



Marion County Wellfield Education Corporation

2020 Annual Report

April 2, 2021

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Introduction

Marion County's drinking water is provided to approximately 350,000 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.

Given 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 the protection of groundwater and drinking water supplies in Indianapolis.

The MCWEC mission is:

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

MCWEC's responsibilities include the following:

[Educating businesses and the general public about ground water protection and the wellfields of Marion County.](#)

[Providing technical assistance to businesses located in wellfields regarding compliance with wellfield regulatory requirements.](#)

Documenting businesses and potential contaminant sources within the wellfields to assist water utilities in fulfilling their reporting requirements for the state wellhead protection program with the Indiana Department of Environmental Management (IDEM).

Evaluating the effectiveness of wellfield protection program components.

This report summarizes the status of Marion County's wellfield protection program as of the end of 2020 and provides highlights of the various activities completed by MCWEC during 2020 in support of groundwater protection. Mundell & Associates (MUNDELL), a local environmental consulting firm under contract with MCWEC, implements MCWEC activities in support of its goals and mission.

Marion County Wellfields

There are seven 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.

The wellfield protection areas are defined as zones surrounding the groundwater supply wells where groundwater could be drawn into the wells within a certain time span - currently defined as one-year wellfield and five-year wellfield zones.

Currently, the wellfield protection areas cover a total of approximately 33 square miles of land area. 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).

There are multiple energy pipelines carrying petroleum products across Marion County. A number of these pipelines cross the wellfields.



The three water utilities of Marion County

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

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 2020, just under ten billion gallons of groundwater was pumped from these 72 wells for use as public water supply.

Wellfield Geology

Marion County geology is dominated by sediment left behind by the glaciers that once covered most of Indiana. Most existing waterways in Indiana, including the White River that runs through Indianapolis, are the result of glacial action.

These glacial sediments can form excellent aquifers. The yellow 'Outwash' material in the adjacent map is made up of thick sands and gravels, often with a cap of silt or clay. There are many areas where that cap of silt or clay is thin or has even been removed by human action - this makes it much easier for potential contaminants to make it into the aquifer itself.

Most of Marion County's wellfields are located over the Outwash material, as this kind of coarse sand and gravel is very productive for water wells.

Protecting these aquifers from contamination is part of MCWEC's mission. Keeping the water clean benefits everyone - the cleaner the water, the less work has to be done to meet drinking water regulations, and the less expensive it is to produce that water.

Education Outreach

MUNDELL maintains the MCWEC website, which provides information about Marion County wellfields, MCWEC services along with many resources for groundwater protection for any parties interested in wellfield protection.

In 2020, MCWEC posted 47 blog posts covering topics including spill containment, World Water Day, Groundwater Week and a variety of educational training opportunities for business and the general public.



MCWEC Booth at the 2020 Earth Day Festival

MCWEC also hosted a booth at the 2020 Earth Day Festival, held in Military Park in downtown Indianapolis on July 18, 2020. Visitors could find out if they lived in one of the wellfields, as well as learning about groundwater contamination using a groundwater demonstration model. Handouts with tips on how to protect groundwater and sunflower seeds made for great freebies.

Website Tools

The MCWEC business education program has a number of practical tools available to businesses. These include a print package of documents provided during site visits. [These documents are also available on the MCWEC website.](#)

Mundell has provided Spanish-language translations of the MCWEC website and many documents, along with providing Spanish-language services as part of in-person business visits.

Overall website traffic continued to increase in 2020. A significant portion of the web traffic is based on search engine results for spills and practical water protection information.

76% of users visiting the site in 2020 were not from Indiana. This indicates that the website provides information about groundwater wellfield protection that is useful across the country, as well as locally. 4% of users were returning visitors from Indiana, with 20% new Indiana visitors. 89% of all visitors came to the site via search engines and 11% by typing in the URL. The site was accessed via desktop 62% of the time and via mobile users 38% of the time.

The '[Spill Kit Use](#)' guide was the top performer of documents downloaded in 2020. The most visited blog topics in 2020 included '[What is an Aquifer](#)' and '[What can I do to reduce groundwater pollution?](#)'. These topics demonstrate the importance of educational and practical guide information for public use.

