

# Protecting Water Quality of Non-Public Water Wells in Kansas

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# Introductions



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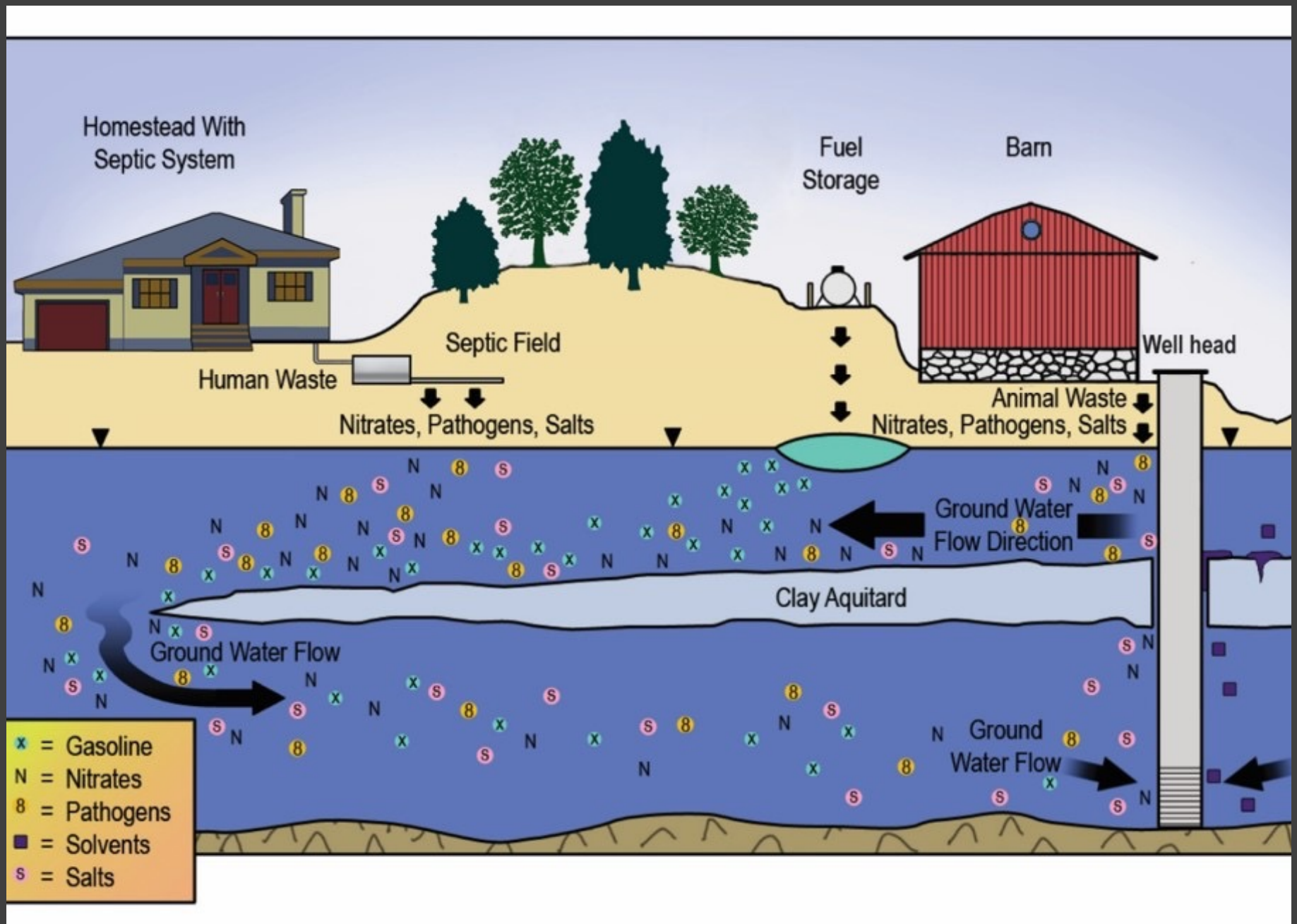


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# Improving and Protecting Water Well Quality

- Goal of project to identify local policy tools in Kansas to improve and protect water quality of nonpublic water wells.
- Conducted from 2015 through 2018
- Funded by the Kansas Health Foundation.
- Project team included public health and legal professionals with experience working on groundwater quality issues impacting nonpublic water wells in Kansas.



