



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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HEA 1162 information for local units of government and water utilities.

In the 2009 legislative session, House Enrolled Act (HEA) 1162 amended IC 13-25-5-8.5 – the statute which defines the risk-based remediation objectives used for remediation projects in Indiana. Among the amendments are provisions for remedies which manage risk and control completed or potential exposure pathways, including the use of environmental restrictive covenants (ERCs) and environmental restrictive ordinances (EROs).

There are a wide range of scenarios where coordination between IDEM, responsible parties, local units of government, water utilities and other stakeholders may be necessary to achieve the objectives of a remediation project when ERCs or EROs are used to manage risks. For example, local units of government may be approached by responsible parties to enact EROs to prohibit the use of ground water to control exposure and manage risks. Water utilities and other ground water users are important stakeholders in the decision-making process.

IDEM is in the process of revising the Risk Integrated System of Closure (RISC) nonrule policy and is seeking input from local units of government, water utilities and other stakeholders on guidelines and criteria IDEM will use in evaluating remediation proposals – particularly in cases where ground water in well head protection areas may be affected by contamination. IDEM held an information session on this topic on February 11, 2010. The slides IDEM used during this information session are provided on the following pages.

Additional stakeholder meetings are planned over the next several weeks to provide information and gather input on this topic. If you have comments or questions, or would like to receive information and meeting announcements, please contact Risk Services at (317) 232-3215.




The slide features a header banner with the IDEM logo on the left, the text "We Protect Hoosiers and Our Environment" in a blue bar, and the word "Land" in a green bar. A globe icon is on the right. The main text is centered on the slide.

IDEM Ground Water and Soil Remediation

Informational Session

February 11, 2010

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Agenda


- Remediation Program Overview
- Risk-based Cleanups
- 2009 Legislative Changes
- Risk Management Approaches
- Wellhead Protection Planning Process
- Scenarios and Wrap-up

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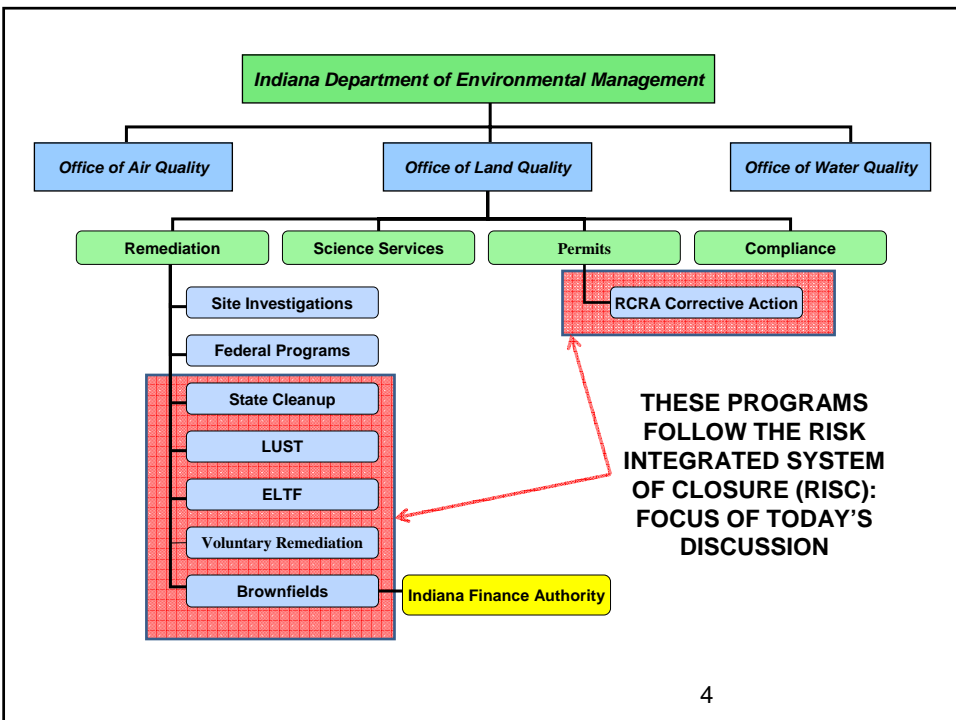
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Introduction

- IDEM is the implementing agency for the State's environmental laws.
- Authority is vested in Statutes and Rules.
- IDEM is organized in 3 main offices; Air, Land, and Water.
- Remediation programs are located in the Office of Land Quality.
- Drinking water programs are located in the Office of Water Quality.


