

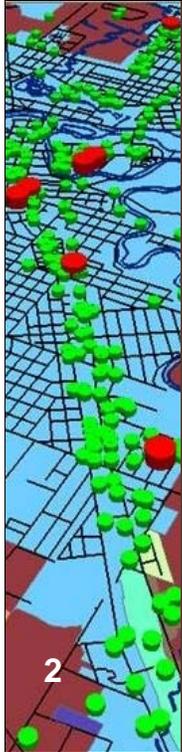
# Managing your inventory for Brownfield Prevention

We have it in our power  
to begin the world over again

--- *Thomas Paine* 1776

--- *Ronald Reagan* 1980

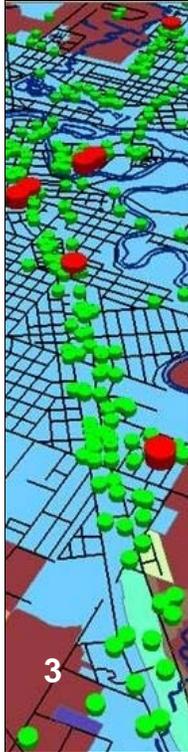
Elkhart County Indiana



# The Brownfield Prevention Initiative

John J. Hulewicz  
Environmental Health Supervisor  
Elkhart County Health  
Department

Elkhart County Indiana



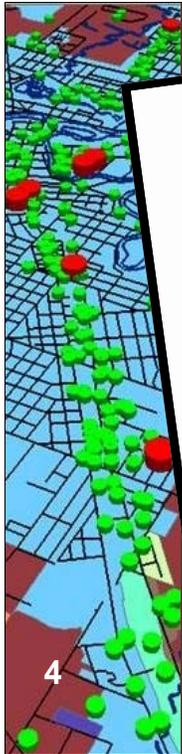
## The Brownfield Prevention Initiative

Consider building a  
Brownfield prevention program  
by **recycling**.

You can forge new tools  
from old ones

such as . . .

Elkhart County Indiana



ELKHART COUNTY, INDIANA

**GROUNDWATER PROTECTION ORDINANCE**

Readopted May 1, 2004

WHEREAS Indiana Code Sections 36-1-3-1 et seq. permit any county in the State of Indiana to exercise any power or perform any function necessary to the public interest in the context of its county or internal affairs, which is not prohibited by the Constitution of the United States or of the State of Indiana, or denied or preempted by any other law, or is not expressly granted by any other law to another governmental entity;

WHEREAS the Board of Commissioners of the County of Elkhart, Indiana and the Elkhart County Board of Health find that it is in the public interest of Elkhart County to re-establish, reconfirm, and continue a groundwater protection program;

WHEREAS it is desired that the groundwater of Elkhart County be reasonably protected from the improper storage and discharge of toxic or hazardous substances;

WHEREAS the Elkhart County Board of Health is directed to enforce and observe all state laws and legally promulgated regulations pertaining to the preservation of health and is authorized to adopt such rules and regulations as may be deemed necessary or desirable to protect, promote, or improve public health by Indiana Code Sections 16-20-1 et seq.;

WHEREAS the Board of Commissioners of the County of Elkhart, Indiana and the Elkhart County Board of Health desire to mutually administer and enforce the groundwater protection program; and

WHEREAS pursuant to the authority vested by the Indiana Code Sections 36-1-3-1 et seq., the Board of Commissioners of the County of Elkhart, Indiana desire to re-establish, reconfirm, and continue the Elkhart County Groundwater Protection Program subject to the provisions hereinafter stated;

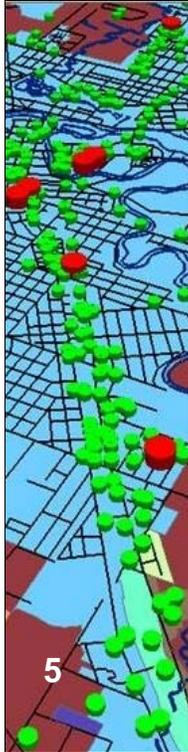
NOW, THEREFORE, be it ordained by the Board of Commissioners of the County of Elkhart, Indiana as follows:

Section 1. Title.

This Elkhart County Ordinance may be referred to as the "Elkhart County Groundwater Protection Ordinance."

