

MINUTES OF THE HOUSE COMMITTEE ON ENVIRONMENT.

The meeting was called to order by Chairperson Joann Freeborn at 3:30 p.m. on January 11, 2000 in Room 423-S of the Capitol.

All members were present except: Rep. Henry Helgerson - excused

Committee staff present: Raney Gilliland, Kansas Legislative Research Department  
Mary Ann Graham, Committee Secretary

Conferees appearing before the committee: Thomas Stiles, Section Chief, Kansas Department Health and Environment, Forbes Field, Bldg. 283, Topeka, KS  
66620-0001

Others attending: See Attached Sheet

Chairperson Joann Freeborn called to order the Joint House Environment and Senate Energy and Natural Resources meeting at 2:30 p.m. in room 313-S. She welcomed Thomas Stiles, Kansas Department of Health and Environment. Mr. Stiles briefed the committee, with the use of slides, on the Kansas Total Maximum Daily Load (TMDL) Program. (See attachment 1) A Total Maximum Daily Load is the maximum amount of a given pollutant which could enter a stream or lake without causing a violation of the applicable water quality standard. The standards define the appropriate level of water quality necessary to fully support the designated uses of that stream or lake. Thus, the TMDL process is a restoration activity intended to reestablish good water quality and correct impaired conditions. TMDLs are found within the Clean Water Act at Section 303 (d). Discussion and questions followed.

Mr. Stiles provided a schedule of meetings open to the public about TMDLs. These meetings include the Cimarron River Basin, the Lower Arkansas River Basin and the Upper Arkansas River Basin. (See attachment 1)

Chairperson Freeborn thanked Mr. Stiles for his presentation and the committee and guests for their attention.

The meeting adjourned at 3:45 p.m.

The next meeting is scheduled for January 13, 2000. (Meeting cancelled)

# HOUSE ENVIRONMENT COMMITTEE GUEST LIST

DATE: January 11, 2000

NAME	REPRESENTING
Tim Richardson	Associated Press
Leslie Kaufman	KFB
Steven + Cheri Graham	K-State Research + Extension
Brenden Wirth	KFB
John Gurlinger	KDA
Jim Allen	Sea board
Mike Jensen	Ks Pork Council
Tom Bruno	Allen + Assoc.
Kerri Ebert	Kansas Dairy Association
John Faber	Rep.
Joel Lieber	Ks Co-op Council
Clyde Graeber	KOHE
Charles Benjamin	KWRC / KS Sierra Club
Ken Klataske	Audubon of Kansas
TRACY STREETER	STATE PONS Comm.
SCOTT B. CARLSON	State Conservation Comm.
Mark Lawler	KS Asso. Counties

## KANSAS TOTAL MAXIMUM DAILY LOAD (TMDL) PROGRAM

A Total Maximum Daily Load is the maximum amount of a given pollutant which could enter a stream or lake without causing a violation of the applicable water quality standard. The standards define the appropriate level of water quality necessary to fully support the designated uses of that stream or lake. Thus, the TMDL process is a restoration activity intended to reestablish good water quality and correct impaired conditions.

TMDLs are found within the Clean Water Act at Section 303(d). Current regulations by EPA define a TMDL as the sum of the wasteload allocations (point source contributions), load allocations (non-point source contributions) and a margin of safety (hedge against uncertain relationship between loadings and resulting water quality). Many TMDLs were developed as wasteload allocations during the NPDES permit revision process for point sources. Few were developed on non-point source issues.

In 1995, the Kansas Natural Resource Council and the Sierra Club filed suit against EPA for failing to enforce Section 303(d) in Kansas. The Clean Water Act requires states to 1) develop a list of water quality impaired streams in that state and 2) develop TMDLs on those waters such that they may attain water quality standards. Since 1992, Kansas has developed the 303(d) list on a biennial basis. It did not develop the subsequent TMDLs for those waters, however. The federal law requires EPA to assume responsibility for 303(d) and TMDL development if the state fails to do so. Since Kansas did not develop TMDLs, EPA was supposed to. It did not develop the TMDLs, hence the lawsuit by the environmental interests.

