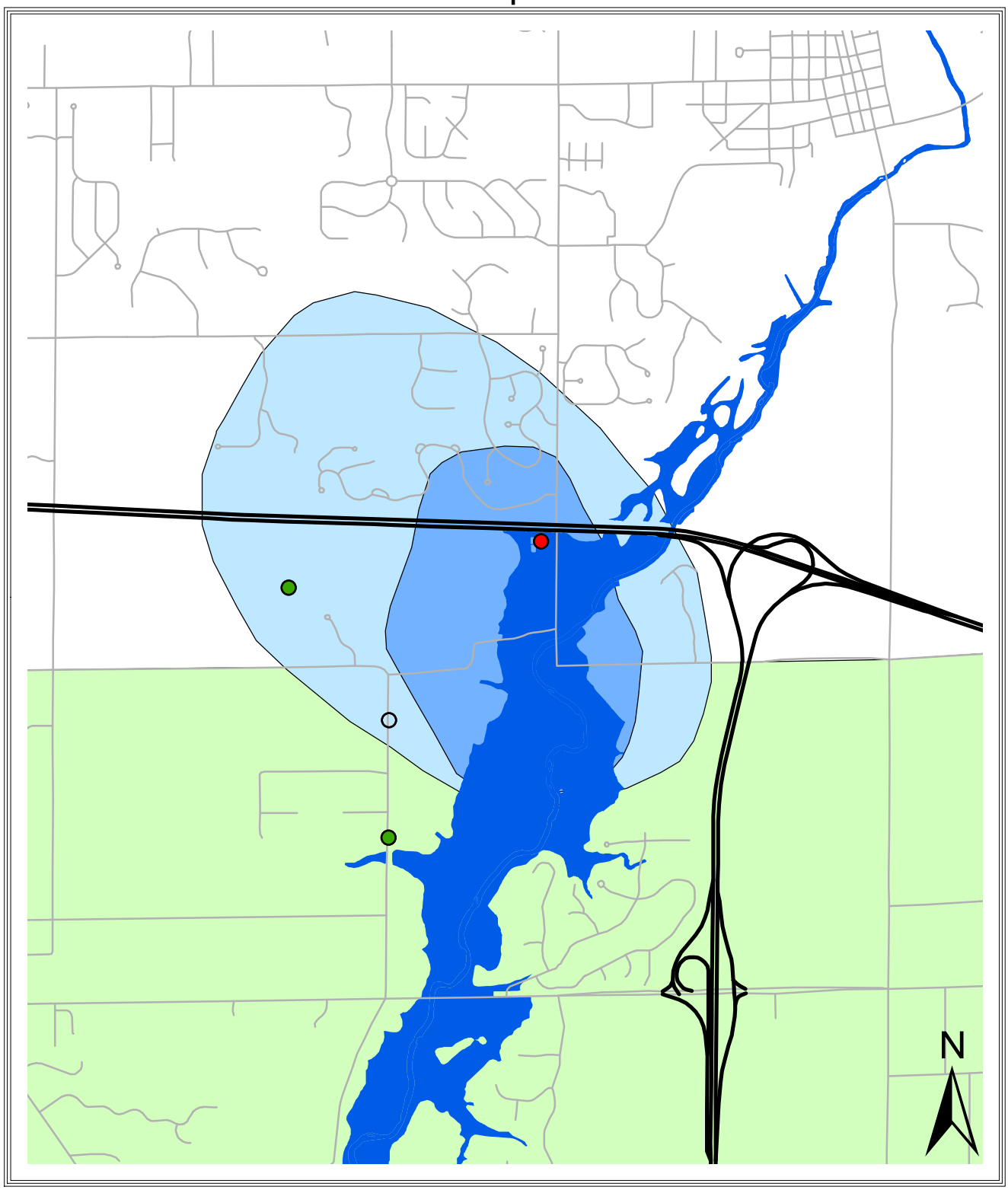
Within the Ford Wellfield, there are 4 active non-residential drive survey sites, of which all four are potential contaminant sources. There are no currently identified historic drive survey sites noted within the Ford Wellfield (see **Tables 1** and **2**).

Based on the information obtained from selected regulatory databases, there is only one regulated site within this wellfield, associated with the Marion County Technically Qualified Person (TQP) program (see **Table 3**).





Ford Wellfield - Active Business Types
Annual Report 2019



0 0.15 0.3 0.6 Miles

Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County
- Interstates
- Roads
- Water Body

Business Type

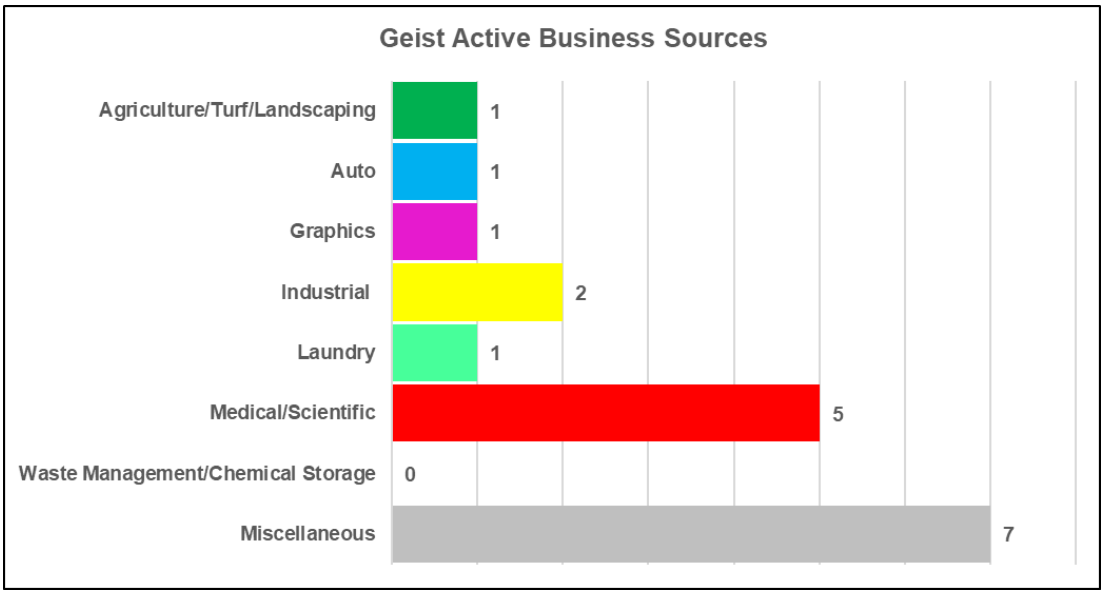
- Agricultural/Turf/Landscaping
- Industrial
- Miscellaneous

