

Managing your inventory for Brownfield Prevention

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

--- *Thomas Paine* 1776

--- *Ronald Reagan* 1980

A 3D map of a city grid with numerous green and red markers representing data points. The map shows a street grid, a river, and various colored markers (green and red) scattered across the area, likely representing different types of inventory or data points.

Managing your inventory for Brownfield Prevention

John J. Hulewicz

**Environmental Health Supervisor
Elkhart County Health Department**



Managing your inventory for Brownfield Prevention

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

You can forge new tools
from old ones

such as . . .

ELKHART COUNTY, INDIANA

1989 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;

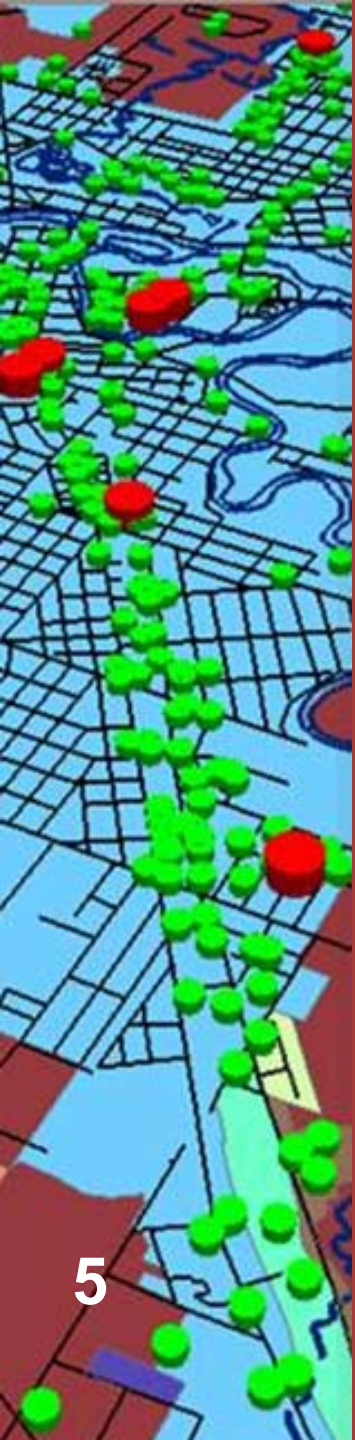
NOW, THEREFORE, be it ordained by the Board of Commissioners of the County of Elkhart, Indiana as follows:

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 persons and property in Elkhart County by protecting the groundwater of Elkhart County from degradation by the spills of 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.

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 State code

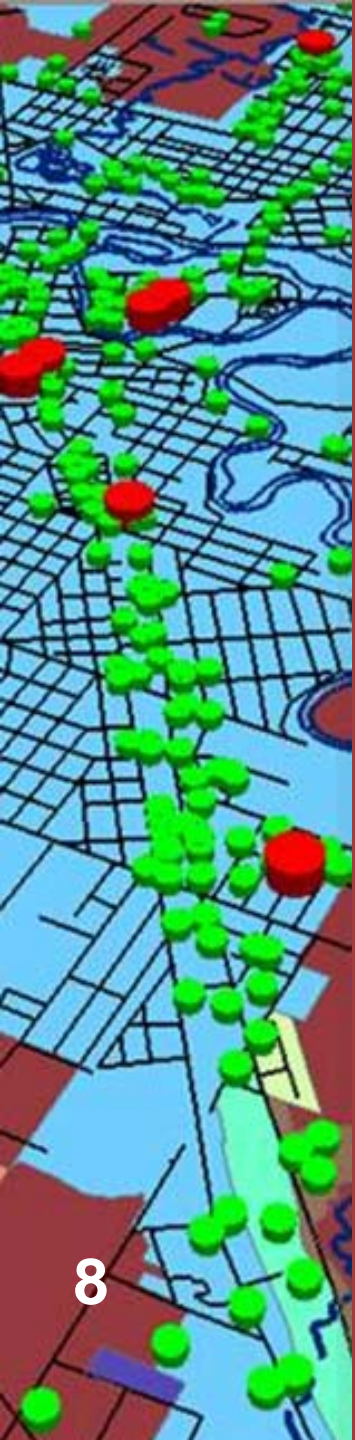


The Groundwater Protection Ordinance of Elkhart County

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)



The Groundwater Protection Ordinance of Elkhart County

The Inspection Process

Scope, continued:

2. Ensure that spill migration is prevented.
3. Inspect secondary containment of toxic / hazardous materials
4. Test wastewater systems
5. Report and clean spills
6. 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.