Kansas intervened in the lawsuit which ultimately reached a settlement which was formally accepted through a court decree in April 1998. The settlement laid out a schedule to establish the necessary TMDLs for the impaired waters in the state over an eight-year period, 1999-2006. The schedule moved through the state using the 12 river basins established through the state water planning process. The first basin to be done was the Kansas-Lower Republican Basin, with two more basins to follow, then one basin, then two, until all 12 basins were completed by 2006.

KDHE submitted 103 TMDLs for impaired waters in the Kansas-Lower Republican Basin on June 30, 1999. Through subsequent review and revision, including consolidation of certain lake impairments, EPA approved those TMDLs, which now number 90; 53 stream TMDLs and 37 lake TMDLs. Thirty of the 53 stream TMDLs involve Fecal Coliform Bacteria and 11 TMDLs were developed based on stream biology data. Twenty-seven of the 37 lake TMDLs dealt with eutrophication, caused by excessive nutrient loading into those lakes, ranging in size from Tuttle Creek Reservoir to the lake in Topeka's Gage Park. Thirteen of the original impairments, such as dissolved oxygen or pH were couched in terms of the associated eutrophication found at that lake.

Each TMDL is formatted to include a description of the water body, the impairment and associated water quality standard and impaired designated uses and the data available on the impairment as collected through KDHE's stream or lake monitoring network. The data are analyzed to further define the impairment in terms of season, flow condition and severity. From

*House Environment  
1-11-00  
Attachment 1*

that analysis, the desired endpoint or goal for that TMDL is established. Typically, the goal is to reduce the frequency of water quality standard violations in the future relative what was seen in the past. For example, the goal of a TMDL for bacteria will be to reduce the percent of samples taken at flows below 300 cfs over 2004-2008 which exceed the applicable standard from 29% to less than 10%. The goal further expects that no exceedance occurs at lower flows, such as 40 cfs in the summer. Graphically, these goals are expressed as points plotting below the designated curve defining the water quality standard.

Each TMDL conducts a preliminary assessment of possible sources. Such sources include wastewater discharges, livestock facilities, septic systems, urban stormwater and land use such as crop land or grassland. Such information is not very detailed at this stage and some type of needs inventory is necessary as a first step of implementation in order to better gauge the amount of resources needed to reduce historic loadings. This inventory is to be carried out by state and local managers familiar with the activities of the watershed. The inventory then is used to generate requests for funds through the typical State Water Plan Fund programs of the State Conservation Commission.

Implementation is a key component of Kansas TMDLs, mimicking the approach taken by the Kansas Water Plan in directing implementation activities of state programs which utilize the State Water Plan Fund. Implementation at this stage is fairly general and resists being prescriptive in detail since each local situation has its unique set of circumstances. Again the initial needs inventory is intended to better define those circumstances. The overall theme of TMDL implementation is greater geographic focus by the pertinent programs resulting in more detailed targeting of resources to key contributing areas and activities.

Since TMDL implementation is a targeting exercise, each TMDL has been assigned an implementation priority. These priorities (High, Medium and Low) are guidance to the Kansas Water Plan as to which areas should be examined first. High priority TMDLs should receive attention and resources during the five years following the approval of the TMDL. Those of medium priority are deferred until the initial five years have passed, then start receiving resources (presuming that practices have already been installed in the High priority areas).

Those of low priority need more data collection to determine the nature of the impairment, in some cases, those data will show the need for corrective action and efforts may begin in five years. In other cases, the impairment was fleeting and should not receive much attention. In some cases, such as chlordane, the impairment has already been dealt with (through banning of the termite pesticide). The only thing to be done in this case is to wait as the stream system purges itself of the accumulated chlordane over time. Analysis of fish tissue indicates this is what is happening in the Kansas River.

Implementation needs time, money and participation. Each TMDL is set to provide a window of 10 years for implementation, the first half being dedicated to awareness, education and incentives to participate and install management practices. The latter half continues practice installation, but also begins to monitor the impaired water. The test for success for the TMDL will be achievement of the endpoint: reduction in the number of exceedances seen in 2004-2008 relative

to those seen in the 1990's. Money is available through targeted application of the State Water Plan Fund. Participation by producers, local government and other resource managers is the key to success. This step is dependent on local leadership, outreach and awareness of available assistance. Agricultural organizations such as the Kansas Farm Bureau, Kansas Livestock Association and Kansas Corn Growers Association have formed a coalition (TMDL Agriculture Working Group) to inform and assist farmers and ranchers on this program and to identify local leaders who can coordinate restoration efforts within the watershed.