Section 2. Purpose.

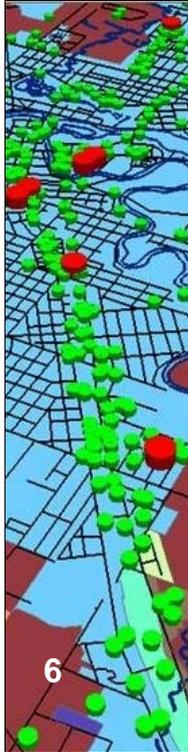
It is the purpose of this Ordinance to enhance and preserve the public health, safety, and welfare of property in Elkhart County by protecting the groundwater of Elkhart County from degradation and property from toxic or hazardous substances.



## The Groundwater Protection Ordinance of Elkhart County

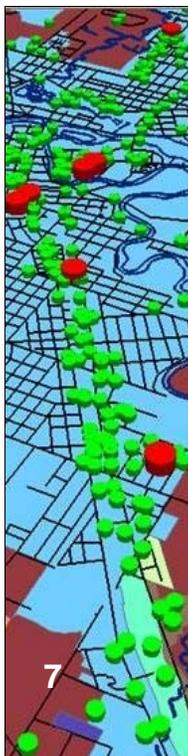
- Prompted by groundwater contamination events almost three decades ago, including NPL Superfund sites
- 5 years from input, writing, hearings, to authorization

Elkhart County Indiana



# The Groundwater Protection Ordinance of Elkhart County

- April 1984** Formation of GW advisory committee
- Summer 1985** Survey of local industries to ascertain potential problems
- Summer 1986** Voluntary compliance follow-up
- Spring 1987** Formation of GW technical/citizen review group
- Summer 1987** Draft GWPO released
- Winter 1987** Comments incorporated and redraft released
- Fall 1988** Comments incorporated/final draft released
- May 1, 1989** GWPO adopted into rule

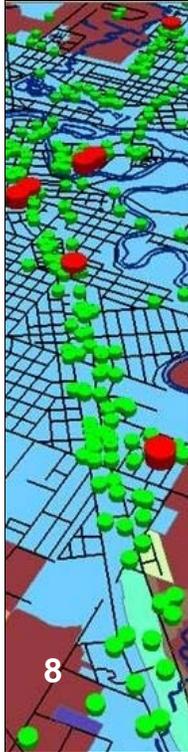


## The Groundwater Protection Ordinance of Elkhart County

The purpose is **prevention**:

- To help **prevent** groundwater contamination
- To measure, document and follow sites with chemical activity
- To reflect and comply with applicable state and federal codes

Elkhart County Indiana



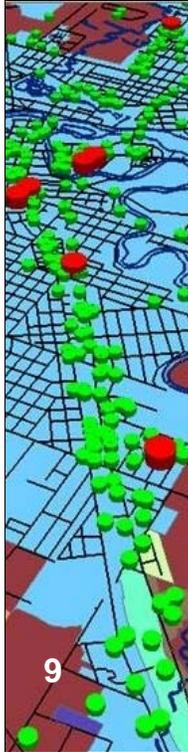
## The Groundwater Protection Ordinance of Elkhart County

### The Inspection Process

#### Scope:

1. Gives **power of entry** and routine inspection, to determine compliance with ordinance provisions, at facilities with
  - toxic / hazardous materials
  - onsite wastewater systems (septic or drywells)

Elkhart County Indiana

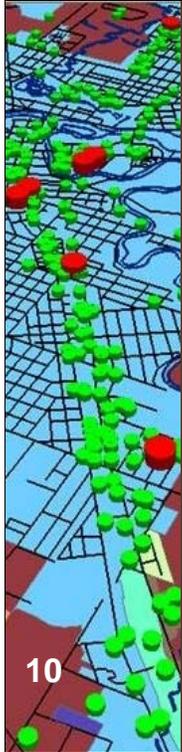


## The Groundwater Protection Ordinance of Elkhart County

### The Inspection Process

#### Scope, continued:

2. Proper storage of toxic/hazardous materials
3. Testing of wastewater systems
4. Reporting and cleanup of spills
5. Perform unofficial basic audits for compliance with RCRA, NPDES, and air permitting



## The Groundwater Protection Ordinance of Elkhart County

The Inspection Process

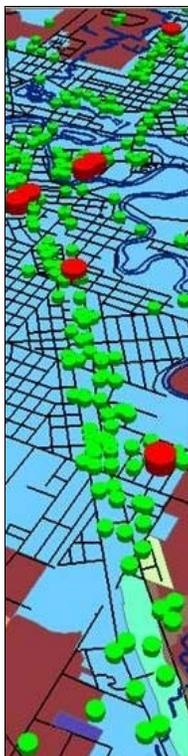
goes the extra mile

with onsite prevention tips,  
training and education.