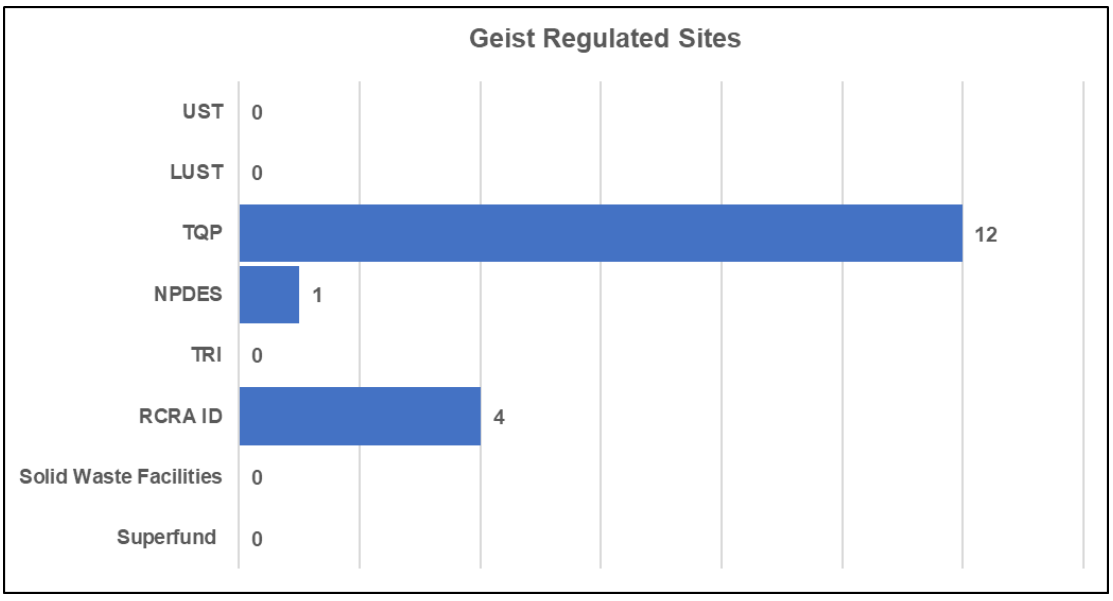
ATTACHMENT 3

Geist Wellfield

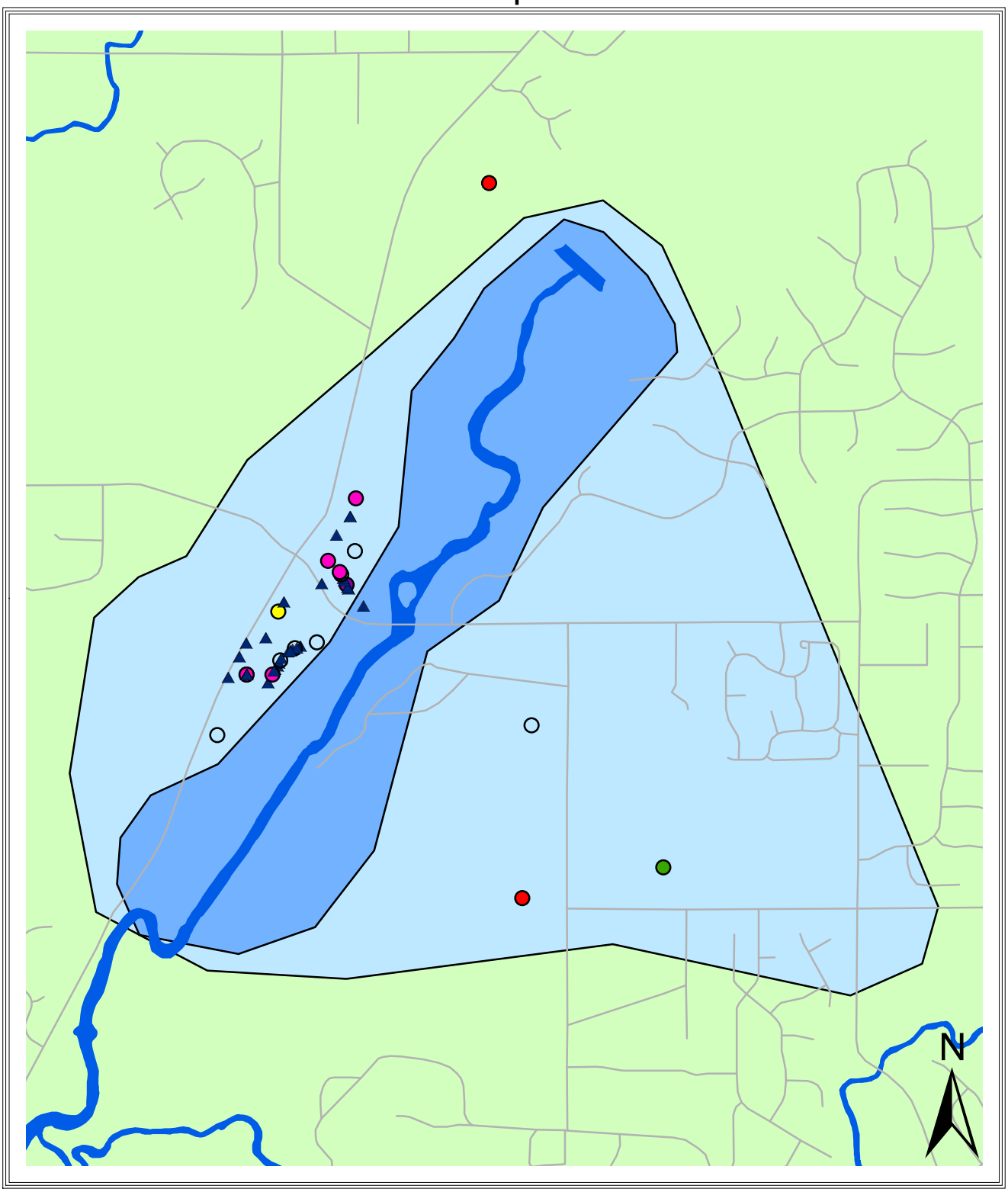
Within the Geist Wellfield, there are 47 active non-residential drive survey sites, of which 18 are potential contaminant sources and 31 are considered low to no risk as potential sources of contamination or are vacant. There are no currently identified historic drive survey sites noted within the Geist Wellfield (see **Tables 1** and **2**).

Based on the information obtained from selected regulatory databases, there are 17 regulated sites within this wellfield. The regulated sites include sites with RCRA IDs that perform hazardous waste reporting, NPDES discharge permits, and the Marion County Technically Qualified Person (TQP) program (see **Table 3**).





Geist Wellfield - Active Business Types
Annual Report 2019



Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County
- Interstates
- Roads
- Water Body

Business Type

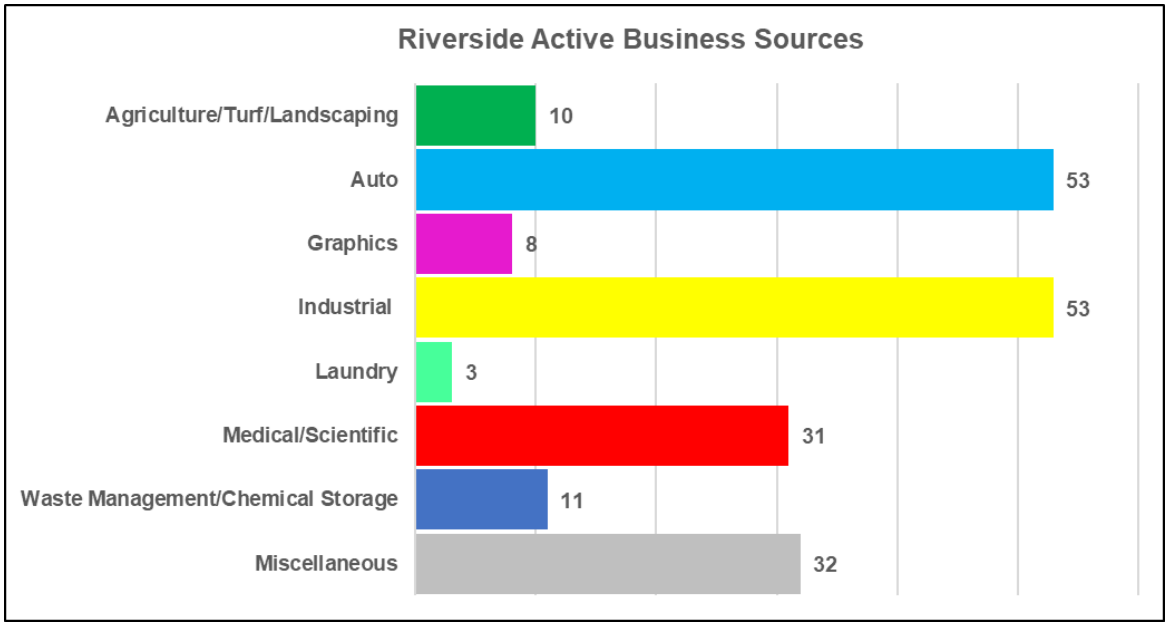
- Agricultural/Turf/Landscaping
- Auto
- Graphics
- Industrial
- Laundry
- Medical/Scientific
- Miscellaneous
- Non-Potential Source