## Improving and Protecting Water Well Quality

- Thousands of Kansans rely on nonpublic water wells for their household, including providing water for drinking, cooking, bathing, household pets, and cleaning purposes.
- While approximately 70,000 nonpublic wells are registered in the state of Kansas to provide household water, the quality of the water is not guaranteed and may be contaminated from a range of environmental, industrial, and agricultural contaminants.

# Improving and Protecting Water Well Quality

- Contamination of nonpublic water wells is common, and most well users are unaware that their water is not safe.
- There are few protections at the state or local level to ensure that water from nonpublic water wells is safe.

# Methods

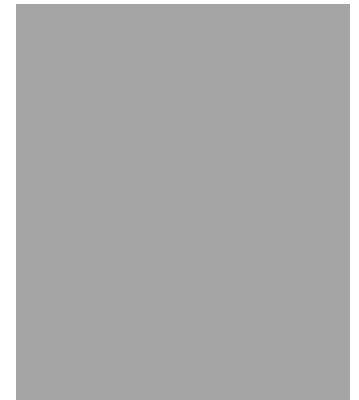
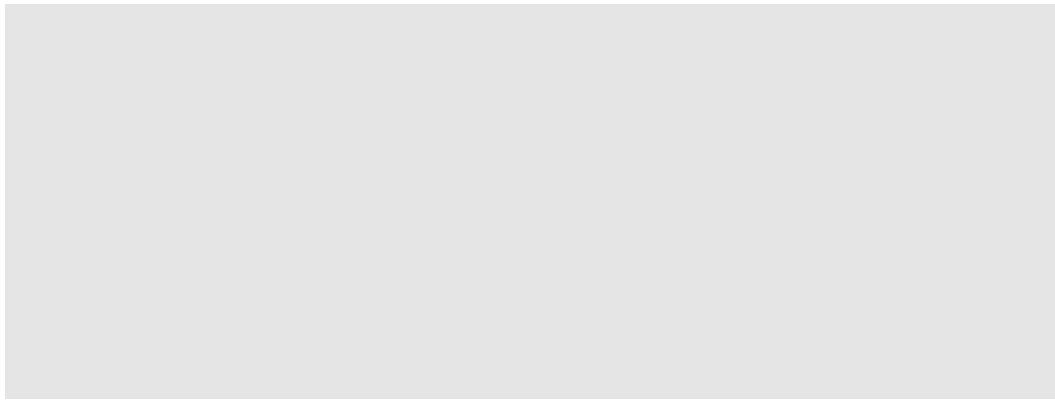
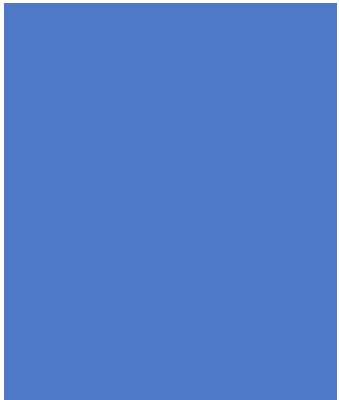
- Established a 25-member advisory group that included various stakeholders of nonpublic water well quality issues.
- Completed an inventory of existing nonpublic well water quality policies across Kansas and best practices across the country.
  - Reviewed all 105 Kansas county sanitary codes
  - Reviewed relevant local policies of 24 Kansas cities, including:
    - Urban/rural
    - Small, medium, large population
    - Geographic diversity

# Methods

- Key informant interviews and focus groups to inform the recommendations.
- A survey to identify public health relevance, feasibility, and possible funding mechanisms.
- A survey to identify which organizations need to lead each recommendation.