- The ordinance has evolved to include education as well as enforcement
- Industry is receptive to this non-threatening approach and educational component

Elkhart County Indiana

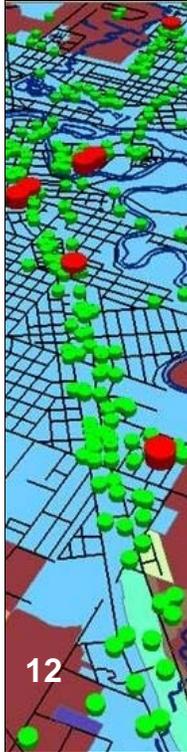


## The Groundwater Protection Ordinance of Elkhart County

### Chronology of DATA MANAGEMENT

- Incident and historic paperwork (1970s)
- + inspection reports (1989)
- + an R-based system (to create index)
- + state and fed actions at properties
- + MS Access for facilities and inspections (1998)
- and at this point...

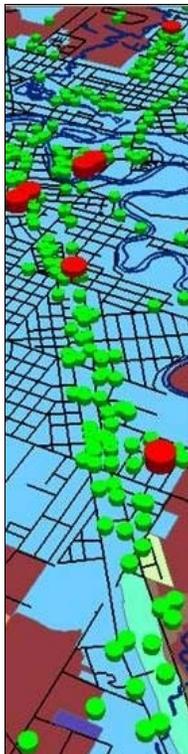
Elkhart County Indiana



## Our DATA MANAGEMENT was an oxymoron

- 5,100 sites in 44 file drawers
- filed by business name, not location
- so properties with several businesses over time = piecemeal property histories
- labor intensive queries only
- not all city/state/fed actions or testing
- no community-wide picture

Elkhart County Indiana

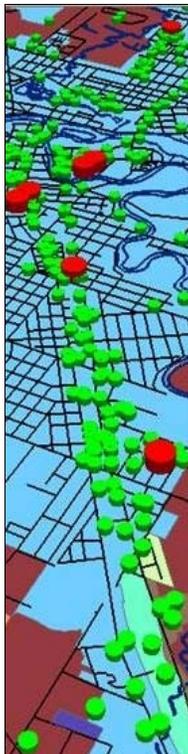


Our DATA MANAGEMENT was an inefficient, ineffective, and time consuming.

At the same time, Elkhart County like other communities was told

**You  
need a dynamic  
Brownfield  
INVENTORY!**

Elkhart County Indiana

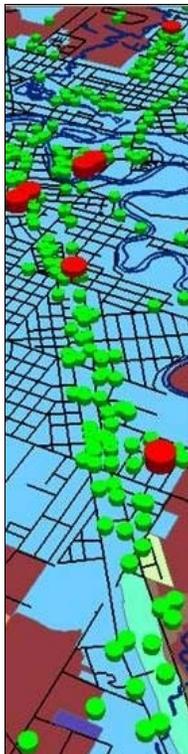


## Chronology of DATA MANAGEMENT continued

2006: a new County Comprehensive Plan called for better land use management:

- reduce urban sprawl by redeveloping Brownfield and other underutilized sites and existing infrastructure
- incentivize Brownfield reuse
- regard Brownfield inventory as a repository of economic development opportunities

Elkhart County Indiana



## Chronology of DATA MANAGEMENT continued

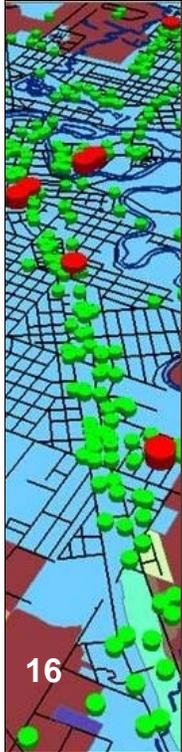
At the same time access to public records and information increased, demanding more time and attention prompting the need for drastic change