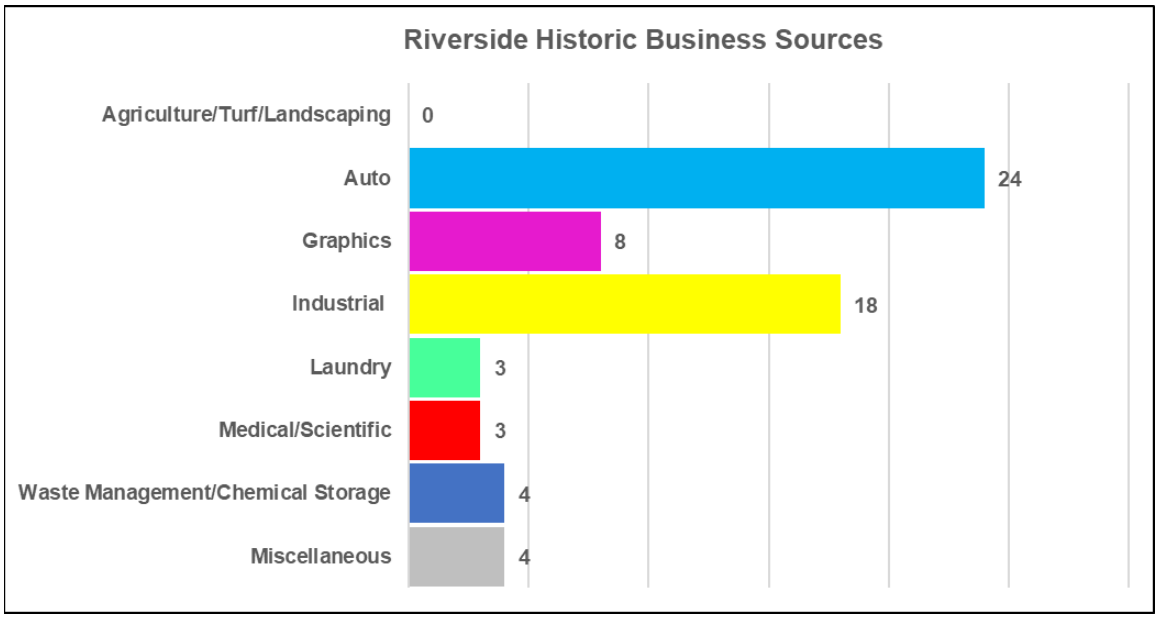
ATTACHMENT 4

Riverside Wellfield

Within the Riverside Wellfield, there are 344 active non-residential drive survey sites, of which 201 are potential contaminant sources and 157 are considered low to no risk as potential sources of contamination or are vacant. There are 64 currently identified historic drive survey sites noted within the Riverside Wellfield, including auto, graphics, industrial, laundry, medical/scientific, waste management/chemical storage and miscellaneous categories (see **Tables 1** and **2**).

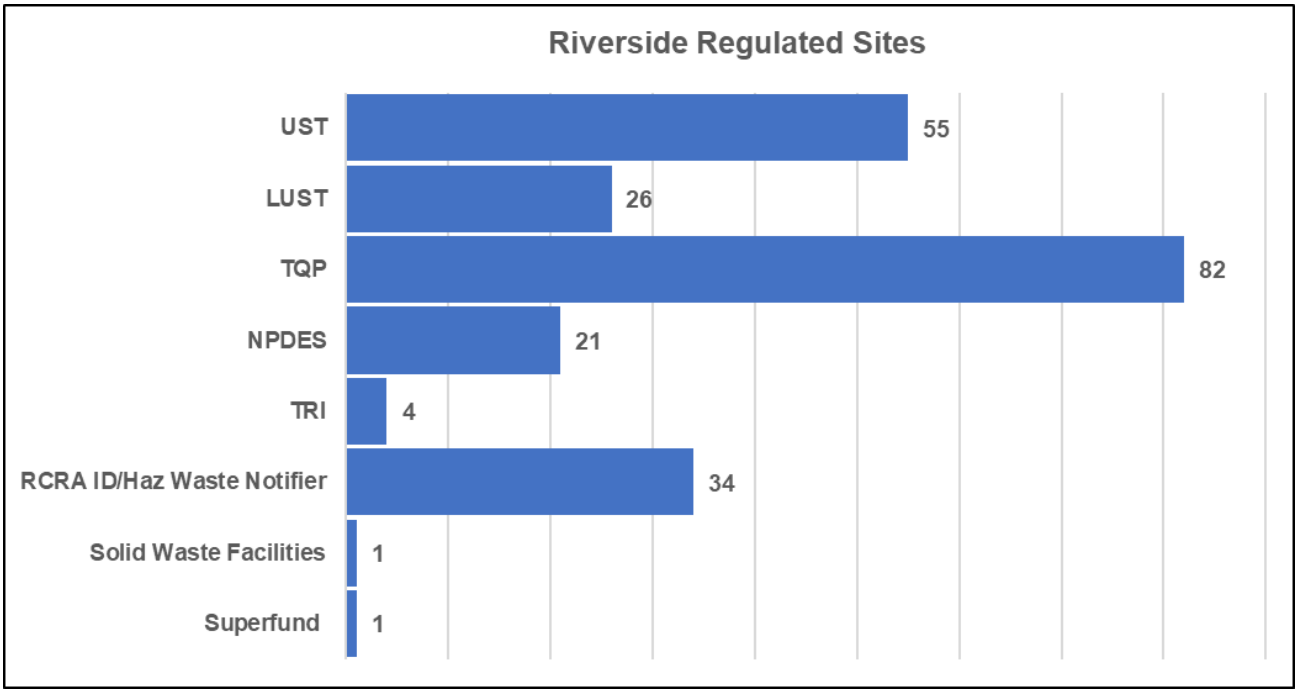
Based on the information obtained from selected regulatory databases, there are 224 regulated sites within this wellfield. The regulated sites include sites with RCRA IDs that perform hazardous waste reporting, solid waste facilities, underground storage tanks (USTs), leaking underground storage tanks (LUSTs), superfund sites, NPDES discharge permits, toxics release inventory (TRI) sites and the Marion County Technically Qualified Person (TQP) program (see **Table 3**).





