



Source Water Quality Challenges, Emerging Issues & Opportunities

Ginny Stern / Sheryl Howe
Office of Drinking Water

PUBLIC HEALTH
ALWAYS WORKING FOR A SAFER AND HEALTHIER COMMUNITY



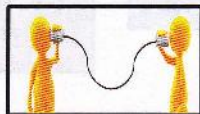
Challenges

UIC Stormwater Wells



Risk, Vulnerability, & Protection Zones

BMPs, AKART & Monitoring



Effective Coordination & Communication



Emerging & Related Issues

Vadose Wells (Recharge & Discharge)



Reclaimed Water (Direct & Indirect Recharge)



On-site Wastewater Treatment*



Changing Contaminant Landscape



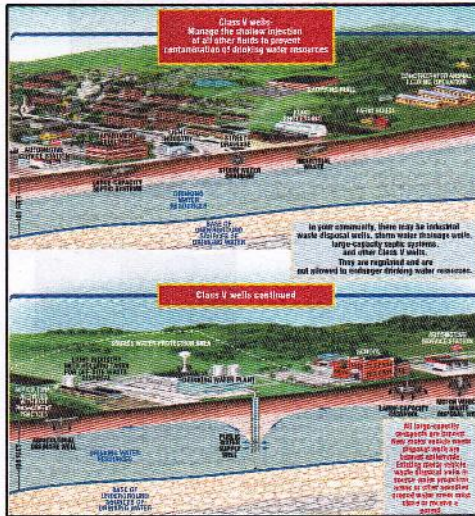
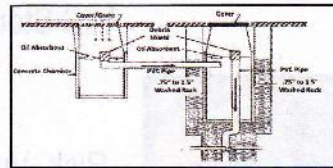
Stormwater UICs & Drinking Water

Class IV wells:
Manage the shallow injection of all other fluids to prevent contamination of drinking water resources.

Class V wells continued:

In your community, there may be industrial waste disposal wells, storm water storage wells, large capacity truck systems, and other Class V wells. They are regulated and are not allowed to endanger drinking water resources.

All Class V wells are located and monitored by the Michigan Department of Environment and Natural Resources (MDENR). MDENR will issue permits for Class V wells and will monitor them to ensure they do not endanger drinking water resources.

Current Processes

The authority permit stormwater wells varies by locality:

- Local NPDES permit (authorized by rule),
- Local building permit, or
- With an Ecology Regional Office

Ecology's BMPs & UIC Stormwater Manuals

- Directs siting & design,
- Min. setbacks, vertical separation and registration

Baseline Assumption: UIC stormwater wells that follow the manual, meet the BMPS & when properly permitted & registered will protect groundwater & drinking water.



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Public Water Supply Concerns

Vulnerable public water sources may not be protected by the general stormwater BMPs and guidance .

- 100 foot setback will not match the wellhead protection area (WHPA) & may not match the sanitary control area (SCA).
- Vertical separation & setback minimums do not reflect source vulnerability, susceptibility, or operations.
- BMPs do not require monitoring
- Failures may first be identified at the public well.



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Public Water Supply Concerns

Utilities are required develop & manage source water protection programs.

- There is no required notification or consultation process outlined in the manual

Utilities attempting to address the siting of UIC wells near vulnerable drinking water sources have been:

- Ignored or
- Left with limited notification, consultation, & appeal options.



Desired State

- **Drinking water sources are not impacted by UIC wells.**

- Vulnerable sources have adequate & appropriate protection.
- Utilities with vulnerable sources are informed & consulted when stormwater projects are developed in critical wellhead areas.
- No UIC wells are sited in SCAs without utility approval.



How do we get there from here?

- UIC is a Ecology program that relies on decentralized approval for siting, permitting, & implementation.
- DOH has regulatory authority over water utilities only.
- Most Utilities do not control land-use beyond their property.
- Most Local ordinances do not restrict stormwater UIC siting around public water wells or in critical aquifer recharge areas.



Potential Responses

- **No Action:** *No changes to current requirements.*
- **Non-Regulatory Responses:**
 - *Tier 1: Education, outreach & tools development.*
 - *Tier 2: Guidance & revised BMPs for projects near vulnerable supplies.*
- **Regulatory changes** - *Pursue statutory & regulatory changes that institutionalize protections for vulnerable water supplies.*



Possible Utility Actions

- Update source protection delineations for most vulnerable sources
- Work with Local Governments to develop ordinances that protect vulnerable drinking water wells (6 months / 1 year TOT)
- Identify local UIC stormwater permitting authority – educate them
- Partner to monitor WQ & BMP implementation near vulnerable sources.



DOH Actions

- Update SWAP & UIC applications with:
 - Susceptibility
 - Improved delineations for high risk wells
- Develop model BMPs with Utilities & ECY for UIC wells near vulnerable sources
- Provide SWP \$\$ for local match on projects designed to monitor implementation & BMP effectiveness.
- Catalog model ordinances providing enhanced protection for vulnerable sources.



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Your DOH Regional Office *(of course!)*

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