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Remediation Programs

- State Cleanup
 - Non-National Priority List sites
 - Manufacturing facilities, dry cleaners, open dumps, unregistered USTs, petroleum storage terminals, etc.
- Voluntary Remediation Program
 - Voluntary cleanup program with public notice.
 - Large commercial and industrial facilities, manufactured gas plants, etc.
- Leaking Underground Storage Tanks (LUST)/ELTF Program
 - Registered tank releases, usually petroleum
 - Largest volume remediation program
- Indiana Brownfields Program (Interagency program)
 - Abandoned or underused sites with possible environmental contamination
 - Focus on reuse and redevelopment



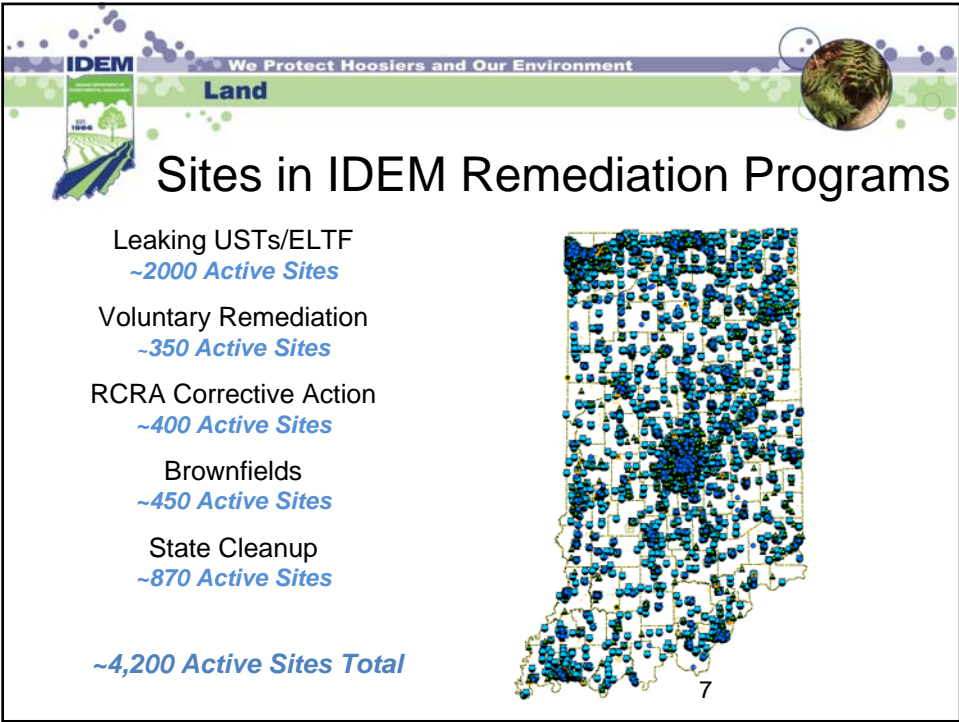
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Remediation Process

- Assign Project Manager
- Initiate contact with responsible party
- Receive reports and remediation proposals from consultants
- Technical review by IDEM project team (Geologist, Chemist, Engineer, Risk Assessor, Legal)
- Project Manager coordinates agency decision making & prepares agency response

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Remediation Program Sites within WHPAs


WHPA 1 yr.....	278
WHPA 5 yr.....	651
WHPA 10 yr.....	165
WHPA 3000' Fixed Radius.....	235
Total.....	1,329

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Risk-based Cleanups


How clean is clean enough?

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Remediation Guidance


- Statutory references: IC 13-12-3-2 points to IC 13-25-5-8.5 to define remediation objectives for Indiana's remediation programs.
- Risk Integrated System of Closure (RISC)
 - Approved in 2001
 - Provides guidance for risk-based site investigation and closure.
 - An effort is under way to update this guidance. (We'd welcome your input.)
- House Enrolled Act (HEA) 1162 *Interim Implementation Document*
 - December 2009
 - Provides interim guidance to implement the HEA 1162 amendments.
 - The amendments became effective July 1, 2009.
 - Will be discontinued as of approval of new RISC guidance.