Business Assistance

The MCWEC business assistance program focuses on technical support for actively operating wellfield businesses identified as potential contaminant sources. The goal is to help businesses prevent or minimize future chemical leaks or spills that might impact Marion County groundwater resources. This includes providing assistance and education regarding best management practices (BMPs) to achieve compliance with the [Marion County Public Health Department \(MCPHD\) Wellfield Protection Standards](#).

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.

The COVID-19 pandemic had a drastic impact on the ability of MCWEC to perform in-person business outreach and assistance during 2020. MUNDELL received contact cards for eleven businesses through the Marion County Public Health Department (MCPHD) in January through March, 2020. MUNDELL conducted four in-person business assessments of businesses including auto repair, landscaping, manufacturing. MUNDELL also provided follow-up telephone or email compliance assistance to several of these businesses regarding wellfield protection.

MUNDELL purchased and donated secondary containment equipment to two businesses in 2020 in order to assist them in complying with wellfield protection standards. In addition, small universal spill kits were provided to seven businesses.

MCWEC provided a chemical assessment memo to the MCPHD regarding whether laundry chemicals stored at one business qualified as potential groundwater contaminants.

Data Sources

There are limitations to the MCWEC web map due to the nature of the data sources. The drive survey data relies on being able to identify business name, type, address and whether it is an active business, which is not always possible. The regulatory databases also have limitations with regards to the accuracy of the information within them, as they are updated at varying time points across each year. As such, the information provided in this report represent conservative estimates based on the various limitations of the source data.

The following data sources are currently used to build the MCWEC web map:

MCWEC Drive Survey of wellfield businesses, performed in the fourth quarter of each year.

Indiana Department of Environmental Management (IDEM) REST GIS services, which provides feature layers and map servers of various site types that are collated from the Virtual File Cabinet (VFC) database.

[IDEM Leaking Underground Storage Tank \(LUST\) and Underground](#)

[Storage Tank \(UST\) site reports](#), issued as excel files in January of each year, covering data for the prior year.

[IndianaMap Layer Gallery](#)

[EPA Superfund National Priorities List](#)

[EPA Facility Registry Service \(FRS\) REST GIS Services.](#)

The Technically Qualified Person (TQP) program under City of Indianapolis Municipal Code 742-204 ([Wellfield Protection Secondary Zoning Districts](#)), which assesses new construction in the wellfields and applies conditions to construction and chemical/waste management.

For the latest webmap visit
www.MCWEC.org/yearly-report



Wellfield Drive Surveys

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 fourth quarter of each year. For 2020, there are 1,498 total business records which include all non-residential active and historic 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 – includes farms, golf courses, and parks.

Auto Sources – includes gas stations, auto repair, washing and sales facilities, truck terminals and state/municipal fleet sites.

Graphics Sources – includes printing facilities (paper, textiles and signage).

Industrial Sources – includes fire stations, utilities, large industry sites, waste handling/storage/recycling sites, refineries, and bulk terminals. This category now includes the former '*Waste Management/Chemical Storage*' category.

Laundry Sources – includes commercial dry-cleaning facilities.

Medical/Scientific Sources – includes hospitals, medical clinics, dentists, medical training and research facilities, medical/scientific waste disposal facilities.

Miscellaneous Sources - includes unknown/unidentifiable businesses, food and beverage productions, and other businesses that may contain minor sources.

Non-Potential Source – includes properties with no known history of sources and other businesses that are considered low to no risk of having potential groundwater contaminants on-site.

Please note: Sites within a quarter mile of the wellfield boundary were included on this map, as there are several large potential source sites that are immediately outside the five-year wellfield boundary (for example: there is a large bulk fuel terminal just outside of Ford Road wellfield). Including these wellfield adjacent sites provides a more complete picture of potential sources that may impact the wellfields.