Point sources are also impacted by TMDLs. Originally, the TMDL process created the opportunity to allocate pollutant loads among point sources. With the introduction of non-point sources into the picture, the process has become more complex. Originally, there were 16 impairments in the Kansas-Lower Republican Basin thought to be strictly due to point source influences. Chief among them was ammonia, an issue raised with 1998 House Bill 2368. Based on discussions with EPA, KDHE did not develop TMDLs for these point sources, following the argument that these issues were better addressed through the permit process. Subsequent deliberation by EPA now indicates that six of those issues probably need to have some type of TMDL established on them. The state and the EPA are working out the details of establishing those TMDLs at this time.

The next set of basins which are deemed to have TMDLs established and submitted to EPA by June 30 of this year are the Upper and Lower Arkansas River Basins. Additionally, because of its small number of impaired waters, the Cimarron Basin will also be done with this set. In total, 120 TMDLs will be done this year in the three basins, the majority (92) within the Lower Arkansas Basin. Seventy-five of the TMDLs are on streams, 14 dealing with point sources and 45 are on lakes.

Bacteria are less of a pervasive issue in these basins than in the Kansas-Lower Republican Basin. However, chloride issues are present throughout the Lower Arkansas Basin, along the main stem and on Cow Creek, Rattlesnake Creek and the Upper Little Arkansas River. At least four sources are identified for chloride: natural geologic contributions, brines from old oil and gas activities, salt plant discharges and point source contributions from municipalities, particularly those with water softeners in homes. The complications of separating out the relative contribution of these sources will make these TMDLs complicated.

Sulfate rather than chloride is the issue in the Upper Arkansas Basin, with substantial loads coming from Colorado. Typical concentrations of 2300 mg/l are seen at the state line. With the resumption of more favorable flow conditions on the Arkansas River, sulfate issues have appeared from the Colorado state line to Arkansas City. Once again, a large component of the sulfate loading is natural. To some degree, increased consumptive use in Colorado has likely aggravated the high sulfate contribution entering Kansas. The water supply issues surrounding the ongoing litigation with Colorado and any Arkansas River corridor management by DWR needs to be respected as we deliberate a strategy to reduce this impairment in quality.

The Kansas TMDL process uses the State Water Planning Process as the vehicle for public involvement and input. Numerous meetings with the respective Basin Advisory Committees

have been made and will continue this spring. Public meetings in March, 2000 in the three basins have been scheduled for March 8-9. Seven public meetings throughout the three basins and specifically discussing TMDLs have been scheduled for April 24-27. Public Hearings are set for May 30-June 1 in Meade, Garden City and Wichita. As always, the Department stands ready to meet with any interested group wishing to discuss the ramifications of TMDLs.

On the national scene, EPA has issued a proposed set of regulations dealing with TMDLs, the listing of water quality impaired waters, establishing TMDLs and implementing those TMDLs. Comments are due by January 20. Generally, the proposed regulations are consistent with the approach taken by Kansas. Our comments will center on the appropriate role of EPA and the level of specificity necessary in a TMDL in order for it to be approved by EPA. We will continue to push for maximum flexibility on the part of the state to set reasonable and implementable TMDLs as well as emphasizing their planning perspective, rather than regulatory actions.

Water quality issues continue to evolve and TMDLs have to be viewed as increments of water quality planning which will respond to new issues as they arise. On the horizon, water quality issues for the state will involve addressing sediment and nutrients, particularly phosphorus. Resulting changes to criteria and the need to address impairments from these pollutants will require participation by all sectors of rural and urban Kansas.

Additionally, new EPA guidance has been issued relative to ammonia. These new directions conflict with our adopted 1999 standard and the Department anticipates needing to revise the existing standard to accommodate the latest thinking of EPA regarding ammonia toxicity to aquatic life. KDHE staff have already begun the process of revising the ammonia criterion.