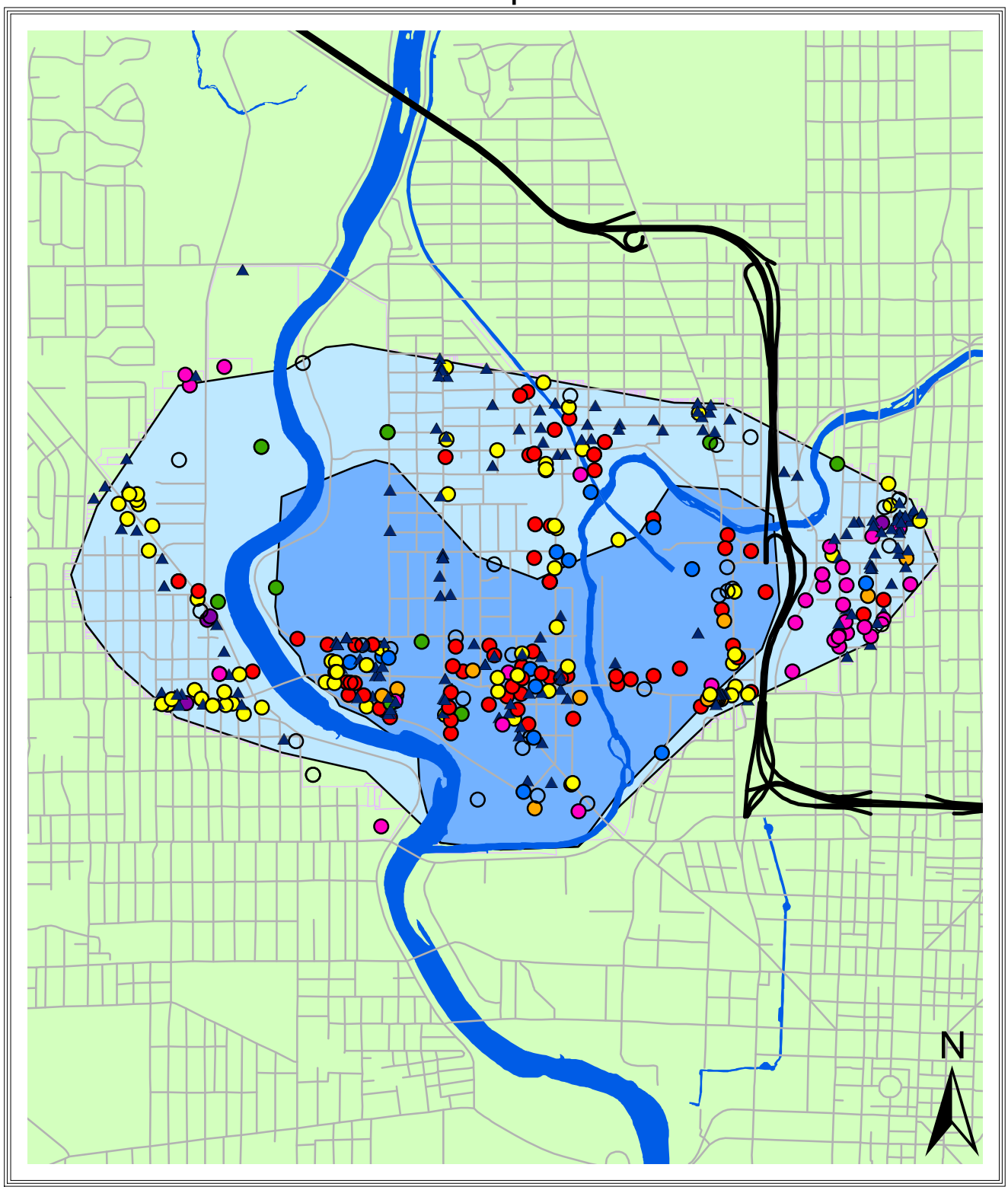
ATTACHMENT 4

Riverside Wellfield



Note: UST and LUST are presented as address locations, not as a count of individual tanks or incident numbers.

Riverside - Active Business Types
Annual Report 2019



Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County
- Interstates
- Roads
- Water Body

Business Type

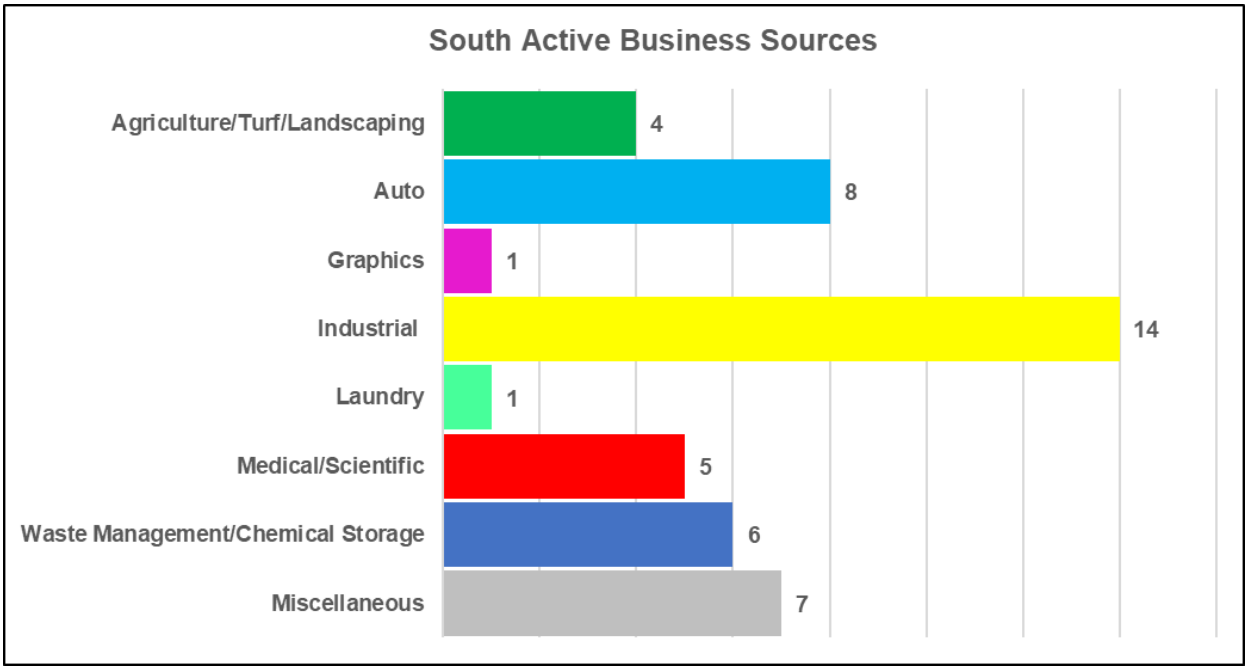
- Agricultural/Turf/Landscaping
- Auto
- Graphics
- Industrial
- Laundry
- Medical/Scientific
- Waste Management/Chemical Storage
- Miscellaneous
- Non-Potential Source

ATTACHMENT 5

South Wellfield

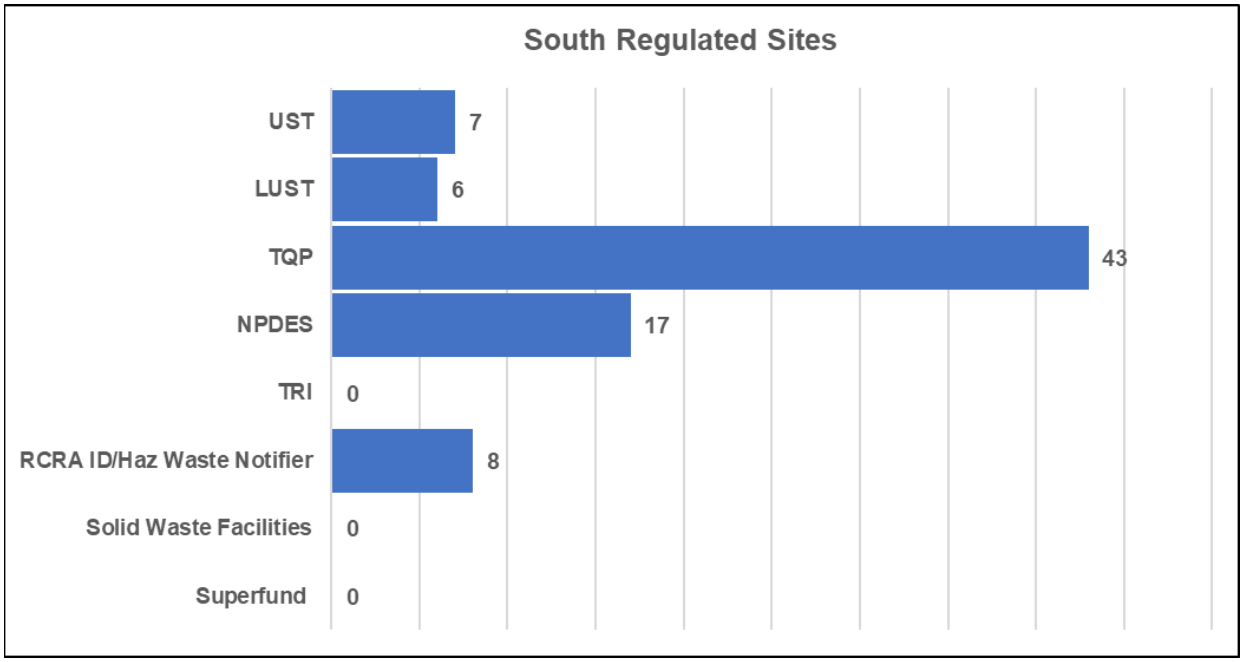
Within the South Wellfield, there are 120 active non-residential drive survey sites, of which 46 are potential contaminant sources and 88 are considered low to no risk as potential sources of contamination or are vacant. There are no currently identified historic drive survey sites noted within the South Wellfield (see **Tables 1** and **2**).