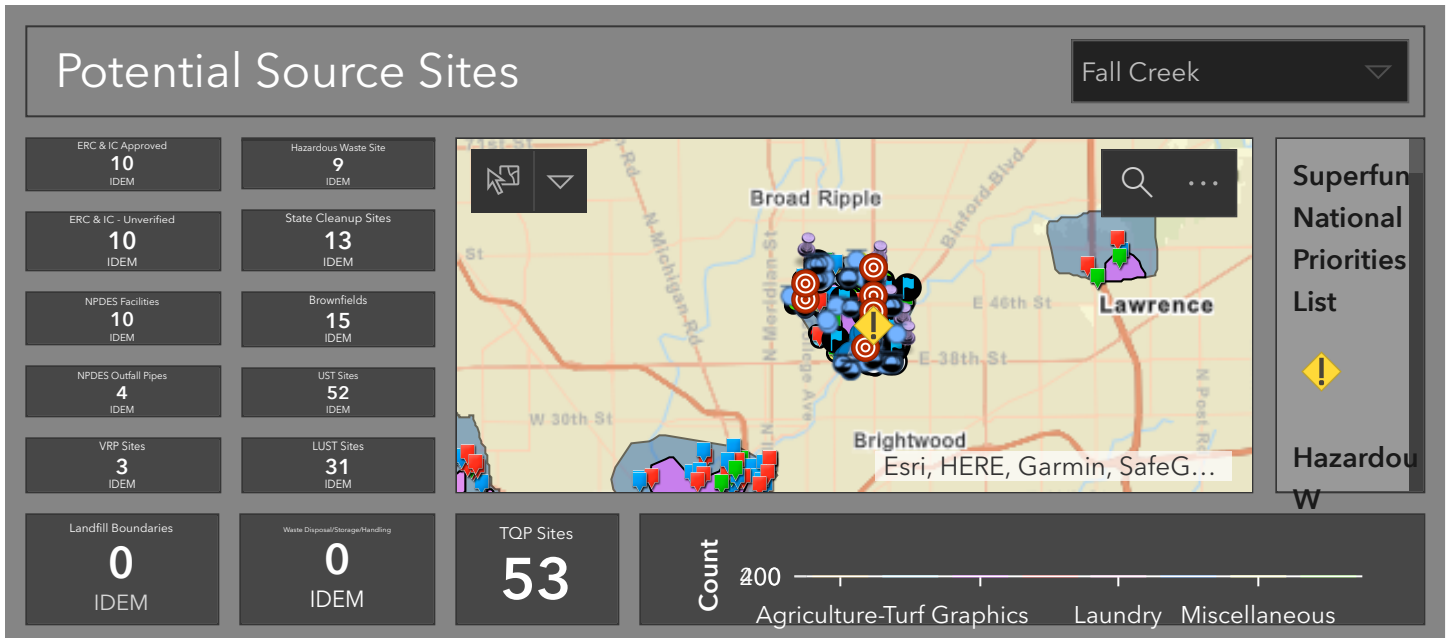
TQP Program

In 2020, 23 sites underwent review with respect to the Wellfield Protection Zoning District ordinance of Marion County. In addition to these sites, the TQP considered topics including pond liner methods and relocations of gas stations.

The TQP program has reviewed approximately 440 new construction sites in Marion County since 1996. Many of these sites are now located outside of the current wellfield delineations.

Construction or post-construction inspections of ILPs was suspended throughout most of 2020 as a result of the COVID-19 pandemic. One inspection that was completed concerned installing a new pipeline segment under SR-37 in preparation for the I-69 expansion in the South Wellfield. This was a short term project, so several site inspections were conducted while it was in progress.