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Overview of a cleanup


- Responsible Party (RP) conducts a spill response where applicable.
- RP takes samples & evaluates exposure pathways & associated risks.
- IDEM evaluates need for a remedy based on risks.
- RP designs and implements a remedy.
- IDEM oversees process and provides “closure” upon completion.

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Remedy Options

1. Cleanup to background concentrations
2. Cleanup to risk-based concentrations (e.g. MCLs)
3. Site-specific risk assessment
4. Risk management approaches that control completed or potential exposure pathways


- These options are found in IC 13-25-5-8.5
- Specific procedures provided in RISC & IID guidance
- Often remediation projects will involve a combination of these options
- HEA 1162 legislation changed how these remedies are applied

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2009 Legislative Changes

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Prior to July 1, 2009

- IDEM required sampling to define location of COCs exceeding residential closure levels.
- IDEM required free product removal to the extent practicable.
- Closure generally not granted until remedy completed.
- IDEM expected remedies to include treatment or removal of COCs to meet closure levels appropriate for the expected land use to the extent practicable.
- Risk management approaches used as necessary in addition to cleanup.
 - Environmental Restrictive Covenants (ERCs) commonly used – particularly for remediation projects on industrial property.
 - Ordinances generally not used due to lack of enforceability & lack of notice when changed or repealed.

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House Enrolled Act 1162

- Sampling requirements are based on the remediation objectives.
- Free product removal not necessarily required depending on risks.
- Closure may include ongoing obligations or “conditions subsequent” that must be performed or maintained.
- Remedies that manage risk and control exposure may be proposed in lieu of, or in addition to, reducing contamination to closure levels.
 - IC 13-25-5-8.5(e) “The department shall consider and give effect to restrictive covenants [ERCs] and environmental restrictive ordinances [EROs] in evaluating risk based remediation proposals.”




Risk Management Approaches



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Risk Management


- Engineering Controls
 - Physical means to prevent exposure
 - Examples include caps, covers, ground water pump and treat, vapor mitigation systems, etc.
- Institutional Controls
 - Legal or administrative tool used to reduce or eliminate exposure to contamination
 - May be layered or implemented with engineering (physical) controls
 - Many types of ICs, but main ones used in Indiana are restrictive covenants and now (HEA 1162) ordinances

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Environmental Restrictive Covenants (ERCs)


- Legal document that lists restrictions and conditions that must be met and complied with by the property owner in lieu of removal of contamination
- Restrictions selected based on the site conditions (ex. do not use ground water, no residential use)
- ERCs 'run with the land' – they are binding on successor owners
- Signed by property owner and recorded at County Recorder's office; becomes part of title record
- Currently most common institutional control used in Indiana

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Environmental Restrictive Ordinances (EROs)


- HEA 1162 added new definition – Environmental Restrictive Ordinance
 - Local ordinance that limits, regulates or prohibits, withdrawal, human consumption or any other use of ground water.
 - Requires local authorities to notify IDEM if they are amending or revising an environmental ordinance. (This provision is the subject of SB 209 pending in the current legislative session.)
- Size of ERO may vary from entire corporate limits to smaller areas (plume plus buffer zone)

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EROs – Evaluation


- HEA 1162 IID (p. 27) lists some initial guidelines on how IDEM will evaluate proposed EROs
- The use of EROs is new, there are several policy issues still to consider
 - No well-established process for bringing in local stakeholders
 - Possible local stakeholders are numerous – government, water utilities, planning, zoning, permitting, property owners, health department
 - There are complicated issues such as existing and planned WHPAs
 - IDEM wishes to engage affected stakeholders in policy development

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EROs – Evaluation


- What area is covered by proposed or existing ordinance?
- What is extent of contaminant plume?
- What is influence of nearby water withdrawals?
- Is there evidence of potable well use in ordinance area?
 - DNR Database incomplete record of existing wells
 - Water utilities and health department may be contacted for relevant data (well permits issued, billing records)

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ERO Proposals

- ERO proposals are starting to come in
 - Several EROs proposed are *existing* ordinances enacted for other purposes
 - Unclear whether local authorities have been contacted in all cases
- IDEM will remain a neutral party; it is up to local authorities to decide to enact an ERO
- IDEM will notify local authorities and well permitting organizations (where applicable) about ERO proposals