You cannot manage  
what you cannot measure

John W. Thompson

We had yet to identify,  
let alone measure and manage,  
the Brownfields of Elkhart County

Elkhart County Indiana

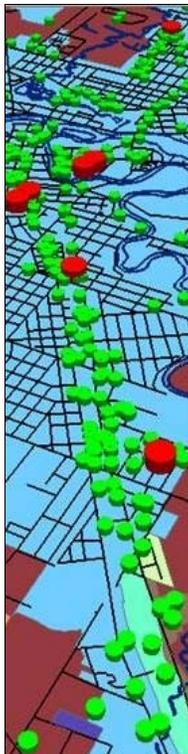


# The Brownfield Prevention Initiative

Ryan Eckdale Dudley

GIS Coordinator  
and  
Computer Applications Designer

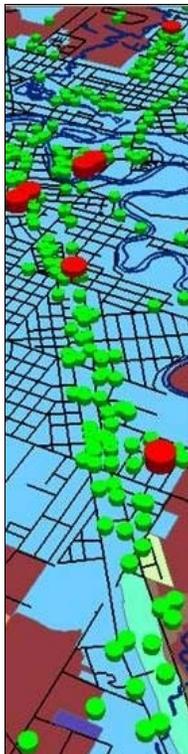
Elkhart County Indiana



## Chronology of DATA MANAGEMENT continued

2006: An EPA Brownfield assessment grant provided an opportunity for a data management solution

Elkhart County Indiana

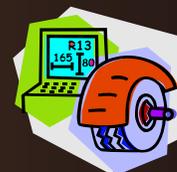


## Chronology of DATA MANAGEMENT continued

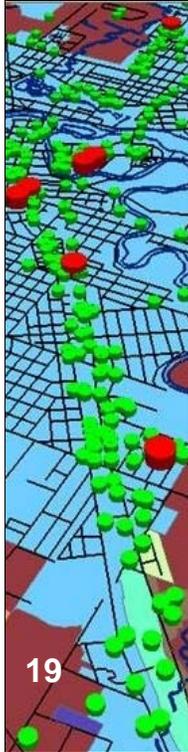
In its grant application, the County proposed a unique approach to complete  
**Task 1: Inventory and Prioritization:**

### THE GOAL

Use **existing** County Ground Water Protection information and external datasets as the foundation for the inventory database



Elkhart County Indiana



# Chronology of DATA MANAGEMENT

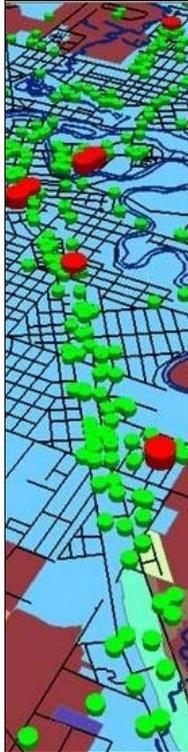


## WHY THIS APPROACH?

Groundwater inspection program has been preventing Brownfields for 18 years.

- Contained property information of facilities involved with hazardous materials
  - among them, the environmental records of the most contaminated or neglected





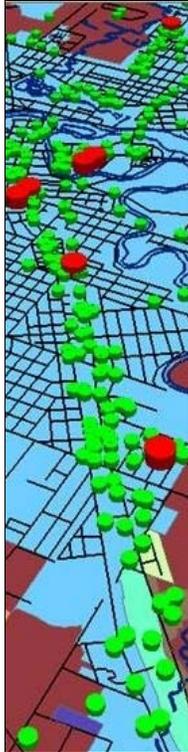
# Chronology of DATA MANAGEMENT

## WHAT WE DID... AND WOULD RECOMMEND

1. Utilize a document management software
  - Evaluate existing systems for compatibility
  - Determine index structure for cataloging records
  - Scan/digitize records (with optical character recognition)
2. Integrate with Geographic Information Systems
  - Create GIS layer for all facilities by geocoding addresses
3. Create a custom, web-based, centralized tool to integrate information with GIS
  - Framework is built using ESRI ArcGIS Server

