Sustainable Groundwater Protection in Marion County, Indiana

Rachel Walker, Mundell & Associates, Inc.
John A. Mundell, Mundell & Associates, Inc.
Marion County/City of Indianapolis

County Population: ~904,000 over 403 sq. miles
Marion County Wellfields

Ford Wellfield – Agricultural and residential

Geist – Residential and light retail

Lawrence – Residential and retail

Fall Creek – Retail, auto service, light industry

Riverside – Retail, auto service, major industry

Speedway – Retail, auto service, residential

South – Retail, auto service, major industry

About 25% of the public supply comes from groundwater.
Marion County Public Water Supply

• Three water distributors
  • Citizens Water (95%)
  • Speedway Water Works (1%)
  • Lawrence Utilities (4%)

• Almost 11 billion gallons of water are pumped from the 85 wells across seven wellfields each year, **comprising about 25% of water supply**

• Demand for water is growing with the population and growth of industry
What’s in the Wellfields?

- 2,300 active sites
- 950 have been identified as potential contaminant sources (PCS)
- Of the 950 PCS, about 700 appear in a regulatory database (73%).

![Regulated Business Types in all Wellfields](image-url)
Groundwater Protection Through Time in Marion County

- **1995**
  - City Wellfield Protection Hearing Officer
  - City Wellfield Protection Zoning Ordinance Established

- **1996**
  - Marion County Wellfield Education Corporation (MCWEC) Established

- **1998**
  - Technically Qualified Person (TQP) Established (City Ordinance)

- **2001**
  - MCWEC begins active business education

- **2007**
  - Wellfield Business Inventories started

- **2017**
  - Marion County Public Health Department enacts a Wellfield Protection Health Code
Current Wellfield Protection Approaches in Marion County

- City Wellfield Zoning Ordinance (TQP)
- MCWEC Outreach
- Health Department Wellfield Code
Regulation of New Development

*Technically Qualified Person (TQP)*

- When companies want to build a new facility or improve an existing facility, they must file for a permit with the City.
- If they are located within a wellfield their permit is flagged for review by the TQP.
- Their plans are reviewed with respect to the City Wellfield Zoning Ordinance to determine how protective they are of groundwater.
- Construction and operational conditions are imposed on the business to ensure safety.
- Approximately 200 sites have been reviewed through this process.
Regulation of New Development

*Technically Qualified Person*

**Pros**
- Thorough review process
- Allows decisions to be made based on risks
- Have new or expanding businesses build protections in from the start

**Cons**
- Focused on development stage: no impact on existing businesses
- Not intended to regulate operations
- Re-inspections have found non-compliance issues with some businesses
Voluntary Assistance to Existing Businesses
Marion County Wellfield Education Corporation (MCWEC)

- Not-for-profit corporation established in 1996 by the Marion County Wellfield Protection Zoning Ordinance
- Voluntary & confidential business outreach and education
- Raise public awareness
- Maintain database of potential contaminant sources
- Visit potential contaminant sources in the wellfield and offer free consulting on how to improve waste/chemical storage and handling.
- Website: http://indyH2O.org

**Mission:** To prevent contamination to the valuable groundwater resources of Marion County through public awareness and education.
MCWEC Business Outreach
MCWEC Business Outreach

Approximately 150 sites have been reviewed through this process to date
MCWEC Business Outreach

**Pros**

- Voluntary and very business friendly
- Lets us see what’s really in the wellfield and what chemical storage practices people are using
- Create positive relationships with businesses

**Cons**

- Businesses most in need of help were the least likely to opt-in to receiving it
- Because the program is anonymous and voluntary, no way to report significant dangers to the wellfield when observed in the field
Marion County Public Health Department
Wellfield Health Code

- Drinking water protection
- Public health protection
- All businesses have the same expectations and applies to ALL businesses in the wellfields
- Passed effective 2017, enforcement began 2018
- Knowledgeable MCPHD inspectors will visit each business, at an interval appropriate to the business, and enforce the health code
- Violators will receive notices of violation, fines, and/or legal action when appropriate
MCPHD Wellfield Health Code Requirements

Common Sense Practices Can Protect Drinking Water

- Employee Training on Spill Response and Prevention
- Proper Spill Kits
- Inform chemical and waste transporters
- Floors in good condition
- Chemicals properly labeled & stored
- Overfill alarms on tanks
- Proper waste disposal
MCPHD Wellfield Health Code
Promote Best Business Practices

- Transfer Product Safely
- Inventory Chemicals
- Proper Waste Disposal
- Store Chemicals Appropriately
- Have a Spill Plan and Spill Kits
- Train Employees
Three-Pronged Approach to Wellfield Protection

• The City TQP zoning ordinance builds protection into new construction. Follow-up inspections of TQP letter holders has sometimes lead to enforcement actions to ensure compliance.

• The MCWEC voluntary program is most effective when providing free containment equipment to businesses. Recipients remembered the program and continued to use the equipment. However, this program typically saw only a small number of existing businesses.

• The MCPHD Wellfield Health Code is just entering the enforcement phase. This code applies to all businesses in a wellfield, initial focus on existing business. MCPHD inspections have prompted more businesses to make use of MCWEC services.
Wellfield Protection into the Future

- Out of the almost 1,000 wellfield potential contaminant sources, **approximately 350 sites** have been through the TQP or MCWEC programs in the past 20 years.

- Marion County wellfields contain a superfund site, a large scale IDEM-run site, along with a total of **155 Leaking Underground Storage Tank (LUST) sites** (past and present).

- **Vigilance is required to protect Marion County groundwater resources**