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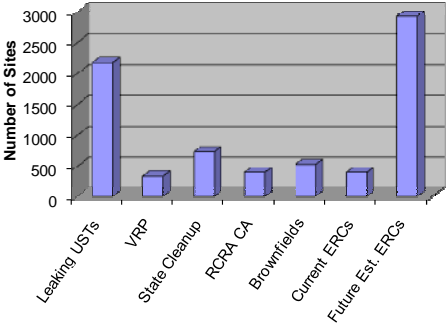
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ICs -The Big Picture

The number of sites with ICs will continue to grow

- ~4200 active sites
- >400 current ERCs
- If 70% sites close with an IC, then **>3300 IC Sites**



Active Sites in IDEM Remediation Programs



Remediation Program	Number of Sites
Leaking USTs	~2300
VRRP	~400
State Cleanup	~800
RCRA CA	~400
Brownfields	~600
Current ERCs	~400
Future Est: ERCs	~3000

Remediation Program

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HEA 1162 and Wellhead Protection Planning Process

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Indiana's Wellhead Protection Program


- Requires a community utilizing ground water as their source of drinking water to produce a Wellhead Protection Plan (WHPP)
- Requires 3,000 ft Fixed Radii, or minimum 5 yr Time of Travel Modeled Delineations
- Requires a community to implement and update their WHPP's on a regular schedule

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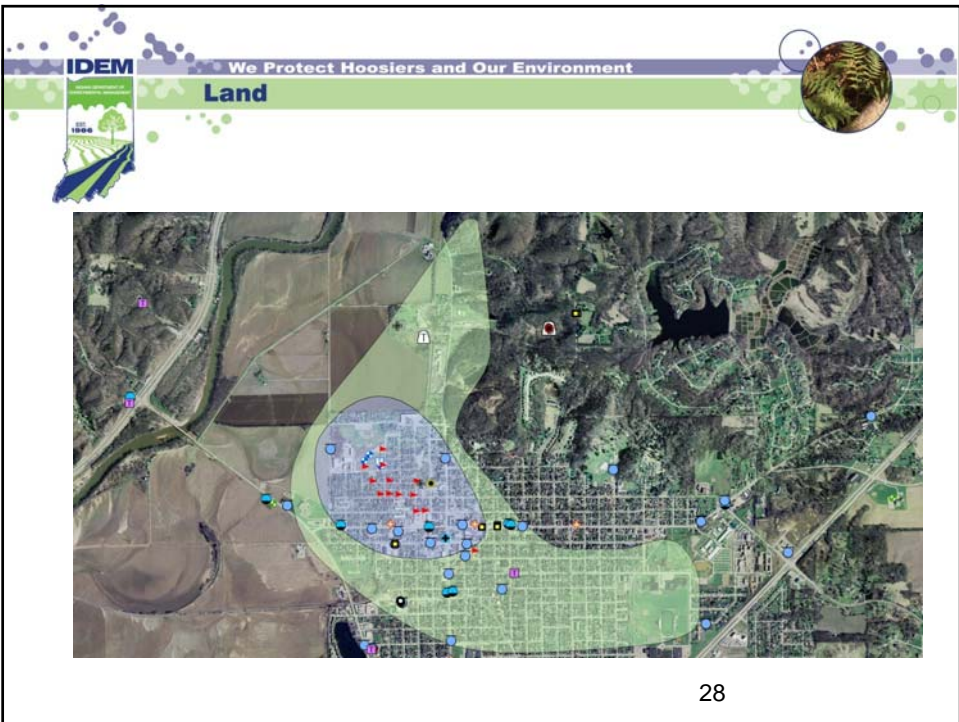
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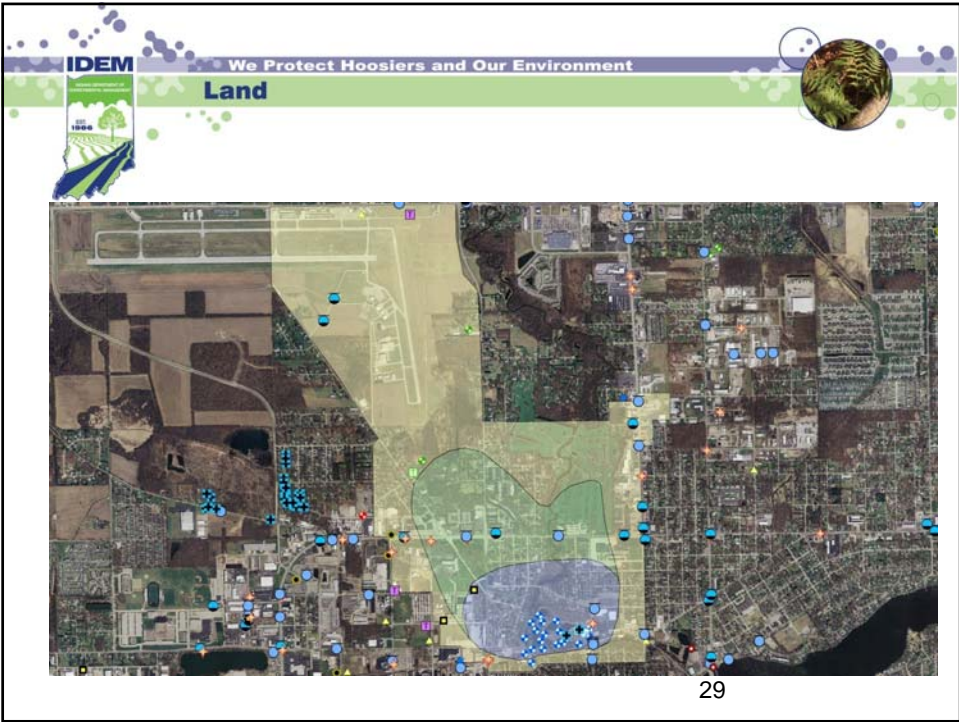