(we call ours e-Atlas)

Elkhart County Indiana

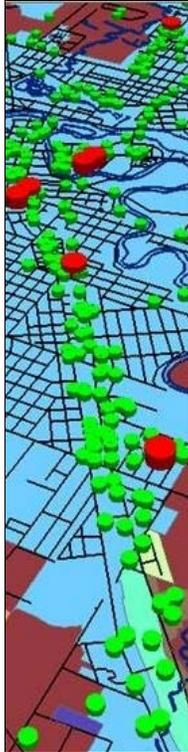


## Chronology of DATA MANAGEMENT

### WHAT WE DID... AND WOULD RECOMMEND

4. Incorporate other environmental datasets and information portals
  - EPA, State, other gov. databases (like code violations)
  - ESAs done by others
  - Encourage cities and towns to view as THEIR inventory
5. Dedicate a server with enough on board RAM and storage (we chose 1.4 terabytes)
6. Procedure/policies for ongoing integration and access to data

Elkhart County Indiana



## The intent of e-Atlas

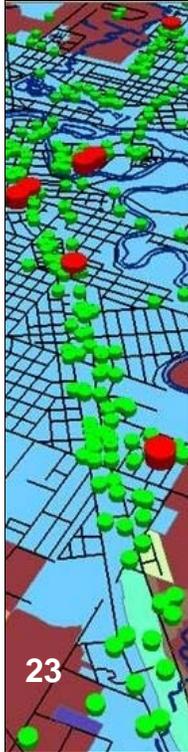
1. Make it scalable, flexible, integrated, accessible and become a centralized resource for data management and information retrieval
2. Perform a variety of queries
  - Keywords, Attributes
  - Spatially
3. Able to rank/prioritize inventory sites county-wide
  - Utilization Factors
  - Environmental Status



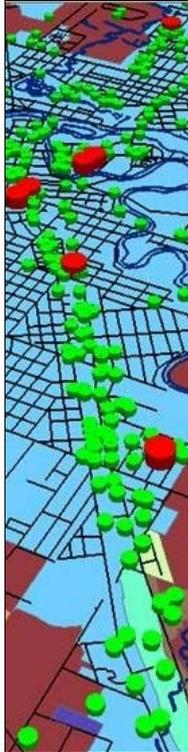
Elkhart County Indiana

## Potential enhancements to e-Atlas

1. Integration with other datasets
  - Sanborn Maps
  - Tax Information
  - Spills not associated with industrial facilities (transportation, farm)
  - Planning and zoning overlays



Elkhart County Indiana



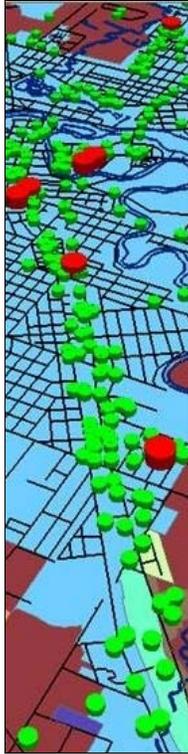
## Potential enhancements to e-Atlas (continued)

### 2. Maintain datasets

- Go to one paperless inspection system for all county agencies
- Integrate with enterprise inspection program



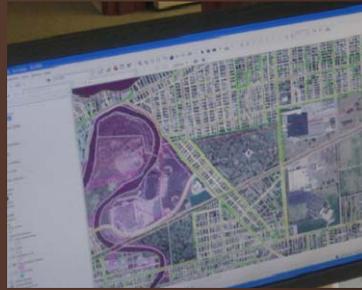
Elkhart County Indiana



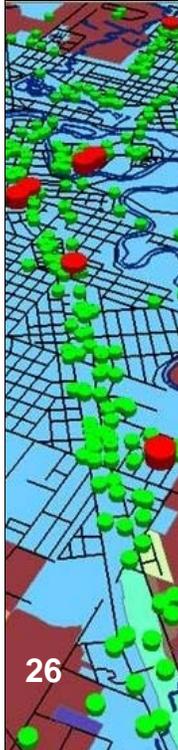
## Potential enhancements to e-Atlas (continued)

### 3. Create External Users

- Free read only web portal
- Subscription based with download capabilities (defray costs)