Individual Wellfield Summaries



Fall Creek Wellfield

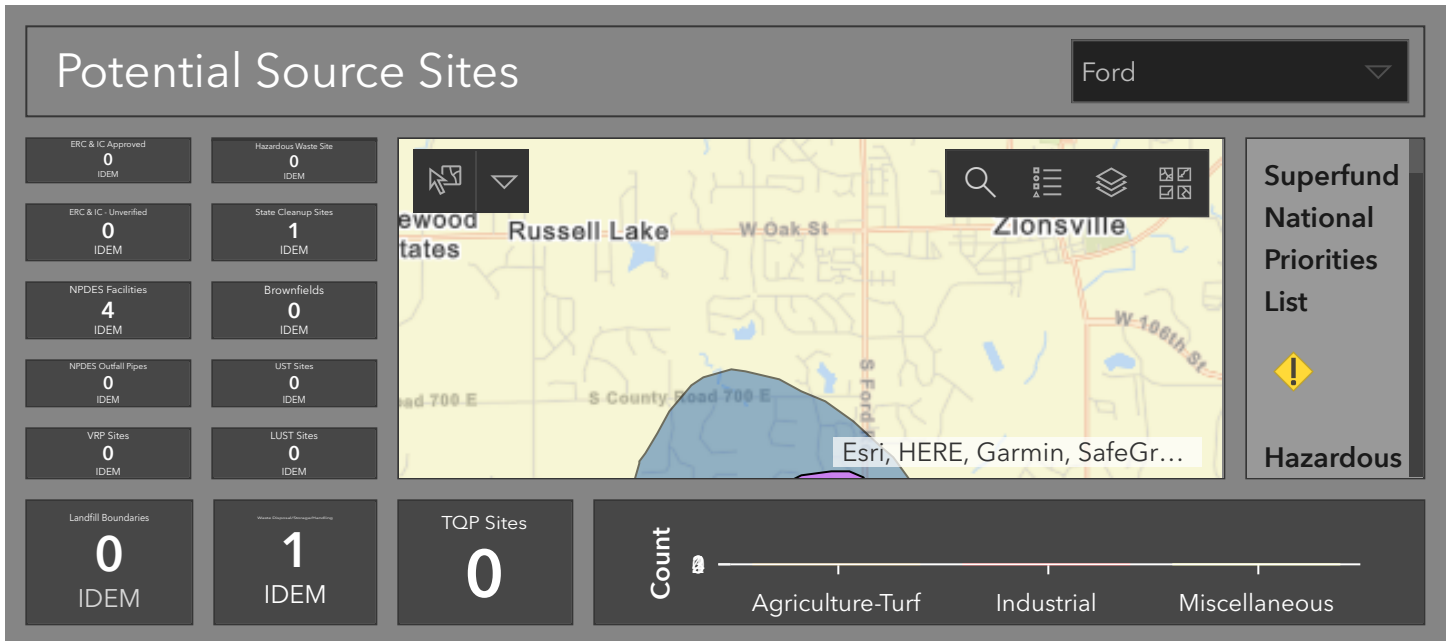
The drive survey of Fall Creek wellfield identified a total of 537 active and historic businesses, most of which were non-potential sources. The largest potential source group was Auto-related businesses, followed by a variety of Miscellaneous sources and Industrial sources.

There are 52 Underground Storage Tank (UST) sites within the wellfield, and 31 identified Leaking UST sites. Other regulated sites include 53 TQP Sites, 13 State Cleanup Sites, 15 Brownfields, 9 Hazardous Waste reporters and 3 Voluntary Remediation Program (VRP) sites.

Ten NPDES facility permits are listed, of which six are active permits, with four terminated. Four active outfall pipe locations associated with NPDES permits are also present.

A total of twenty locations have Environmental Restrictive Covenants (ERCs) and Institutional Control (ICs) present, both approved and unverified.

There is one Superfund site located in the Fall Creek wellfield - the [Keystone Corridor Site](#).



Ford Road Wellfield

Ford Road had seven potential source sites identified during the drive surveys. These are combination of agricultural and industrial related facilities associated with the wellfield, including the Citizens Water Plant, and the Buckeye Terminal/Rock Island Refinery, located just outside of the wellfield to the east.

Four NPDES permit locations are present, there of which are terminated permits, with one active permit. There is also one TQP site, one State Cleanup site (associated with the Buckeye Terminal) and one Waste Disposal site (the former Zionsville dump).