Key Elements of Wellhead Protection Plans

1. Establish local planning teams
2. Establish fixed or modeled delineations
3. Inventory 'Potential Sources of Contamination'
4. Develop management plans – regulatory and/or educational
5. Contingency plans


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OWQ/OLQ Interface


- Working together....
 - OWQ and OLQ share information between offices... i.e.) WHPA's contaminated sites...
 - OWQ...New reported detections in finished water (not attributed to disinfection byproducts) by a PWS are reported to OLQ for their consideration to find the source of the contamination.
 - OLQ...Mechanism practiced to report sites discovered within WHPA's to OWQ...OWQ provides this information to the OWQ inspection section for their information/consideration to share with PWS.
 - Working together as we are today in this forum...

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Important Considerations for Public Water Systems


- Indiana Map for locating Potential Sources of Contamination
 - <http://inmap.indiana.edu/viewer.htm>
 - Environment subfolder lists sites by program area
- New Institutional Controls Registry
 - <http://www.in.gov/idem/5959.htm>
- Check/weigh in on the status of IDEM remediation sites
- Consider sentinel/monitoring wells, if necessary

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Next Steps

IDEM revising RISC Technical Guide (Non-rule policy)


- Original RISC Technical Guide issued in 2001
- Revision will now include 2009 legislative changes
- Various stakeholder groups exist (background, plume stability, etc.)
- IDEM recognizes the need to coordinate with local stakeholders regarding WHPAs and the use of EROs in their communities and would welcome input on the RISC Technical Guide revision
 - Possible stakeholder group?
 - Non-rule policy public participation process

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Potential Discussion Topics


- Acceptability criteria for EROs to be used as an IC
- Potential cumulative effects of multiple contaminated ground water sites
- Potential impacts to ground water plume from water withdrawals adjacent to ERO areas
- Water resource planning issues – will future wells be needed?
- IDEM would like feedback ...some scenarios follow for discussion purposes

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Scenario 1

IDEM receives proposal to use existing ordinance as an ERO


- Real Example: "...the installation of any private water well intended for potable human consumption... which is located within 300 feet from any existing and available water line...is hereby prohibited".
- It is unclear whether local authorities were contacted

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Scenario 2


A site with ground water impacts above MCLs closes with an ERC based on a plume stability demonstration. IDEM relied on an existing WHPA delineation to demonstrate that potential impacts to the wellheads would not occur.

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Scenario 3


A ground water plume has impacted a wellhead

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Scenario 4


A local authority is approached to enact an ordinance to serve as an ERO

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Scenario 5


IDEM receives a remediation proposal to use an ERO, unaware that it is in a community's planned future wellfield?

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Scenario 6

Municipality has enacted a new ERO.


- 1) Now a major construction project needs large dewatering wells.
- 2) Private wells are installed in ERO area in spite of ordinance.

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Wrap Up


Are there other considerations that IDEM needs to factor into policy development?

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End of Presentation

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