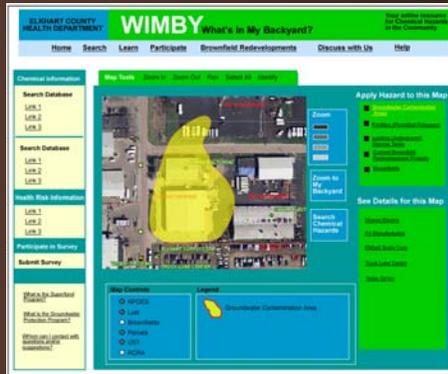


Elkhart County Indiana



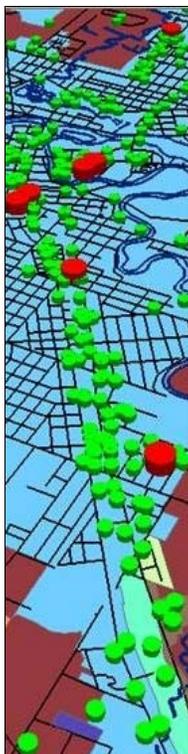
## Potential enhancements to e-Atlas (continued)

4. "WIMBY" What's in my Backyard?
  - Public health impacts from Brownfields



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Elkhart County Indiana



## e-Atlas unveiled

[elkhartcountylanduse-reuse.com/e-atlas](http://elkhartcountylanduse-reuse.com/e-atlas)

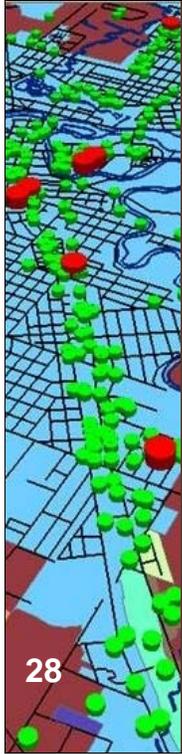
= Elkhart county land use – reuse.  
com /e-atlas [but no spaces ]

## GWPO Document

<http://elkhartcountyhealth.org/forms/GW%20ORDINANCE.pdf>

Elkhart County Indiana

# e-Atlas Demonstration



**e-Atlas**  
Elkhart County, Indiana

About Layers Locate

**Elkhart County  
Indiana  
Presents**

**e-Atlas**

Over 5100  
Groundwater  
Protection sites  
located in Elkhart  
County

*A Comprehensive  
Information  
Management  
Solution*

**GIS/Document  
Management  
Integration**

28

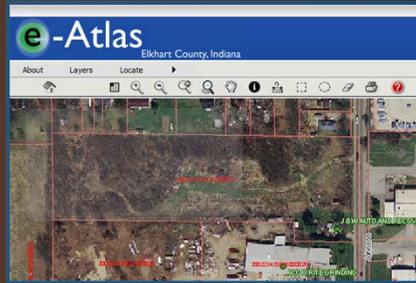
Elkhart County Indiana

# Application Goals

e Atlas was designed to provide a dynamic inventory of potential brownfield sites throughout Elkhart County, as well as to provide a tool for prioritizing sites for environmental assessment, and to provide a platform for ongoing management and analysis of environmental conditions throughout the entire county.

Provides users with easy access to site information using a variety of mapping interface tools

Groundwater Protection site history and scoring information available for every facility in the County



| View Documents      | Printable         | Download/Export | Search To Find |
|---------------------|-------------------|-----------------|----------------|
| DOCUMENTS           |                   |                 |                |
| GSP Facilities      |                   |                 |                |
| OBJECTID            | 1421              |                 |                |
| NAME                | 1421              |                 |                |
| DESCRIPTION         | AGE FREE DRIVING  |                 |                |
| FULL_ADDRESS        | 8880 N HWY ROAD 9 |                 |                |
| CITY                | ELKHART           |                 |                |
| PAGE_HISTORY        | +                 |                 |                |
| ABANDONED_STAT      | UNKNOWN           |                 |                |
| ABANDONED_SCORE     | 0                 |                 |                |
| VACANT_STAT         | OCCUPIED          |                 |                |
| VACANT_SCORE        | 0                 |                 |                |
| UNDERUTILIZED_STAT  | UNKNOWN           |                 |                |
| UNDERUTILIZED_SCORE | 0                 |                 |                |
| RETAIL_STAT         | 0                 |                 |                |
| OTHER_STAT          | OTHER             |                 |                |
| OTHER_SCORE         | 0                 |                 |                |