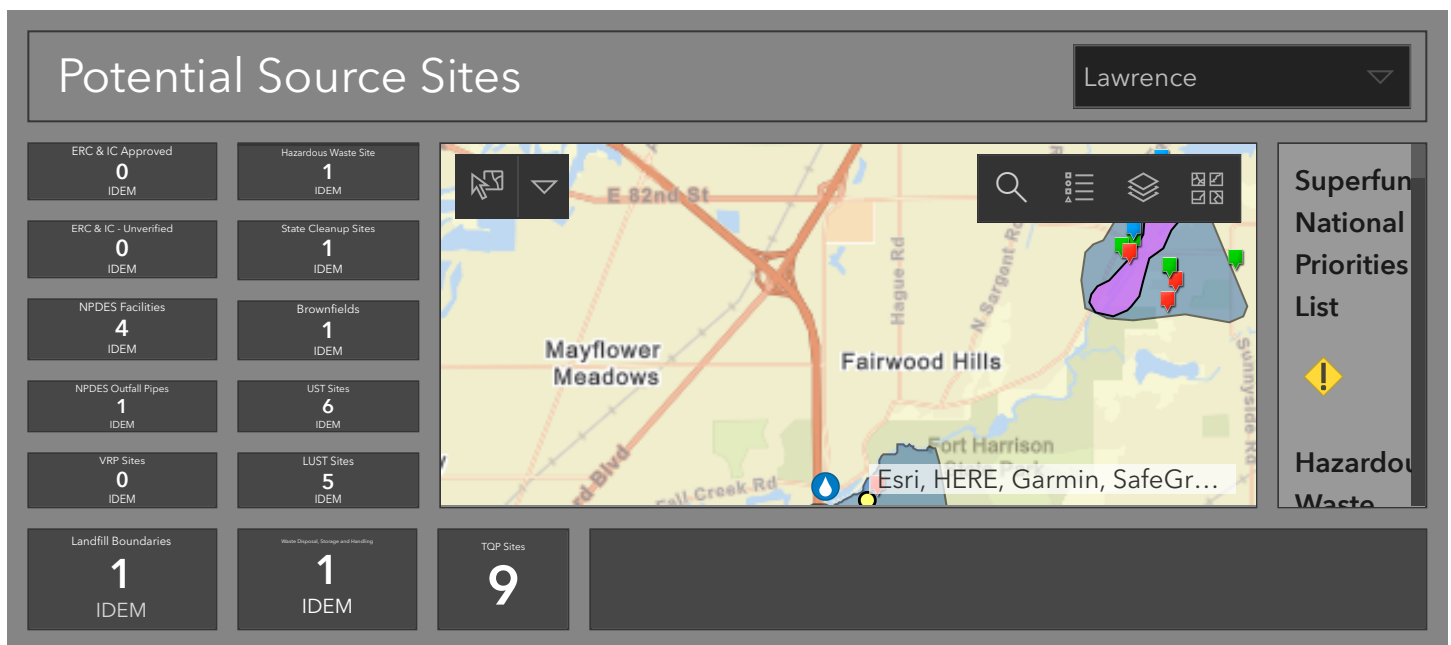


Geist Wellfield

The Geist wellfield drive survey noted a total of 50 active and historic businesses, most of which were non-potential sources. The largest group of potential sources were in the Miscellaneous category, followed by Medical/Scientific. Most of the businesses are clustered along a stretch of Fall Creek Road.

There are no regulated sites located in the Geist Wellfield, except for five NPDES permits - two of which have been terminated - along with one active NPDES outfall pipe.

The TQP program has reviewed 13 sites in Geist wellfield to date.