Finally, in terms of needs by the process in order to successfully meet the expectations of the court decree and the federal Clean Water Act, two areas must be supported. The long-standing commitment of the state to collect water quality and hydrologic data has paid dividends in the development of these TMDLs. The approach taken by Kansas is now recognized as a national standard to be followed. The approach would not have succeeded without the availability of data collected over the last 15 years. Furthermore, the stream gaging network is absolutely critical in defining the flow conditions under which water quality impairments are seen. The need to continue these data collection efforts will continue to grow as the TMDL process builds momentum.

The second area pertains to TMDL implementation. At some point, with the development of TMDLs across all 12 river basins, there will be a squeeze in the availability of funds necessary to implement and install management practices to restore water quality. This situation will be helped by setting priorities among the state watersheds, but the proliferation of water quality issues expected to arise over the next decade will put added pressure on funding the investments to be made in watershed and water quality management.

Unlike many areas of the nation, Kansas has adopted a pragmatic and responsive approach in carrying out Section 303(d) of the Clean Water Act. Our TMDLs are our strategies for water

quality restoration leading to improved support of the myriad of uses of Kansas waters. This process has borne out the cooperative nature of the state agencies, including the Water Office, Department of Agriculture, Department of Wildlife and Parks and State Conservation Commission. State and federal agencies such as the Kansas Geological Survey, Kansas Biological Survey and U.S. Geological Survey have provided necessary analysis to ensure the approach Kansas has taken is technically sound. Finally, KDHE wishes to express its sincere appreciation of the support provided by the Administration and the Legislature as we take up the challenge of implementing this complex program.

## Introduction

**What  
does  
TMDL  
mean?**

**TMDL is short for:**

- **Total Maximum Daily Load.**
- **TMDL is the maximum amount of pollution a water could receive without violating water quality standards or impairing the designated uses of that water.**



## ***Background***

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***What are the requirements of the TMDL process?***

**Under Section 303(d) of the Clean Water Act, States are required to:**

- Identify and list waterbodies where State water quality standards are not being met following the technology-based point source pollution controls, effluent limitations and best management practices.**
- Establish TMDLs for these waters.**
- EPA must review and approve State lists and TMDLs. If State actions are not adequate, EPA must prepare lists and TMDLs.**

# **Kansas TMDL Court Decree**



**Establish TMDLs in the 12 river basins between 1999 - 2006.**



**Submit TMDLs for the Kansas - Lower Republican Basin by June 30, 1999.**



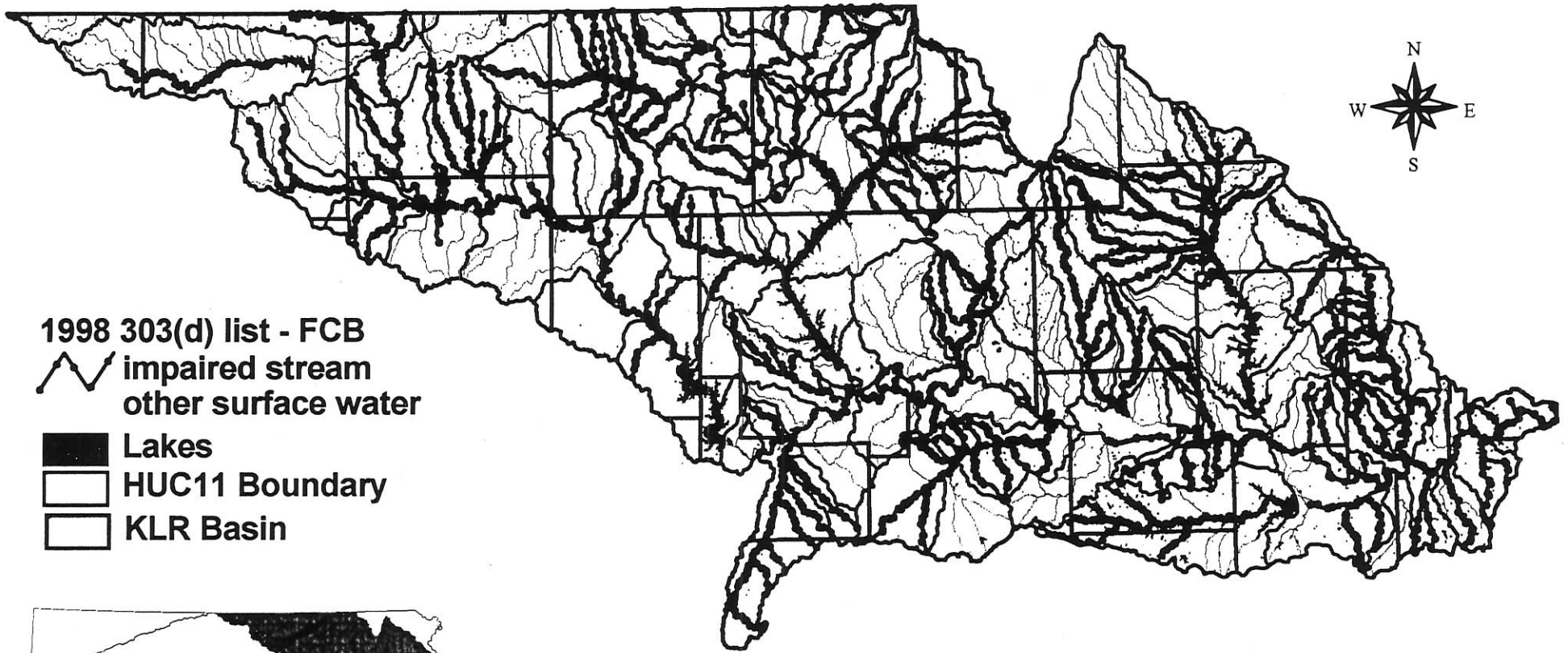
**Sequence of submittals will be 1 basin - 2 basins - 1 basin... over the 8 years.**