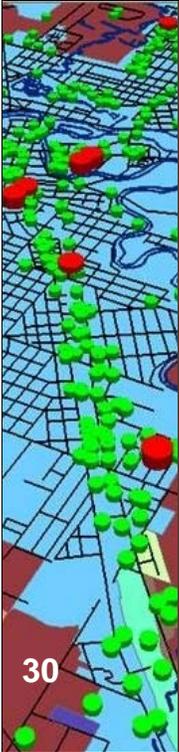
29

Elkhart County Indiana

# Available Tools

Extensive Querying Capabilities

Sites can be queried via the map or by their attributes



**e-Atlas**  
Elkhart County, Indiana

Layers | Locate

- Facility Name
- Street Address
- Ranking
- Location
- Buffered Distance
- User Defined Queries

|                  |   |
|------------------|---|
| VNF_STAT         | P03110600002  |
| LUST_STAT        | NA  |
| LUST_SCORE       | 0   |
| SUPERFUND_STAT   | NA  |
| SUPERFUND_SCORE  | 0   |
| BROWNFIELD_STAT  | NA  |
| BROWNFIELD_SCORE | 0   |
| TOTAL_ENVY_SCORE | 5   |
| TOTAL_SCORE      | 5   |
| URL              | <a href="http://172.186.81.89/Pages/Pu">http://172.186.81.89/Pages/Pu</a> |

**Show Surrounding Features**  
Enter the Buffer Distance using the Radio Button or dialog box below.  
Once you have entered the rating Click "GO"

Radius Search

500ft

1500ft

3000ft

Other:

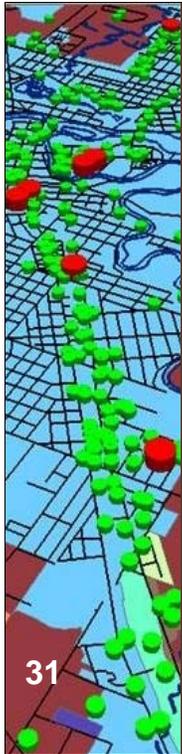
Scale: 1:22212 | Map Tools | Active Layer: 2009\_Envilink

# Available Tools

## Extensive Querying Capabilities

User Defined Query  
User Defined Query

In this example sites are being selected based on current utilization and an assigned overall environmental risk score



**Locate**

**User Defined Query**  
Enter the name of the layer you are looking for in the dropdown field below. Once you have entered the Layer name Click "Go".  
Select an attribute from the dropdown list. Once you have selected the attribute name click "Go".  
Select or Type your query, click "Add" to expand your query or select "Verify" to evaluate your query or select "Execute" to view results.

Layer Name : GWP\_Facilities

Field Name : TOTAL\_ENV\_SCORE

= :  (max 20)

>

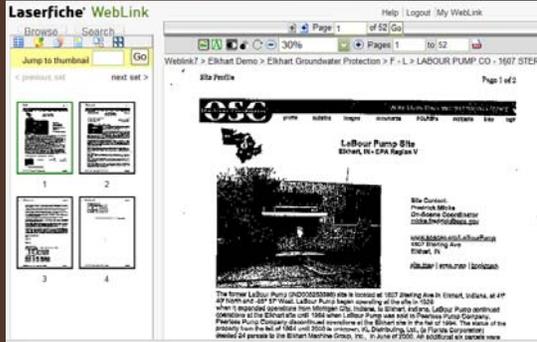
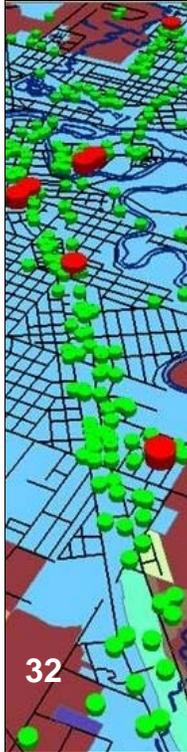
VACANT\_STAT = 'VACANT' AND  
TOTAL\_ENV\_SCORE > 0

Status: Ready.