Based on the information obtained from selected regulatory databases, there are 81 regulated sites within this wellfield. The regulated sites include sites with RCRA IDs that perform hazardous waste reporting, underground storage tanks (USTs), leaking underground storage tanks (LUSTs), NPDES discharge permits, and the Marion County Technically Qualified Person (TQP) program (see **Table 3**).



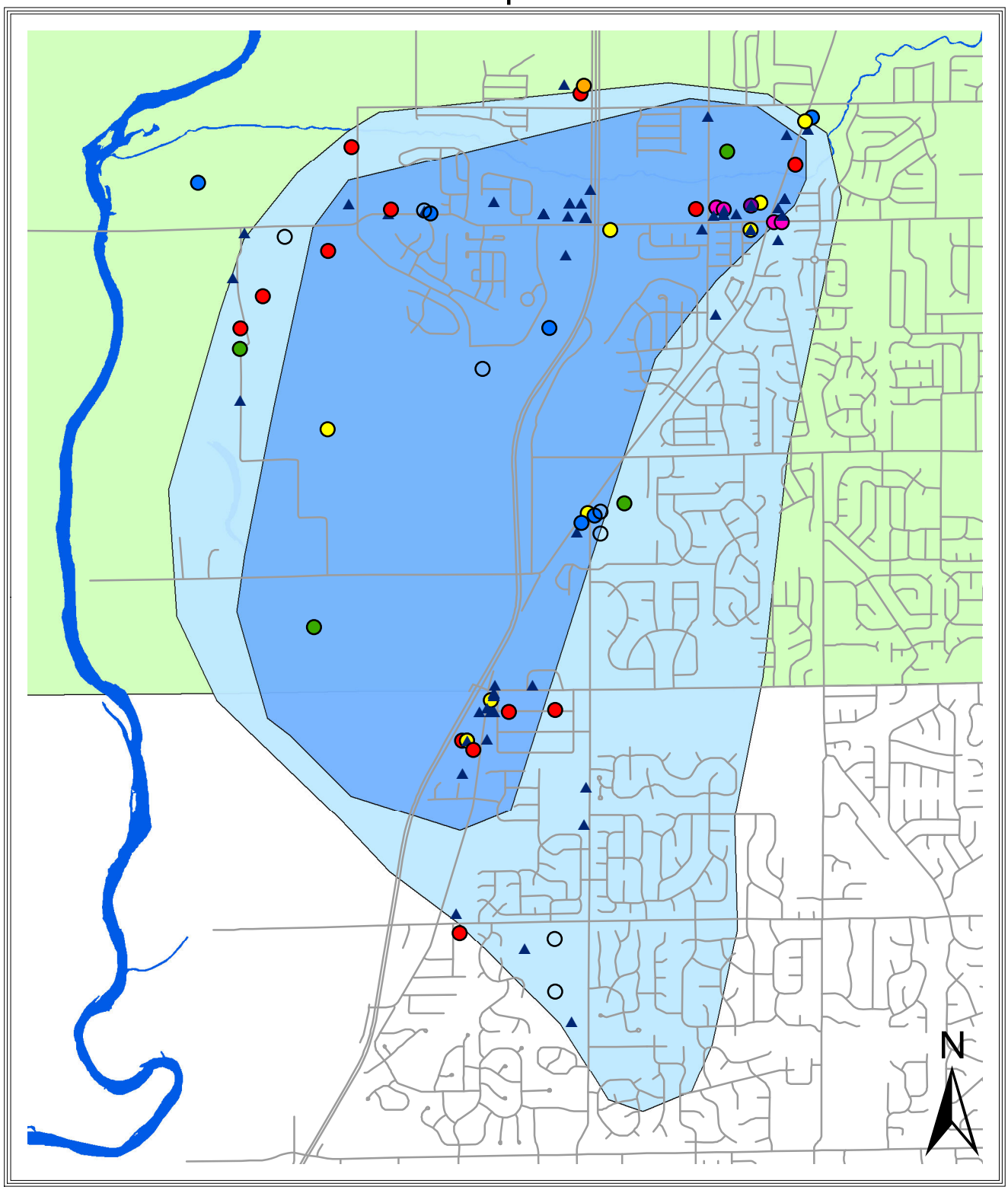
ATTACHMENT 5

South Wellfield



Note: UST and LUST are presented as address locations, not as a count of individual tanks or incident numbers.

South Wellfield - Active Business Types
Annual Report 2019



Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County
- Interstates
- Roads
- Water Body

Business Type

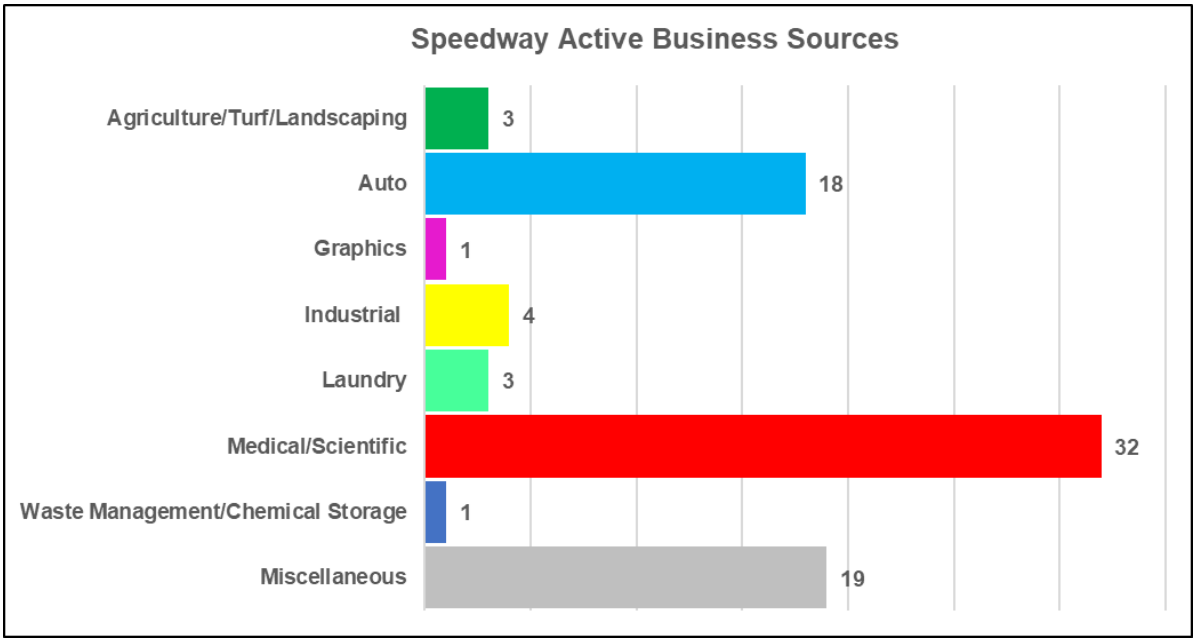
- Agricultural/Turf/Landscaping
- Auto
- Graphics
- Industrial
- Laundry
- Medical/Scientific
- Waste Management/Chemical Storage
- Miscellaneous
- Non-Potential Source