The Groundwater Protection Ordinance of Elkhart County

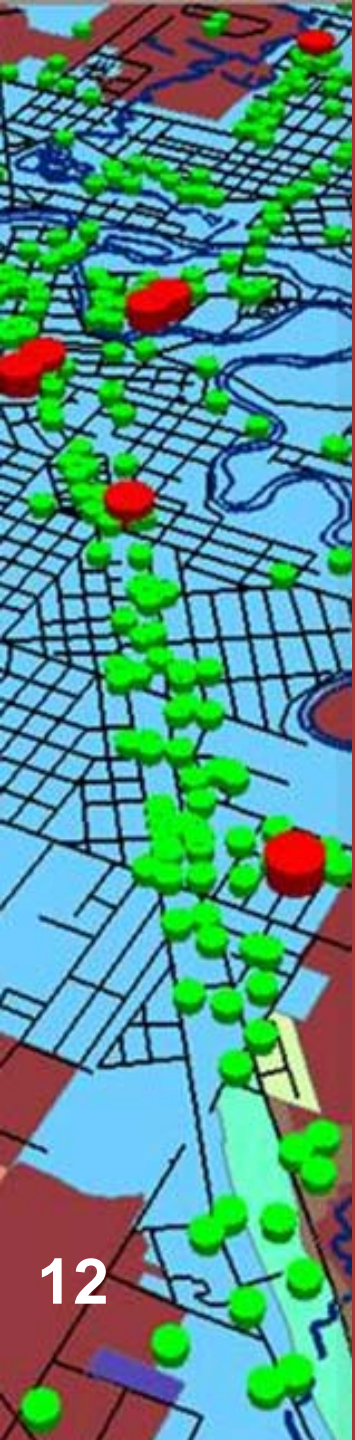
Chronology of DATA MANAGEMENT

- Paper records / files of incidents (1970s)
- + inspection reports (1989)
- + an R-based system (to create index)
- + state and fed actions at properties
- + MS Access to manage inspections and facilities
- And at this point...



Our DATA MANAGEMENT was an oxymoron

- 4,300 properties in 40 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



Our DATA MANAGEMENT
was an oxymoron

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

*You
need a dynamic
brownfield
INVENTORY!*

A 3D map of a city grid with green and red spheres representing data points. The map shows a street grid with several red spheres and many green spheres scattered across it. The background is a dark red color.

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

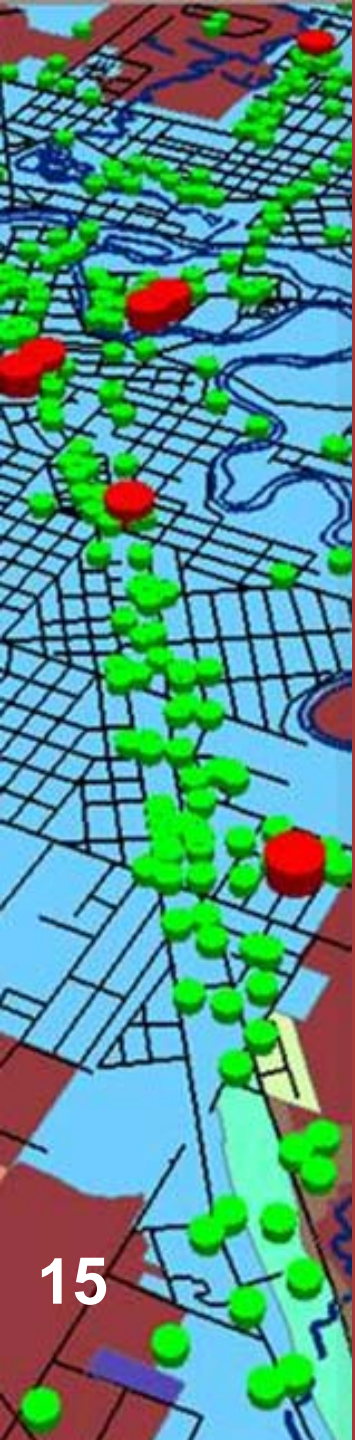
Chronology of DATA MANAGEMENT continued

But, as the CEO of Symantec said,
**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!**