# Available Tools

## Document Management Integration

e Atlas provides access to all of Elkhart County's Groundwater Protection Program scanned records using a linked Document Management System



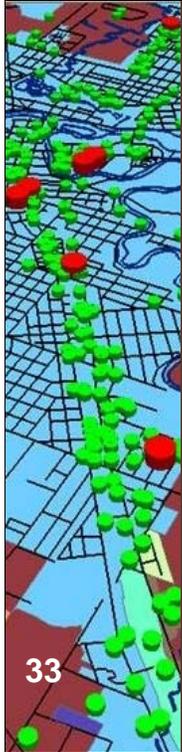
e Atlas currently maintains over 180,000 pages of historic site information and new records are being created and updated daily

Elkhart County Indiana

# Available Tools

## Document Management Integration

During scanning hard copy documents were digitized using Optical Character Recognition which converts scanned images into searchable text



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| Name                               | Hits |
|------------------------------------|------|
| LABOUR PUMP CO - 1607 STERLING AVE | 10   |

This query located 10 instances of the keyword "spill" in this document

Page 1 responded to a small spill at the site in September 2005. During this visit it  
Page 2 responded to a small spill at the site in September 2005. During this visit it  
Page 17 - IS THERE SPILL CONTROL EQUIPMENT - AVAILABLE PER RCRA REQUIREMENT  
Page 17 - a of hazardous waste spill? Yes No Remarks 36 37 38 if  
Page 27 Section VII - SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IN CASE MAT  
Page 31 - SECTION VII SPILL OR LEAK PROCEDURES -  
Page 31 - R TO HOOD LARGE SPILL ELIMINATE ALL IGNITION SOURCES (FLARES - FLA  
Page 31 - EN COMPLETED STOP SPILL AT SOURCE- DISE AREA OF SPILL TO PREVENT  
Page 31 - URCE- DISE AREA OF SPILL TO PREVENT SPSCAOING- PUMP LIQUID TO SA  
Page 35 - SECTION VII - SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IN CASE I

This enables users with quick access to those occurrences in the document

Elkhart County Indiana

# Available Tools

## External Data Connections

Atlas datasets can be linked to external online datasets

EPA's Facility GIS dataset

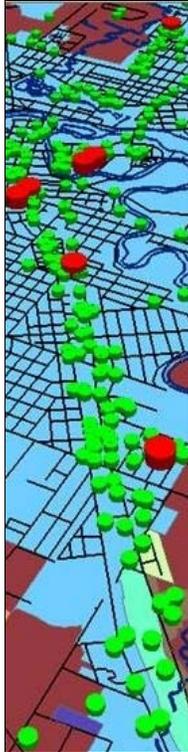
(IDEM) Online Virtual File Cabinet

| Document #                    | Document Date | Program | Docu  |
|-------------------------------|---------------|---------|-------|
| <a href="#">view</a> 22109093 | 05/05/1986    | UST     | Notif |
| <a href="#">view</a> 27460148 | 11/29/1994    | HW Site | OLQ   |
| <a href="#">view</a> 22109081 | 10/08/1991    | UST     | UST   |
| <a href="#">view</a> 22109096 | 09/20/1991    | UST     | UST   |

4 documents

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Elkhart County Indiana



## For More Info

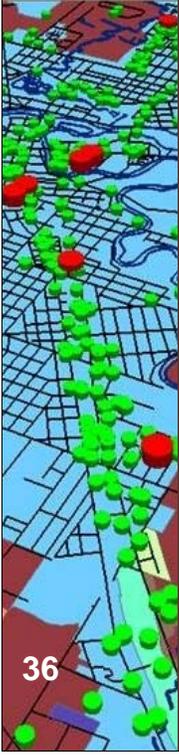
### GWPO-Elkhart County

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Environmental Health Supervisor  
Jhulewicz @ elkhartcounty.com  
574.875.3391

### e-Atlas SYMBIONT

Ryan Eckdale-Dudley, GISP  
GIS Coordinator  
ryan.dudley @ symbiontonline.com  
414.755.1131

Elkhart County Indiana



# Thank You for Your Time!

After viewing the links to additional resources,  
please complete our online feedback form.



[Links to Additional Resources](#)

[Feedback Form](#)