Lawrence Wellfield

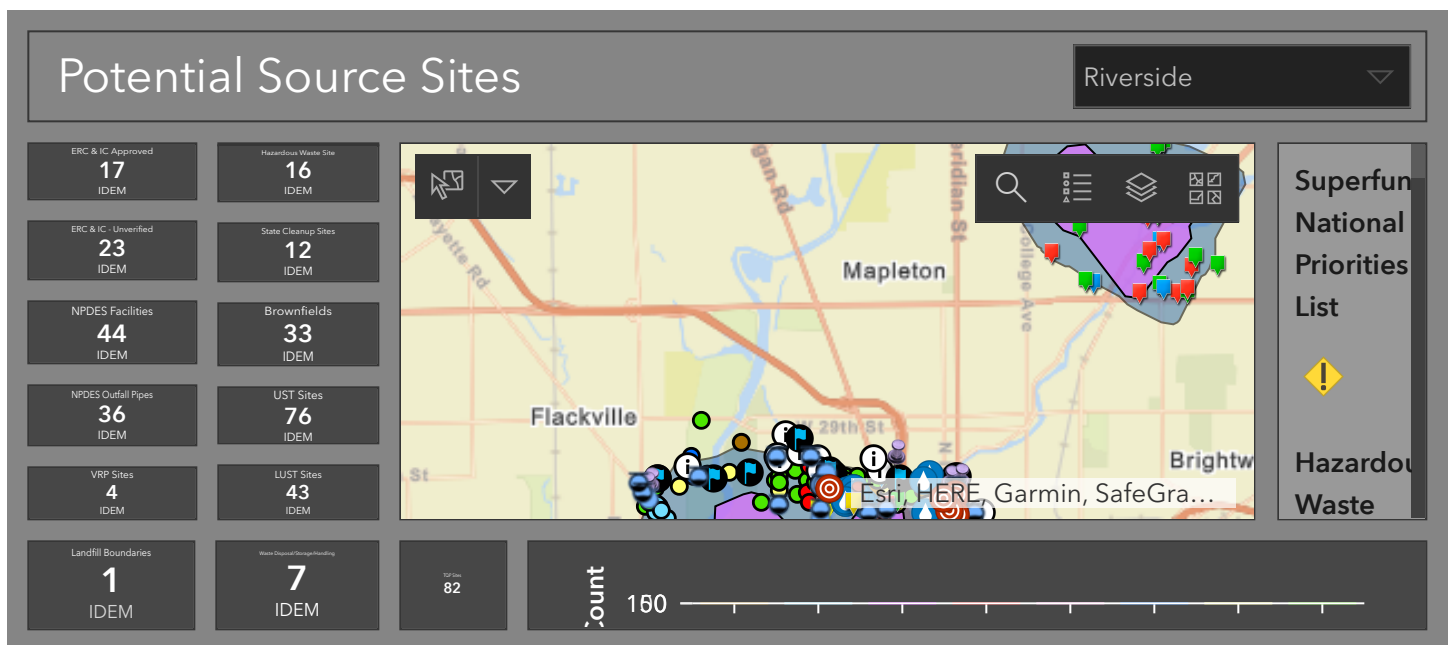
The drive survey of Lawrence wellfield counted a total of 54 active and historic businesses in 2020, with most of them noted as being non-potential sources. The largest source category was Miscellaneous sources, followed by Medical/Scientific and Industrial, along with several Agricultural and Auto sites.

There are six UST sites located in the wellfield, with five documented LUST sites.

There is one State Cleanup site, one Brownfield, one Waste Handling Site, and one Hazardous Waste reporter. Additionally, there is one Landfill - the former Fort Benjamin Harrison Landfill.

There were four NPDES permitted facilities, two of which are still active. There is one active NPDES outfall pipe located just north of the wellfield.

The TQP program has reviewed 9 sites in Lawrence wellfield to date.



Riverside Wellfield

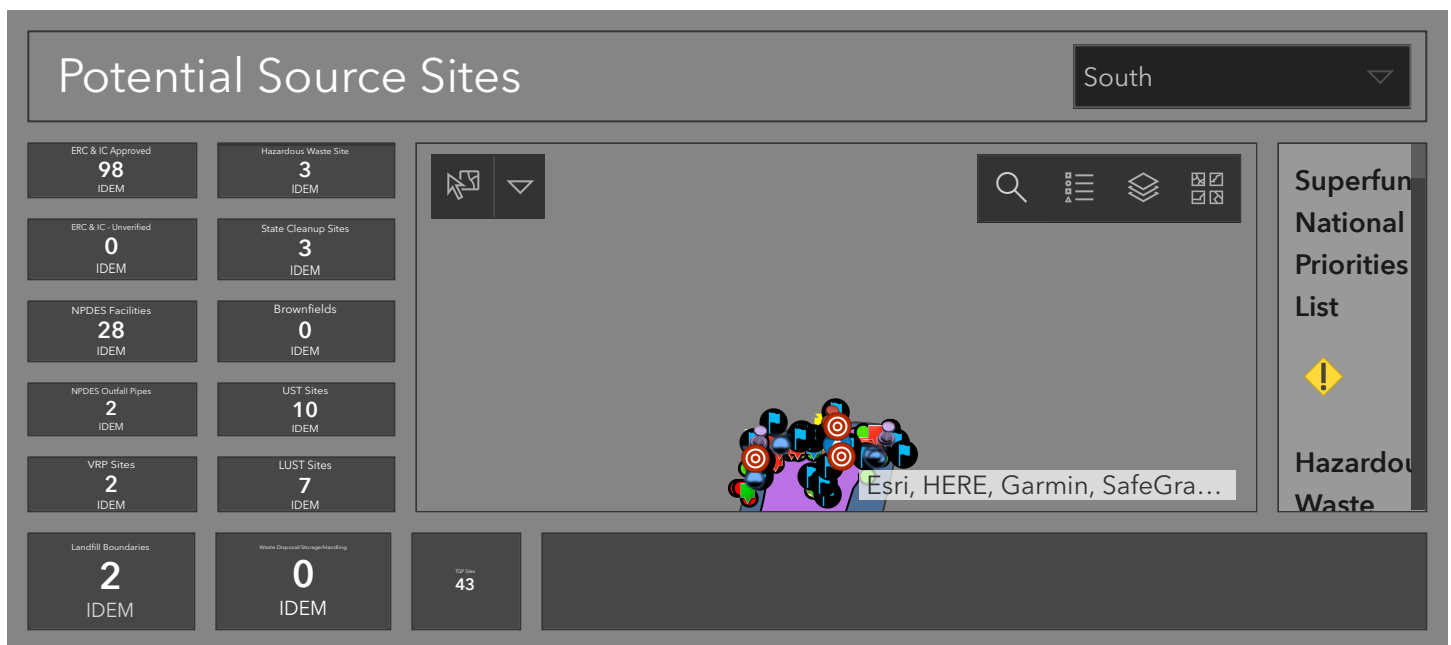
The drive survey for Riverside wellfield counted a total of 361 active and historic businesses, with the largest category being non-potential sources. The largest source category was Industrial, followed by Auto, Miscellaneous and Medical/Scientific. There were a dozen sites each in the Agricultural and Graphics categories, along with a handful of Laundries.