The Brownfield Prevention Initiative

Ryan Eckdale Dudley

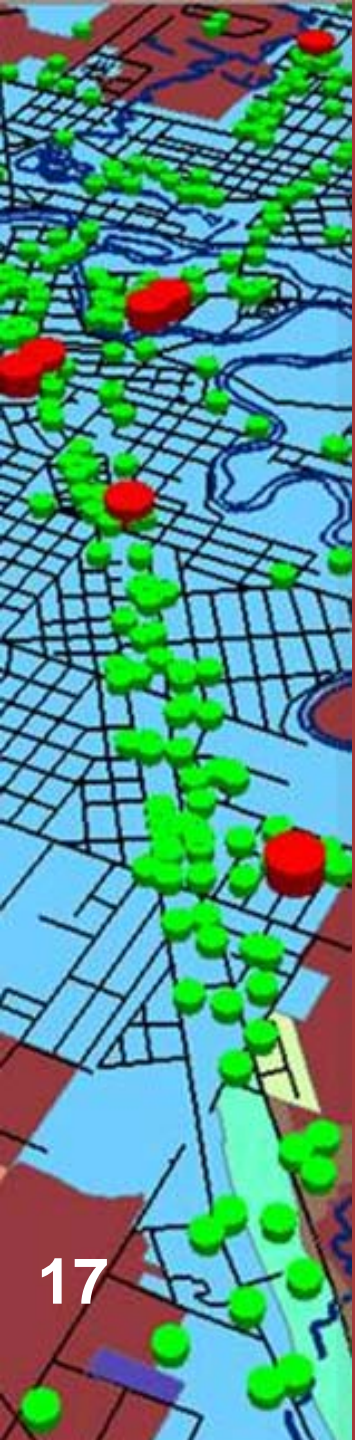
**GIS Coordinator
and
Computer Applications Designer**



Chronology of DATA MANAGEMENT continued

2006: EPA brownfield assessment grant presents and delivers on a data management solution.

In its application, the County proposes a brave new approach to complete
Task 1: Inventory and Prioritization



Yes, once again,
Elkhart County
like other communities
was being told

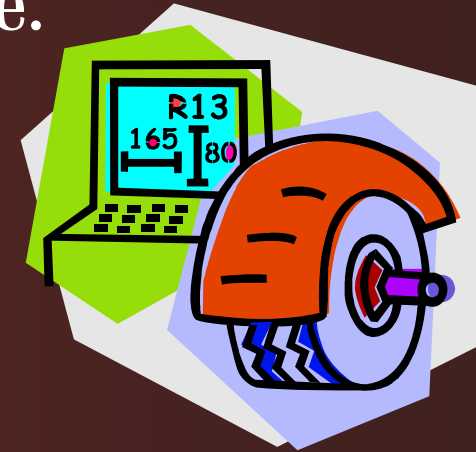
*You
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Chronology of DATA MANAGEMENT continued

In its application, the County proposes a brave new approach to complete
Task 1: Inventory and Prioritization:

To use **existing** County records and outside resources as the beginning nucleus for the inventory; as the “first” base of the database.

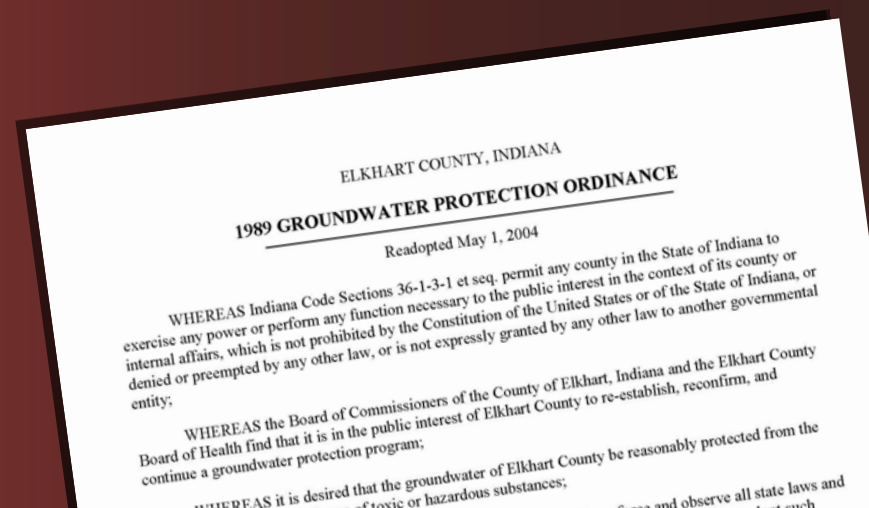
(Why reinvent the wheel ?)