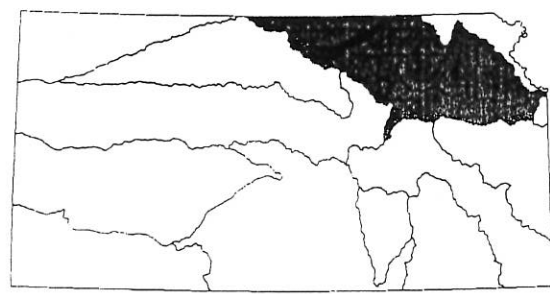
**Each submittal due at EPA by June 30 of that year.**

# Kansas - Lower Republican River Basin Water Quality Limited Streams - 1998 303(d) List Impairment Due to Fecal Coliform Bacteria

6-9



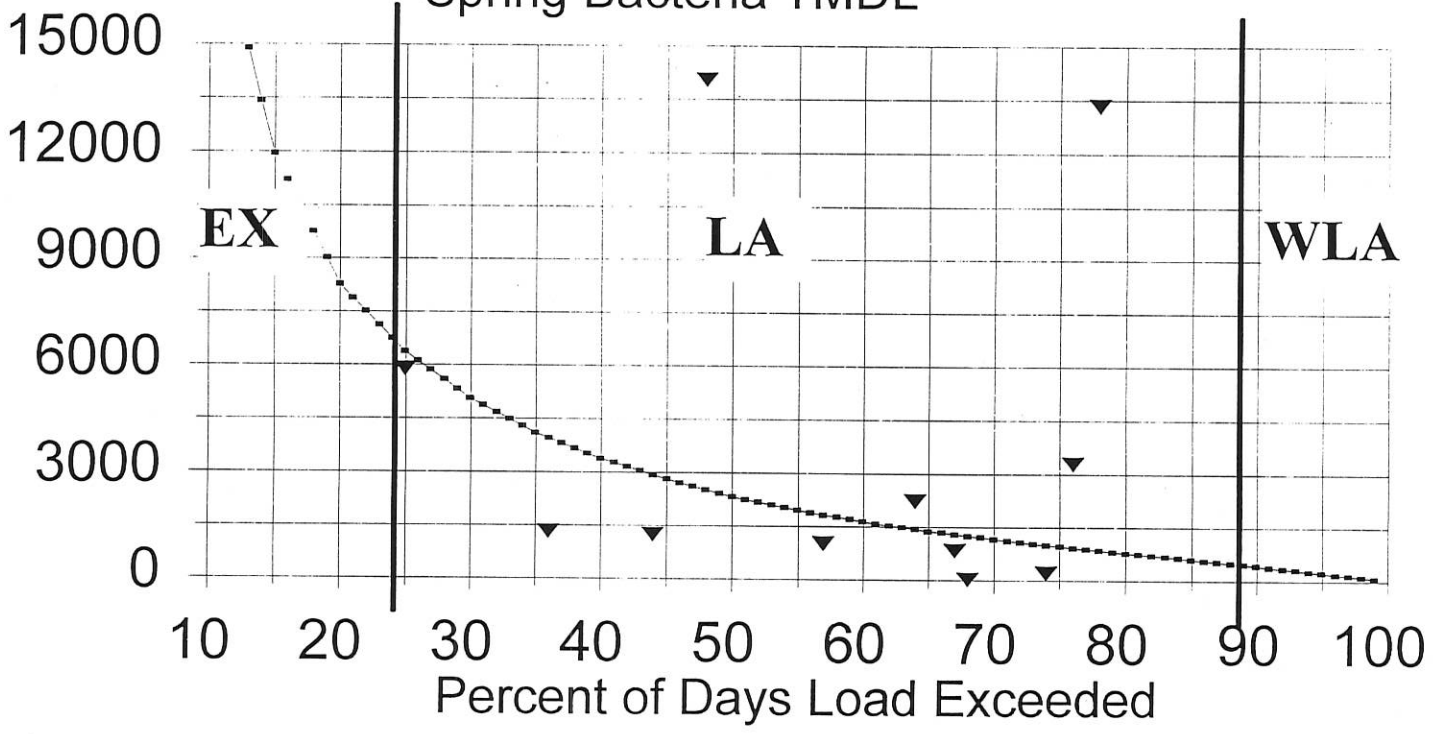