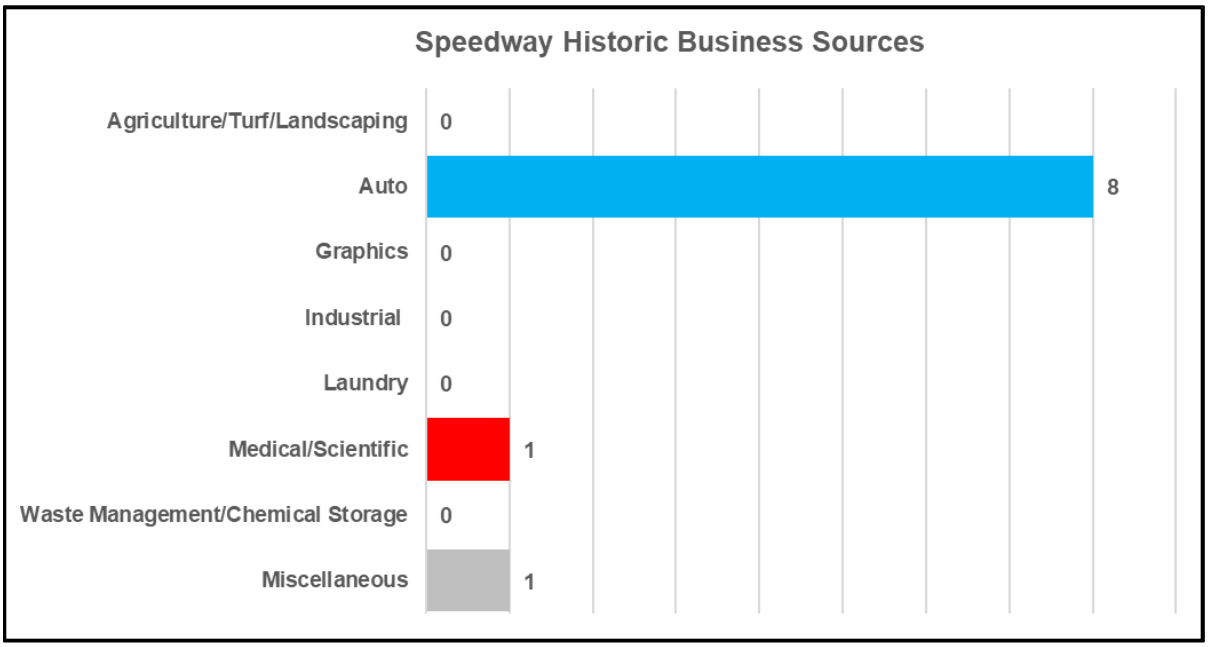
ATTACHMENT 6

Speedway Wellfield

Within the Speedway Wellfield, there are 318 active non-residential drive survey sites, of which 81 are potential contaminant sources and 258 are considered low to no risk as potential sources of contamination or are vacant. There are 10 currently historic drive survey sites noted within the South Wellfield, including auto, industrial, medical/scientific and waste management/chemical storage categories (see **Tables 1** and **2**).

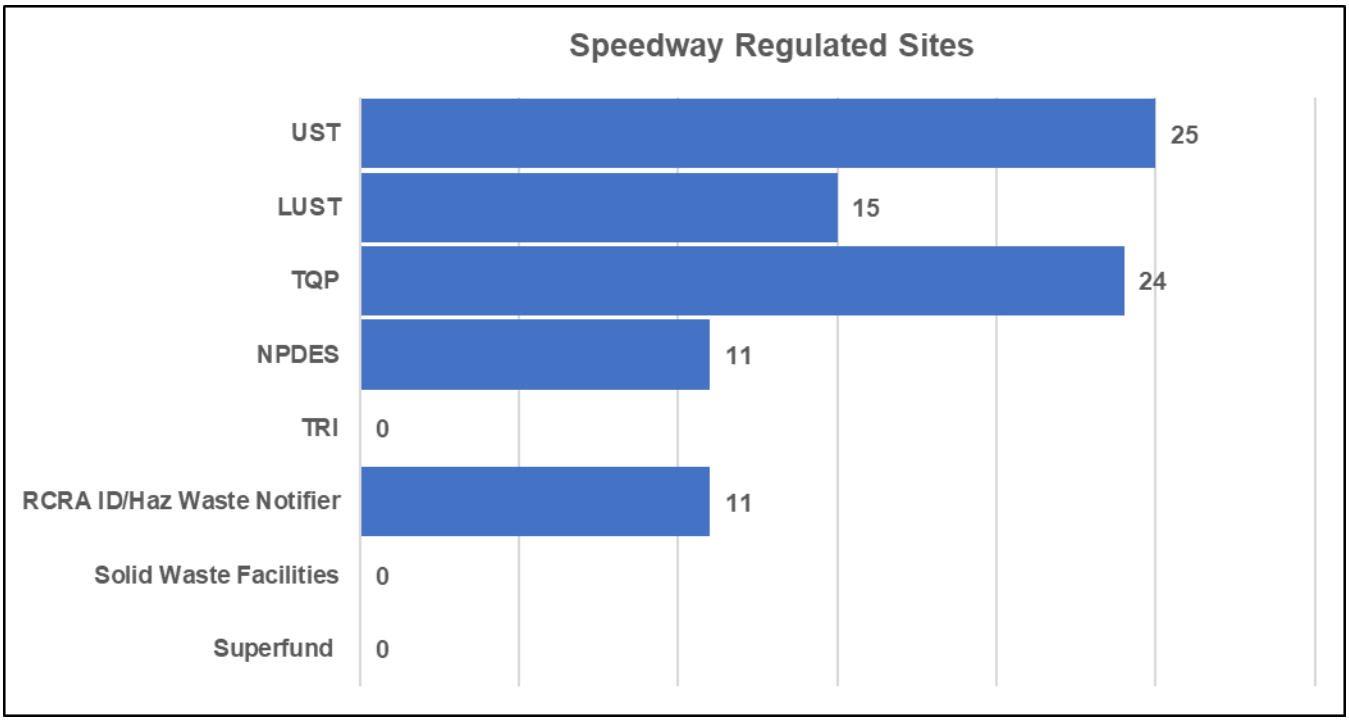
Based on the information obtained from selected regulatory databases, there are 86 regulated sites within this wellfield. The regulated sites include sites with RCRA IDs that perform hazardous waste reporting, underground storage tanks (USTs), leaking underground storage tanks (LUSTs), NPDES discharge permits, and the Marion County Technically Qualified Person (TQP) program (see **Table 3**).