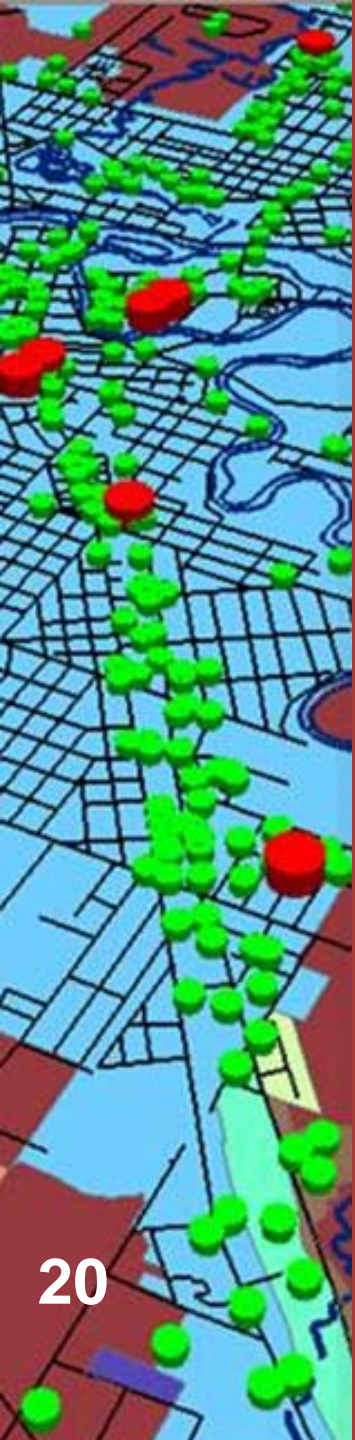


Chronology of DATA MANAGEMENT



1. Our groundwater inspection program has been preventing brownfields for 20 years
2. and its database is of properties involved with hazardous materials
3. among them, the environmental records of the most contaminated or neglected.





Chronology of DATA MANAGEMENT

WHAT WE DID... AND WOULD RECOMMEND

1. Chose compatible document management software
2. Decide on 'parent' features by which to catalog
3. Scan/digitize the records
4. Geocode to map-place the facilities
5. Decide on attribute structure
6. Create a custom, web-based application to integrate data files with GIS
(we call ours e-Atlas)



Chronology of DATA MANAGEMENT

WHAT WE DID... AND WOULD RECOMMEND

7. Dedicate a server with enough on-board RAM and storage (we chose 1.4 terabytes) with redundancies across the hard drives [R A I D]
8. Incorporate other environmental databases and info
 - EPA, State, other gov. databases (like code violations)
 - Fire insurance maps, ESAs done by others
 - Encourage cities and towns to view as THEIR inventory
9. Procedure/policies for ongoing integration of data
10. Procedure/policies for controlling access and use



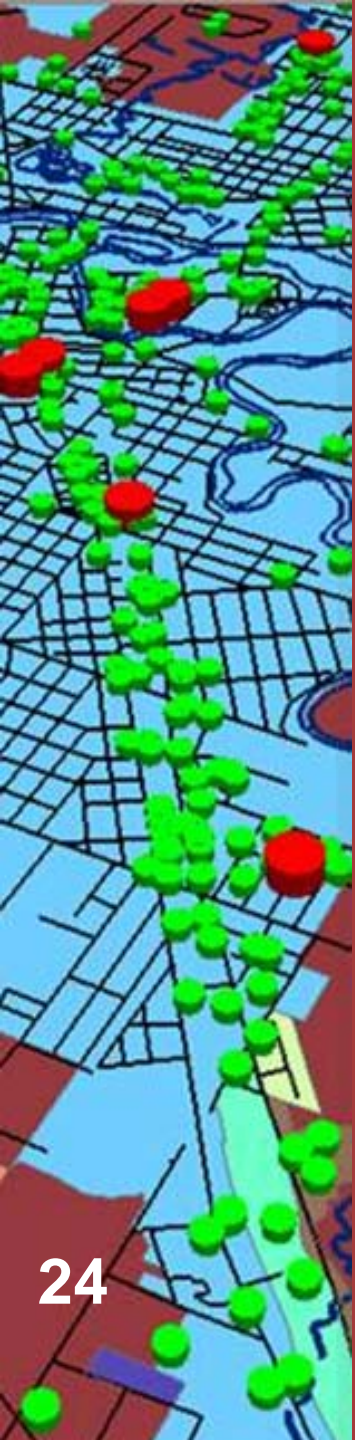
The intent of e-Atlas[®]

- Make entire system searchable by word or attribute
- Make it scaleable, flexible
- able to score for / prioritize by threats (to human health) and strengths (economic potential)
- and over time, with greater specificity / sophistication
- increasing value to more users and applications
- and performing more tasks that update the data.

e-Atlas[®] unveiled

elkhartcountylanduse-reuse.com/e-atlas

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



for more info

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