- 1998 303(d) list - FCB
- impaired stream
- other surface water
- Lakes
- HUC11 Boundary
- KLR Basin



APR-JUN FCB Load in Billion counts/day

# Delaware River nr Muscotah

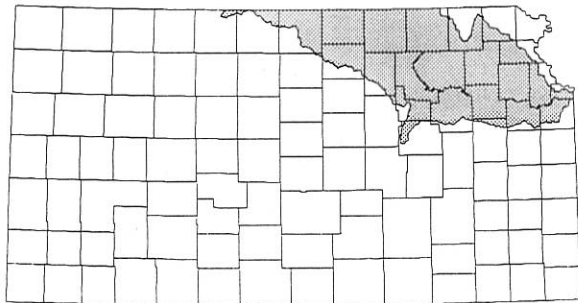
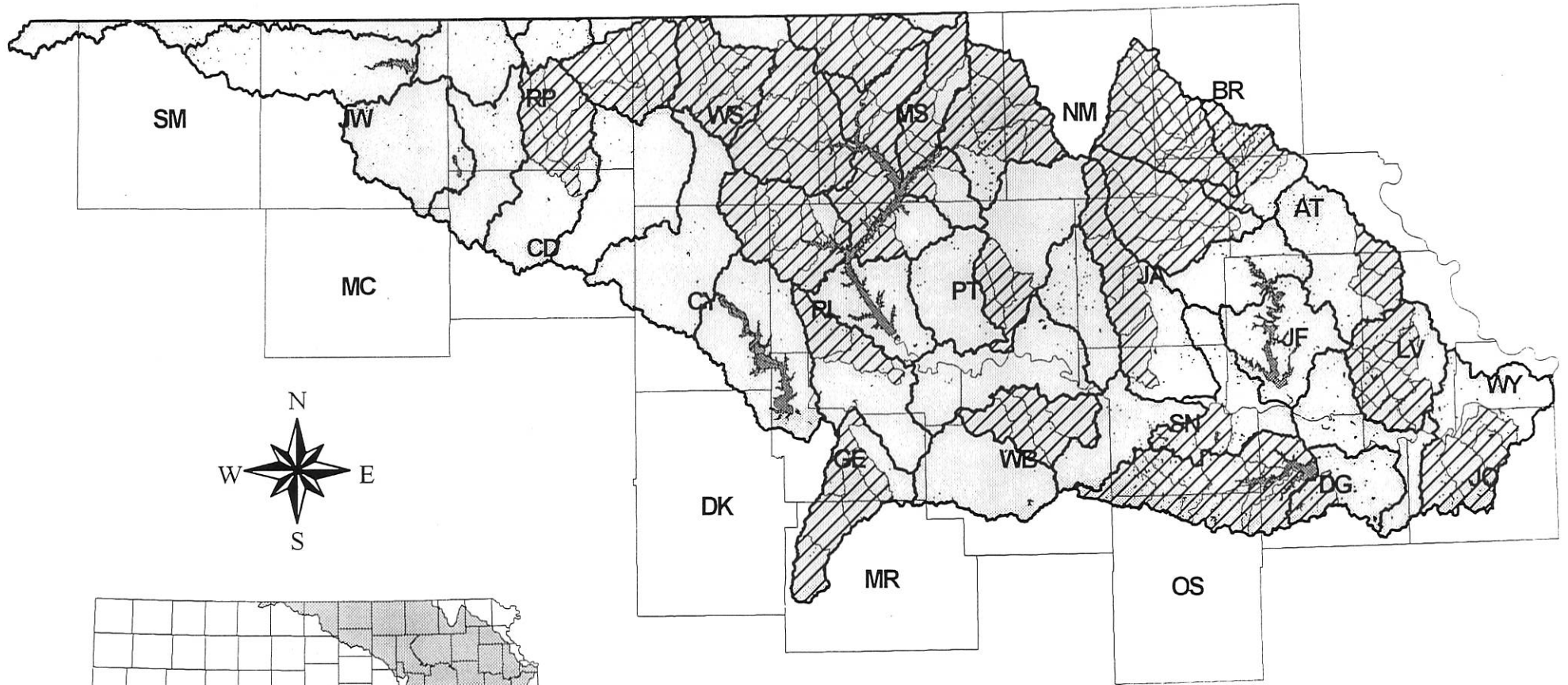
## Spring Bacteria TMDL