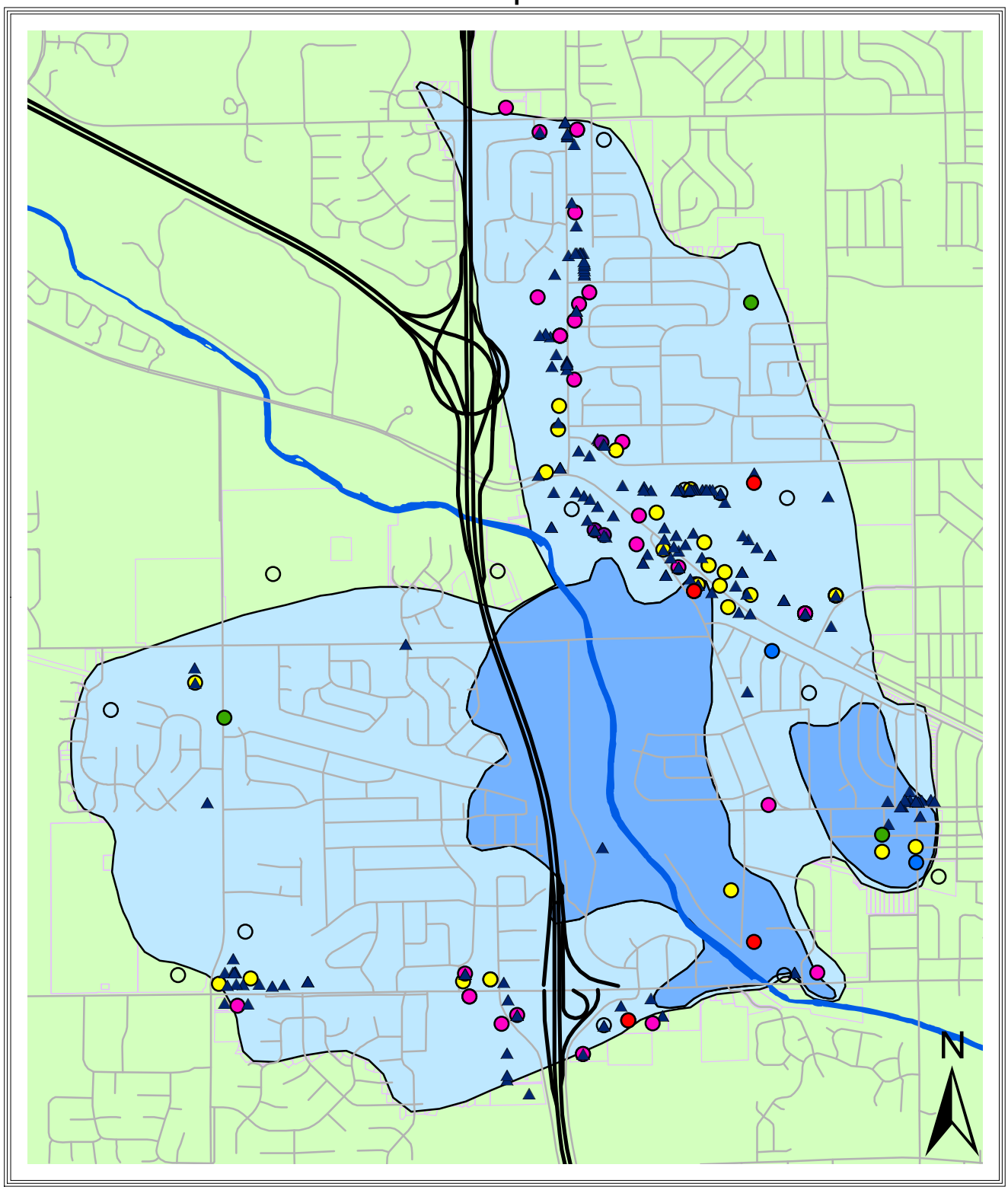
ATTACHMENT 6

Speedway Wellfield



Note: UST and LUST are presented as address locations, not as a count of individual tanks or incident numbers.

Speedway - Active Business Types
Annual Report 2019



0 0.25 0.5 1 Miles

Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County
- Interstates
- Roads
- Water Body

Business Type

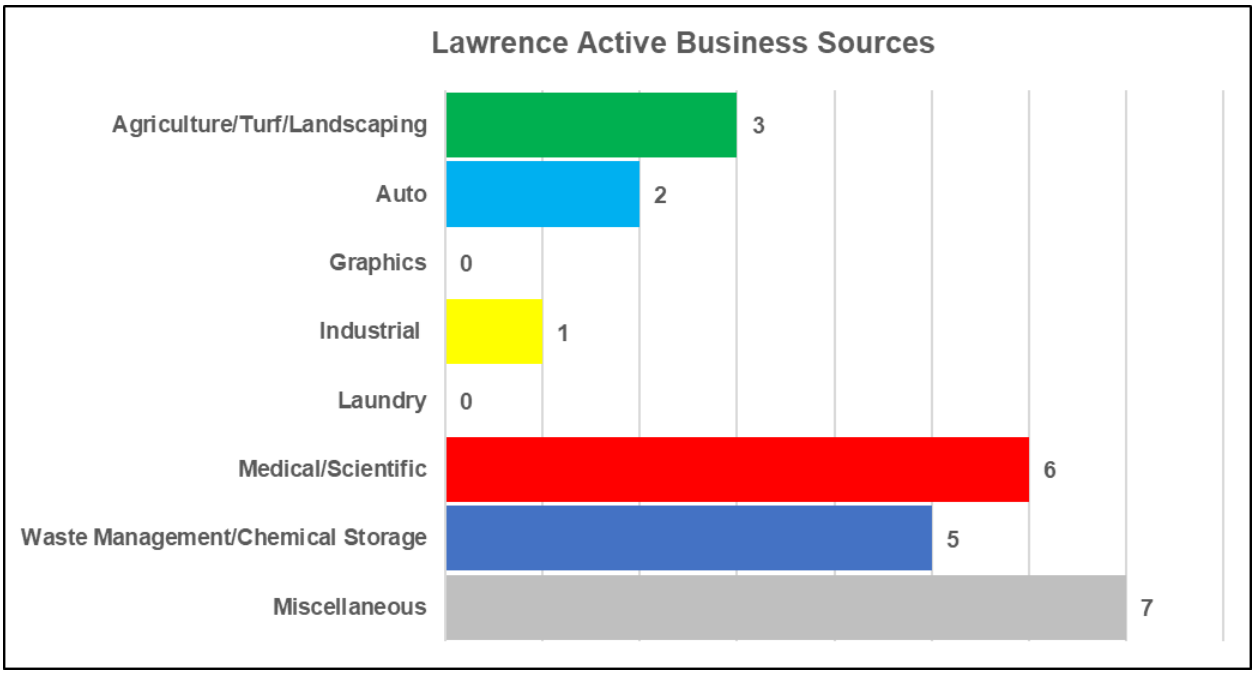
- Agricultural/Turf/Landscaping
- Auto
- Graphics
- Industrial
- Laundry
- Medical/Scientific
- Waste Management/Chemical Storage
- Miscelleneous
- Non-Potential Source

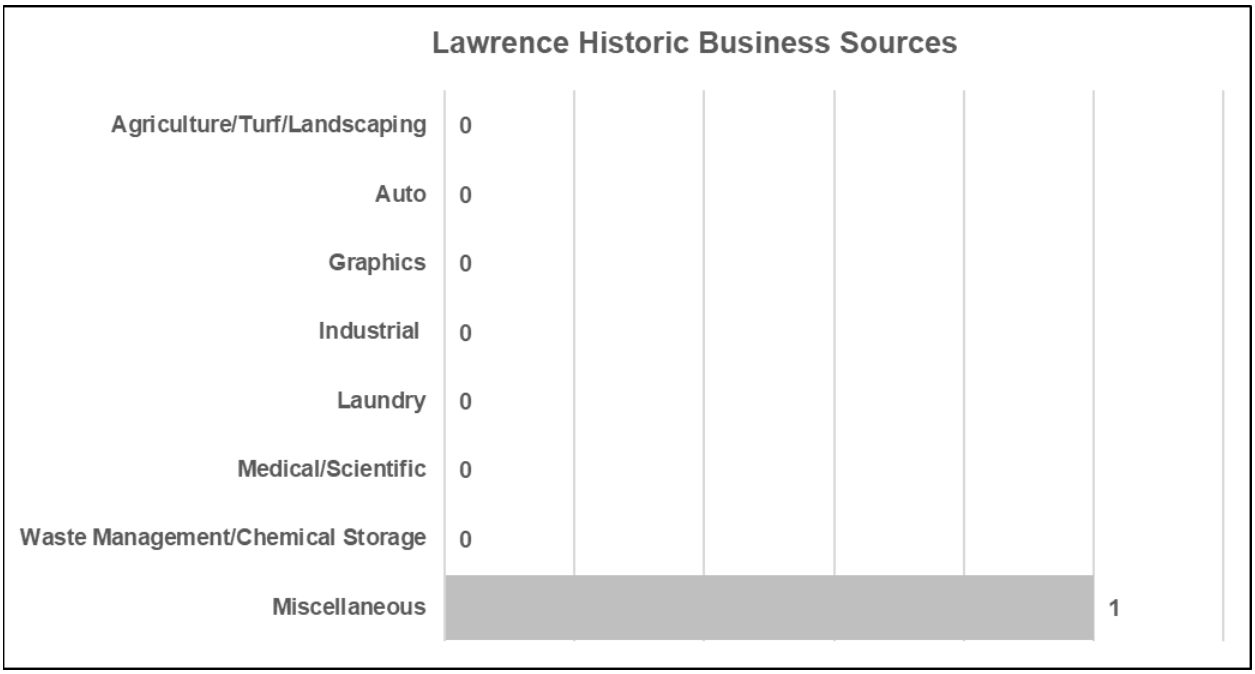
ATTACHMENT 7

Lawrence Wellfield

Within the Lawrence Wellfield, there are 47 active non-residential sites, of which 24 are potential contaminant sources and 26 are considered low to no risk as potential sources of contamination or are vacant. There is only one currently identified historic drive survey site located within the Lawrence Wellfield, a former school in the miscellaneous business category (see **Tables 1** and **2**).