# Project Recommendations



# Nonpublic Household Water Well Project Recommendations

- Website:

<http://wichita.kumc.edu/improving-and-protecting-water-well-quality/project-recommendations.html>

The following recommendations are organized according to the potential impact each recommendation could have on protecting public health, from greatest impact to least impact, as reported by survey respondents. The first recommendation was not ranked as the first priority; however, it is likely the first step that needs to happen chronologically.

#	Recommendations	Key Organizations/Lead Entities
1	Create a "Nonpublic Household Water Well" designation	KDA, KDHE, KWO, Legislature
2	Provide notice when specific groundwater contamination is found and when there is an event potentially impacting groundwater quality	KDHE, Legislature, LEHP
3	Establish triggering events to inspect wells and test water quality	KDHE, LEHP
4	Develop standardized water sampling and analysis protocol and form	KDHE, Labs, LEHP
5	Create a statewide group focused on advancing nonpublic water well quality	KDA, KDHE, KWO, Legislature
6	Revise the Kansas Dry Cleaner Environmental Response Act	KDHE, Legislature
7	Limit the use of some nonpublic household water wells	KDHE, KWO, Legislature, LEHP
8	Create funding mechanisms to offset costs of inspection, water quality testing, corrective action, and/or plugging of nonpublic water wells for those unable to pay	KDA, KDHE, KWO, Legislature
9	Establish a three-part process: permitting, inspection, and water quality testing	KDHE, KEHA, Labs, LEHP
10	Standardize environmental health professionals' training	KDHE, KEHA, LEHP
11	Track and provide information about abandoned wells in property transactions	KDHE, LEHP
12	Create standards to determine when connecting to a public water supply must be required	KAC, KDHE, KWO, Legislature, LEHP
13	Establish frequency of inspection and water quality testing after initial triggering event	KDHE, LEHP
14	Establish licensing requirement for the installation of water well pumps	KDHE, LEHP, Water Well Contractor/Driller
15	Update key nonpublic water well resources	KDHE, KGS, KWO, LEHP
16	Develop remediation training and certification standards	KDHE, KEHA
17	Update county sanitary codes	KAC, KDHE, LEHP
18	Assess interest in water well maintenance subscription service	KDA, KDHE, KEHA, KWO, LEHP, Water Well Contractor/Driller

# Create a “Nonpublic Household Water Well” Designation (#1)

Create a new legal designation of “nonpublic household water well.”

Designation would include all private, semipublic, and other active nonpublic water wells used for cooking, bathing, drinking, household pets, and human cleaning purposes.

(Household purposes do not include water used for lawn and garden, irrigation, watering livestock, or nonpublic water wells that have been properly plugged or registered with KDHE as inactive.)

## Provide Notice when Specific Groundwater Contamination is Found and There is an Event Potentially Impacting Groundwater Quality (#2)

State or local environmental health official must notify the local environmental health professional or designated local official about the identified contamination or event impacting water quality within 7 days of identification of the contamination.

## Provide Notice when Specific Groundwater Contamination is Found and Then there is an Event Potentially Impacting Groundwater Quality (#2)

The notice will contain:

- the date the sample was tested, or the date the contamination or event occurred or was identified,
- the location of the contamination or event site (with as much information as is available),
- the nonpublic or public well tested,
- the water sample test results,
- potential health consequences,
- contact information for technical assistance, and
- steps for correction action, mitigation, and/or remediation.

## Establish Triggering Events to Inspect Well and Test Water Quality (#3)

Nonpublic household water well users will have their well(s) inspected and the quality of their well water tested after the specific triggering events.