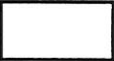


SEGMENT NUMBERS	STREAM NAME	TRIBUTARY NUMBERS	IMPAIRMENT	SEASON	SOURCE	IMPLEMENTATION PRIORITY	MONITORING STATION NUMBER	IMPAIRED DESIGNATED USE
31	UPPER WAKARUSA RIVER	.	NH3	SF, W	P	High Permit	Modeled	ALS
30, 31, 63, 64	UPPER WAKARUSA RIVER	32, 65	Nutrients/BOD	SF	NP	High	109	ALS
30, 31, 63, 64	UPPER WAKARUSA RIVER	32, 65	Sediment/ Biological Impact	SF	NP	High	109	ALS
24	LOWER WAKARUSA RIVER	71, 80	FCB	S, SF	NP	Medium	236, 500	NCR
36	WASHINGTON CREEK	.	DO	SF	NP	High	678	ALS
5, 6, 7, 8, 9	STRANGER CREEK	10, 12, 13, 14, 15, 16, 17, 41, 44, 45, 46, 47, 48, 49, 51, 52, 54, 58	FCB	S, F, W	NP, P	High	501, 602	NCR
10, 12	CROOKED CREEK	.	Nutrients/BOD	SF	NP	Low	.	ALS
15, 17	NINEMILE CREEK	58	Zinc	SF	NP	Low	680	I
54	HOG CREEK	.	NH <sub>3</sub>	SF, W	P	High Permit	Modeled	ALS
37	KILL CREEK	75	FCB	S, SF	NP	High	253	NCR
37	KILL CREEK	.	CHLORD	S, SF, W	NP	Low	253	FP
38	CEDAR CREEK	.	FCB	S, SF	NP	High	252	NCR
39	MILL CREEK	78	FCB	S, SF	NP, P	High	251	NCR
39	MILL CREEK	78	Nutrients/BOD	SF	NP	Medium	251	ALS
39	MILL CREEK	78	Sediment/ Biological Impact	SF	NP	Medium	251	ALS
39	MILL CREEK	78	CL	W	NP	Low	251	DW, ALS
1, 2, 3, 4, 18	LOWER KANSAS RIVER	55, 61, 62	FCB	S, SF, W	NP, P	Medium	127, 203, 254, 250, 255	NCR