Riverside has the largest number of UST (76 sites) and LUST sites (43 sites) out of all the wellfields in Marion County.

There are 33 Brownfields in Riverside, along with 12 State Cleanup and 4 VRP sites. Hazardous Waste reporters are present at 16 sites, along with 7 Waste Disposal sites. One landfill (Fall Creek Landfill) is present in the wellfield.

ERCs and ICs are present at a total of 40 locations across the wellfield. There are 44 NPDES facility permits (of which 25 are active) and 36 NPDES outfall pipes present, all of which are active.

The TQP program has reviewed 82 sites in the Riverside wellfield to date.



South Wellfield

The drive survey for South Wellfield counted a total of 124 active and historic businesses, most of which were in the non-potential source category. The largest potential source category was Industrial, followed by Miscellaneous, Graphics and Agricultural. Only a handful of Medical/Scientific, Graphics and Laundry sites were documented.

There are 10 UST sites in South Wellfield, along with 7 LUST sites.

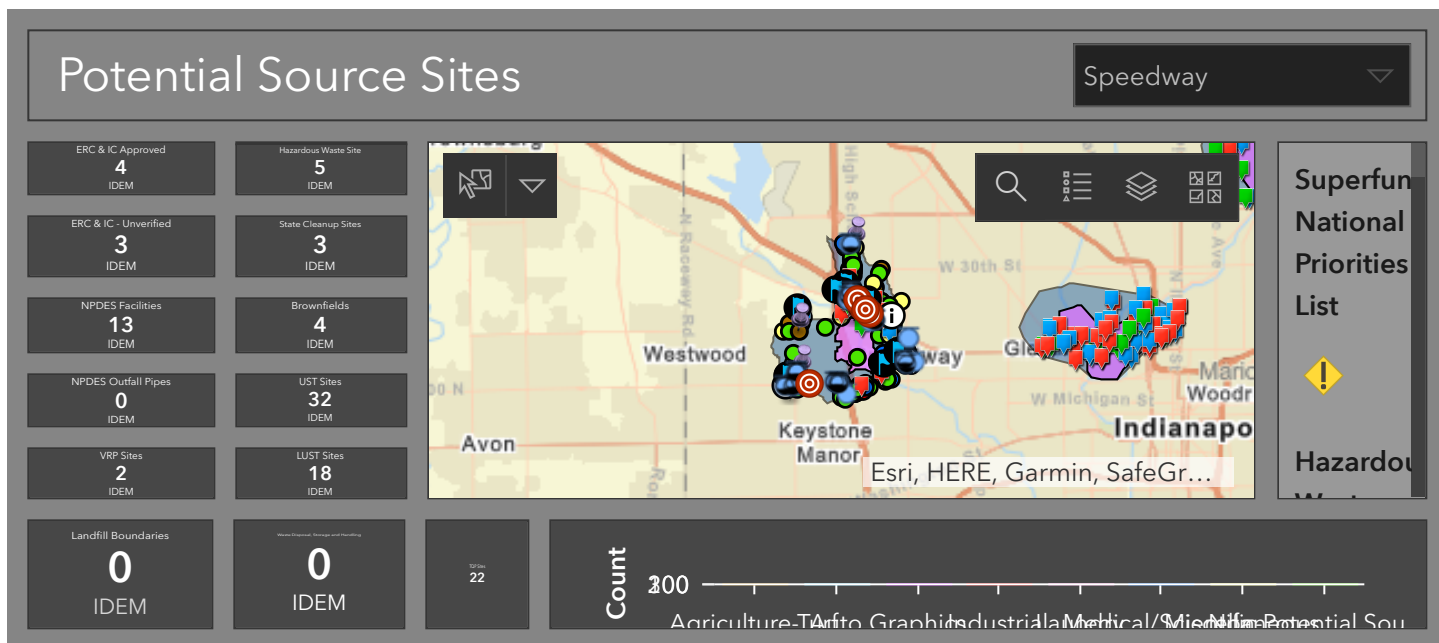
Three sites are Hazardous Waste reporters, along with two sites in the Voluntary Remediation Program.