# Establish Triggering Events to Inspect Well and Test Water Quality (#3)

Triggering Event	Well Inspection	Water Quality Test
Well construction and pump installation	Yes	<ul style="list-style-type: none"> <li>• Bacteria and nitrates</li> <li>• VOCs and/or pesticides</li> <li>• Others (if identified by environmental health professional)</li> </ul>
Putting an inactive well back into active status	Yes	<ul style="list-style-type: none"> <li>• Bacteria and nitrates</li> <li>• VOCs and/or pesticides</li> <li>• Others (if identified by environmental health professional)</li> </ul>
Any property transaction (transfer of ownership, leasing or rental, or refinancing) unless a physical well inspection <i>and</i> water sample/analysis has been conducted within the previous 12 months and meets state/local standards and no other intervening triggering event requiring a nonpublic water well inspection and water sample/analysis has occurred.	Yes	<ul style="list-style-type: none"> <li>• Bacteria and nitrates</li> <li>• VOCs and/or pesticides</li> <li>• Others (if identified by environmental health professional)</li> </ul>
Environmental encroachment from nearby source of contamination	Yes	<ul style="list-style-type: none"> <li>• Bacteria and nitrates</li> <li>• VOCs and/or pesticides</li> <li>• Others (if identified by environmental health professional)</li> </ul>
Other waterborne emergency, as determined by the responsible local or state health agency. Waterborne emergencies include, but are not limited to the following: chemical or biologic contamination of the well's groundwater source or flooding of the well head.	Yes	<ul style="list-style-type: none"> <li>• Bacteria and nitrates</li> <li>• VOCs and/or pesticides</li> <li>• Others (if identified by environmental health professional)</li> </ul>
Well reconstruction	Yes	<ul style="list-style-type: none"> <li>• Bacteria and nitrates</li> <li>• Others (if identified by environmental health professional)</li> </ul>
When the physical integrity of the well is compromised (e.g. such as by a falling tree, vehicle collision, flood, earthquake)	Yes	<ul style="list-style-type: none"> <li>• Bacteria and nitrates</li> <li>• Others (if identified by environmental health professional)</li> </ul>
Occurrence of a waterborne disease outbreak	Yes	<ul style="list-style-type: none"> <li>• Bacteria and nitrates</li> <li>• Others (if identified by environmental health professional)</li> </ul>

## Develop Standardized Water Sampling and Analysis Protocol and Form (#4)

Update the Form WWC-5 to include additional water quality data.

Require electronic usage of the updated state form (WWC-5) among licensed water well contractors, and allow access to well location-specific data for potential users.



## Develop Standardized Water Sampling and Analysis Protocol and Form (#4)

Require KDHE-certified labs to submit electronic water quality analysis data as part of normal practices and procedures.

Connect data to the well's state form (WWC-5).

KDHE-certified labs will provide the following information about the nonpublic household water well:

- specific analytical results from the water quality testing
- interpretation of analytical results, including potential implications (e.g., health concerns)
- available resources for corrective action (when applicable)
- who to contact with questions and follow-up

# Create a Statewide Group Focused on Advancing Nonpublic Water Well Quality (#5)

1. Form a statewide group to address groundwater and nonpublic water well issues in Kansas.
2. Projects for the group could include:
  - a) Identifying funding for nonpublic water well initiatives;
  - b) Workforce development for nonpublic water well experts;
  - c) Feasibility of private or public entities providing subscription-type services and maintenance for nonpublic wells;
  - d) Groundwater source protection activities;
  - e) Assessing the feasibility of using existing groundwater monitoring and observation wells to monitor groundwater quality; and
  - f) Develop statewide databases

# Revise the Kansas Dry Cleaner Environmental Response Act (#6)

Revise the Dry Cleaner Environmental Response Act to:

1. Clarify that KDHE is no longer discouraged from partnering with federal or local environmental health agencies or other partners to address short-term responses to, and long-term remediation of, dry cleaner contamination,
2. Charge KDHE with proactively working with communities to identify dry cleaner contamination, and
3. Increase the annual fee paid by dry cleaners to provide additional funds to the drycleaner trust fund.

# Current Status and Next Steps

- Discussions with key stakeholders
- Challenges
- Interested in advancing this work
- Your interests and priorities

# Questions?

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