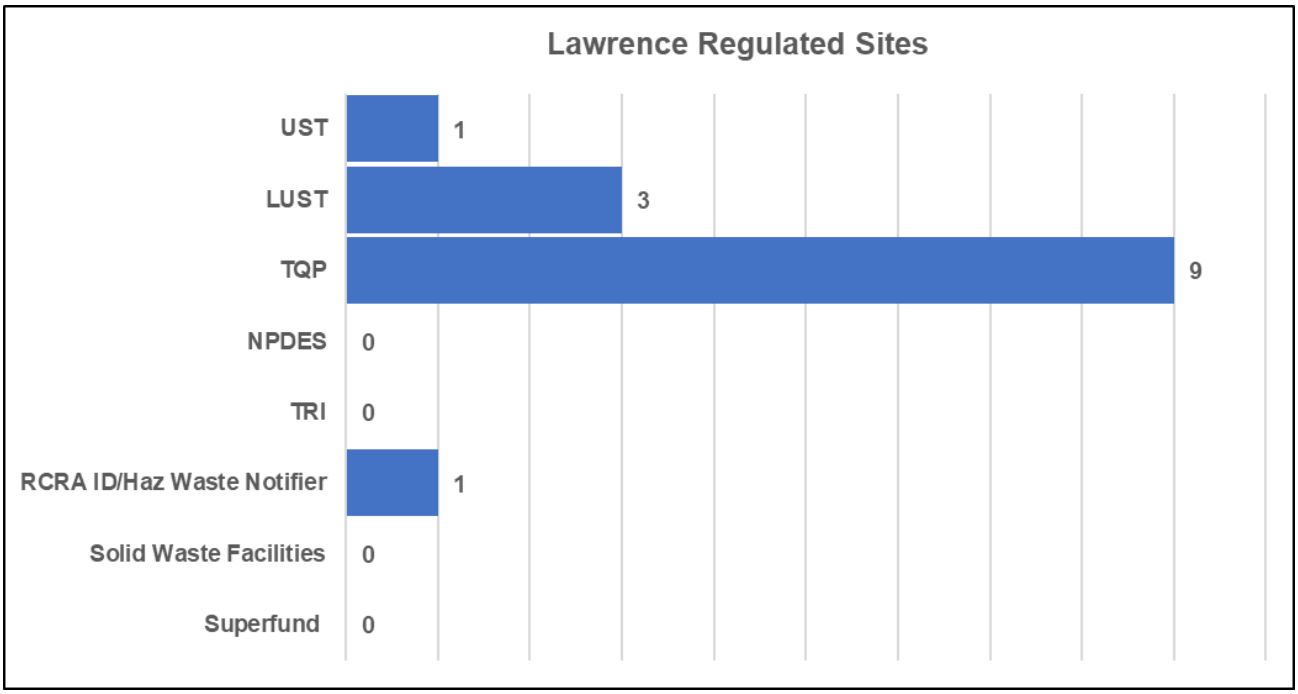
Based on the information obtained from selected regulatory databases, there are 14 regulated sites within this wellfield. The regulated sites include sites with RCRA IDs that perform hazardous waste reporting, underground storage tanks (USTs), leaking underground storage tanks (LUSTs), and sites in the Marion County Technically Qualified Person (TQP) program (see **Table 3**).





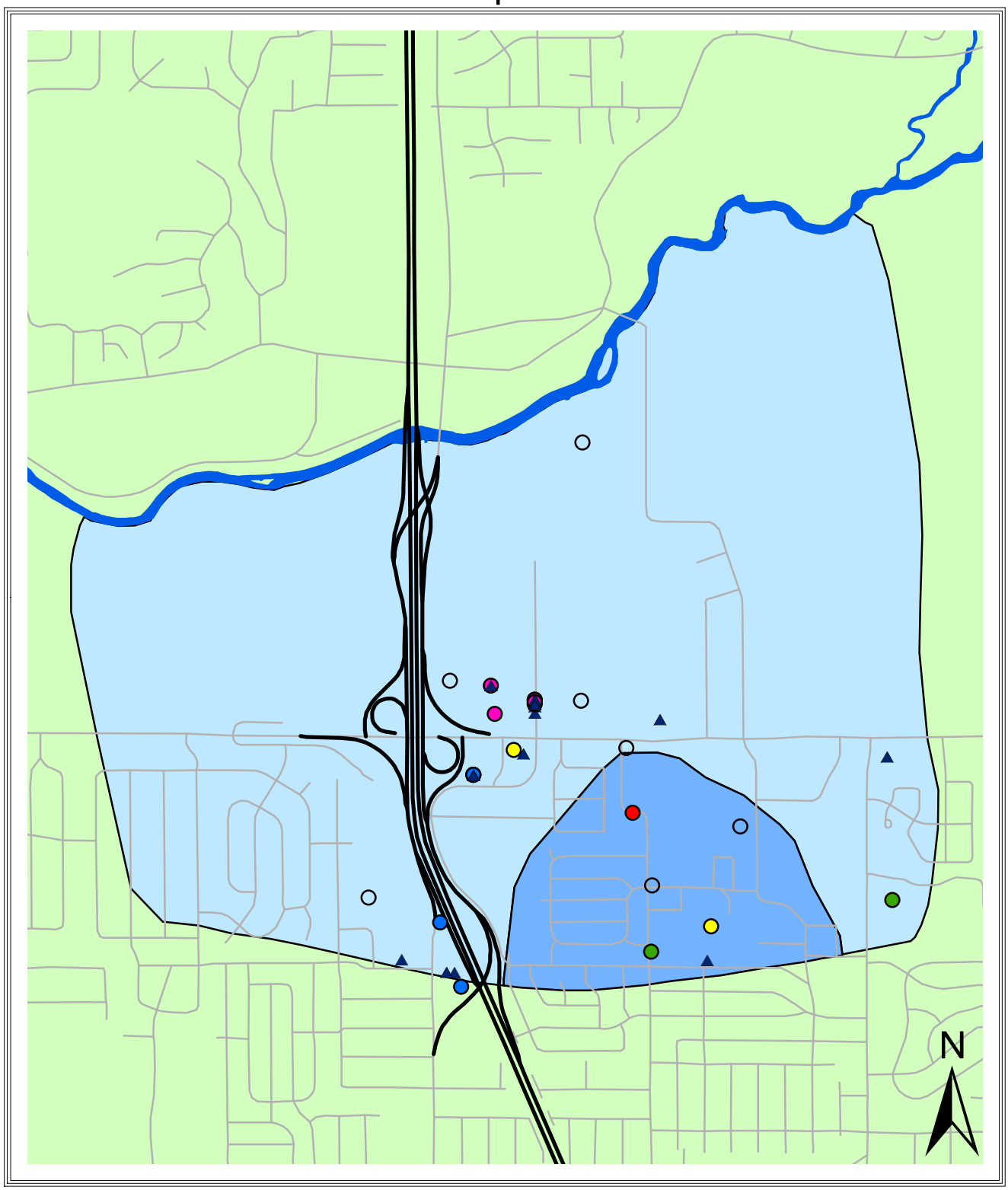
ATTACHMENT 7

Lawrence Wellfield



Note: UST and LUST are presented as address locations, not as a count of individual tanks or incident numbers.

Lawrence Wellfield - Active Business Types
Annual Report 2019



0 0.15 0.3 0.6 Miles

Legend

- W-1 (one year TOT) Wellfield
- W-5 (five year TOT) Wellfield
- Marion County
- Interstates
- Roads
- Water Body

Business Type

- Agricultural/Turf/Landscaping
- Auto
- Industrial
- Medical/Scientific
- Waste Management/Chemical Storage
- Miscellaneous
- Non-Potential Source