There are 98 approved ERCs in the South wellfield, most of them consisting of a subdivision on the northern edge of the wellfield.

There are two landfills skirting the outer edge of the eastern side of the wellfield - Tibbs-Banta landfill and the Wicker Road site.

NPDES facilities present in the wellfield include 19 active permits and 9 terminated permits. There are two active outfalls with NPDES permits.

The TQP program has reviewed 43 sites in South wellfield to date.



Speedway Wellfield

The drive survey of Speedway wellfield counted a total of 365 active and historic businesses, with most categorized as non-potential sources. The largest categories of potential sources include Medical/Scientific, Miscellaneous and Auto. A handful of sites were counted in the Agriculture, Graphics, Industry and Laundry categories.

There are 32 UST sites present in the Speedway wellfield, along with 18 LUST sites.

Brownfields (four), State Cleanup (three) and VRP (two) sites are all present in the wellfield, along with five Hazardous Waste reporters.

A total of 7 ERCs are present in the wellfield, with 13 facilities holding NPDES permits, of which nine are active.

The TQP program has reviewed 22 sites in Speedway wellfield to date.

Successes & Challenges

Since the start of the program in 2001, MCWEC has communicated with approximately 250 wellfield businesses to increase groundwater protection awareness and encourage use of best management practices for chemical and waste storage and handling. The program has provided free spill kits and donated secondary containment equipment to businesses totaling almost \$10,000 in value in 2020. Donation of these materials remains a concrete and the most successful method of ensuring compliance with the Wellfield Protection Standard.

2020 was a difficult year as a result of the COVID-19 pandemic. Many businesses closed either temporarily or permanently. Site visits were limited and may continue to be for the first half of 2021.

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

2021 & Beyond

The COVID-19 pandemic has dramatically impacted the MCWEC program in 2020; similarly, the MCPHD has not had the opportunity to conduct re-inspections of businesses to ensure ongoing compliance. While MCWEC hopes to be able to perform in-person outreach in 2021, it remains to be seen how the pandemic situation evolves. As a result, outreach via the website has become a critical and important tool for MCWEC.

In 2021, MCWEC will focus on providing outreach, education, and compliance assistance to wellfield businesses via the MCWEC website. While MCWEC will always remain available for in-person,

phone and email compliance assistance, implementing interactive website elements, such as Story Maps, to improve outreach and education will be a great asset to the program.

Promote public awareness of MCWEC, Marion County wellfields and groundwater source protection. MCWEC will renew collaboration with local wellfield businesses to assist in public awareness. MCWEC will plan to host an educational booth at the annual Earth Day Festival (held on June 5, 2021) as part of outreach to the general public. Additional events will be considered depending upon availability and pandemic-related issues.

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

Continue to build upon the GIS database and mapping elements to provide the information that Marion County water utilities need to best manage their wellfields.

Work with MCWEC stakeholders to develop additional tools and goals for the program as the needs of groundwater protection evolve over time.