

Basically Two Pathogen Contamination Sources

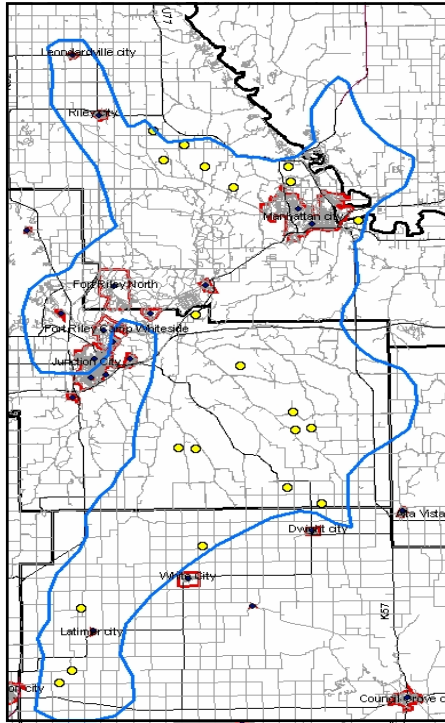


Human Waste
And
Animal Waste



Problem areas...

- Human Waste
 - Septic tanks, on site wastewater systems, sewer system overflows, municipal wastewater treatment plants, poor biosolids application, lateral fields, lagoons, cesspools, RV parks, campgrounds
- Animal Waste
 - Livestock feeding operations, pastures, fairgrounds, auction lots, boarding stables, wildlife, kennels, pets



Confined Animal Feeding Operations

Potential Contaminant Sources (Section of Manhattan's SWA Report)

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
141045	Nonresidential construction	1542	B
137804	Highway and Street Construction	1611	B
137766	Mobile Home Park	6515	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2000108	Martin Son Farms	A-KSRL-BA05	B
2000184	Boller, Dennis	A-KSGE-S005	B
2000471	Stahl, Richard	A-KSGE-MA03	B

National Pollutant Discharge Elimination System (NPDES)

- Established to control point source pollution
- KDHE issues permits jointly with EPA
- Easily accessed from EPA website (epa.gov)

What kind of contamination?

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
5541	Gasoline Service Station	Inorganics, VOCs	D
7992	Golf Course	Fertilizers and pesticides	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
1611	Highway and Street Construction	Sedimentation	B2
4212	Local Trucking, without Storage	VOCs	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
3479	Metal Coating and Allied Services Manufacturing	inorganics, VOCs	B

A- Microbiological

B2- Sedimentation

C*- Pesticides

B- Inorganic Compounds

B*- Nitrates

C- Synthetic Organic Compounds

D- Volatile Organic Compounds

B1-Eutrophication - Phosphorous

Major Components of SWA

1. Delineation of assessment area
2. Inventory of potential contaminant sources
3. Conduct susceptibility analysis
4. Inform the public

3. Conduct a Susceptibility Analysis

- Determine what possible contamination sources should be our greatest concern

Assessment Analysis

Surface Water Multiple Wells Analysis

A – Microbiological B – Inorganic Compounds B1 – Eutrophication – Phosphorous
 B2 – Sedimentation C – Synthetic Organic Compounds
 C* – Pesticides D – Volatile Organic Compounds

No.	Question	Response	A	B	B1	B2	C	C*	D
1	Is any intake located at a treatment plant?	No	1	1	0	0	1	1	1
2	Is there an open channel conveyance from any of the intakes to a treatment plant?	No	0	0	0	0	0	0	0
3	Does a PWS own or control all conveyance right-of-ways?	No	1	1	0	0	1	1	1
4	Does a PWS own or control all areas within 1/4 mile of intake?	No	1	1	0	0	1	1	1
5	Are all areas within 1/4 mile of intakes entirely native grass?	No	1	1	0	0	1	1	1

Susceptibility Likelihood Scores

	A	B	B1	B2	C	C*	D
Susceptibility Likelihood Score- SLS	55	69	67	77	76	58	77
SLS Range	Mid	Mid	Mid	Mid	Mid	Mid	Mid

A- Microbial
 B- Organics
 B1- Eutrophication- Phosphorous
 B2- Sedimentation
 C- Synthetic Organic Compounds
 C*- Pesticides
 D- Volatile Organic Compounds

SLS Range	
0-50	Low Susceptibility
51-80	Moderate Susceptibility
81-100	High Susceptibility

Comments On Individual Sites

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Boller, Dennis	2000184	This is a swine facility with no groundwater monitoring.	Nicole Fisher
Cedar Creek Ranch	2002184	This cattle livestock facility has no water quality protection plans.	Nicole Fisher
Roeser, Richard L.	2001655	This is a swine facility with no groundwater monitoring.	Nicole Fisher
Sunflower Farms	2001390	This swine facility has no groundwater monitoring.	Nicole Fisher

Protection Recommendations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations
				40CFR 433

Major Components of SWA

1. Delineation of assessment area
2. Inventory of potential contaminant sources
3. Conduct susceptibility analysis
4. Inform the public

4. Inform the Public

- Contact city office or water provider
 - Request copy from KDHE
or visit their website
- Must be noted in Consumer Confidence Report

Summary:

- Good tool
- Common ground
- Use it or lose it

Questions?