# Kansas/Lower Republican Basin TMDL High Priority HUC14 Reference Map

1-12

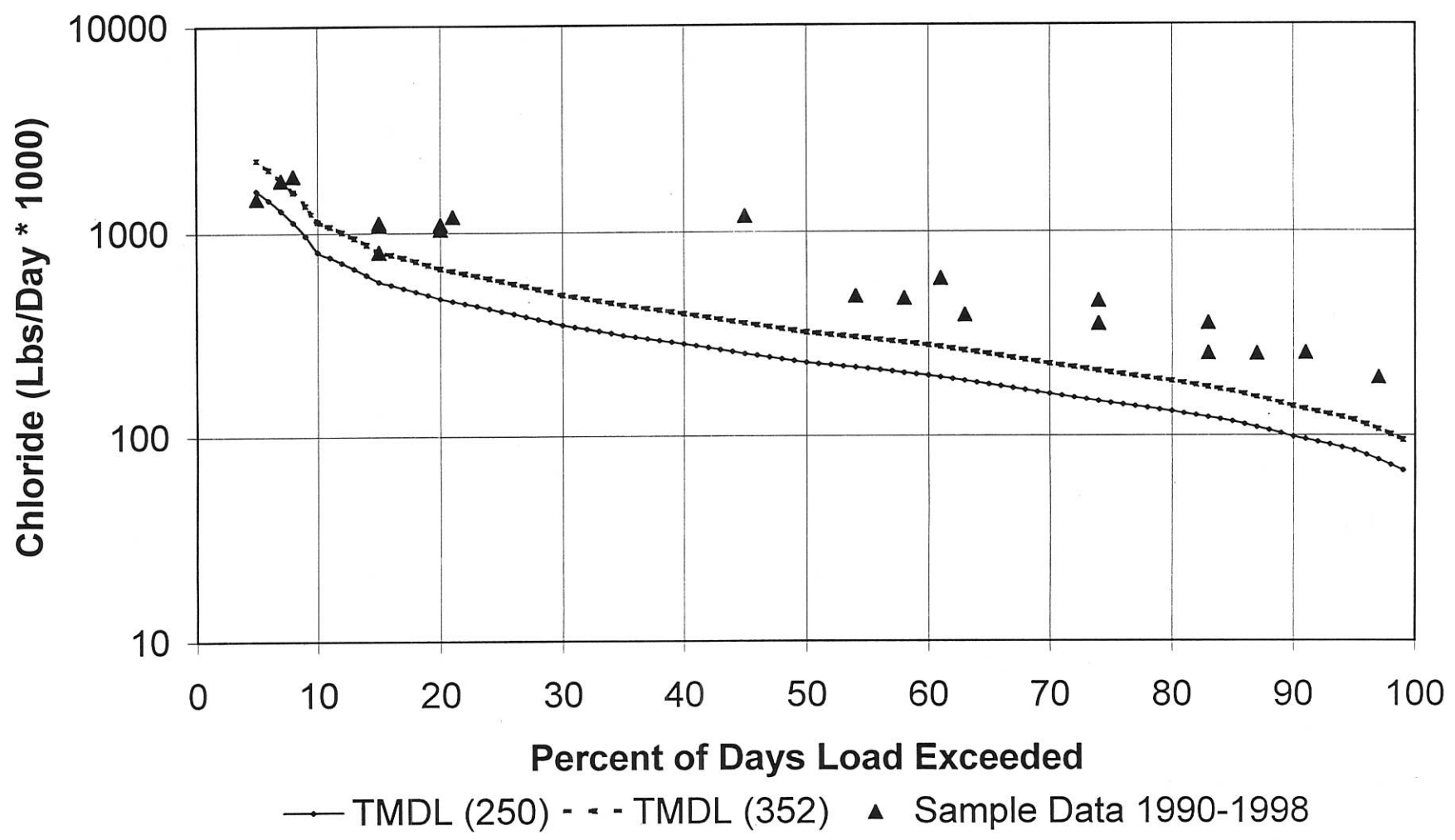


 High Priority HUC14  
 HUC11 Boundary

60 0 60 120 Miles

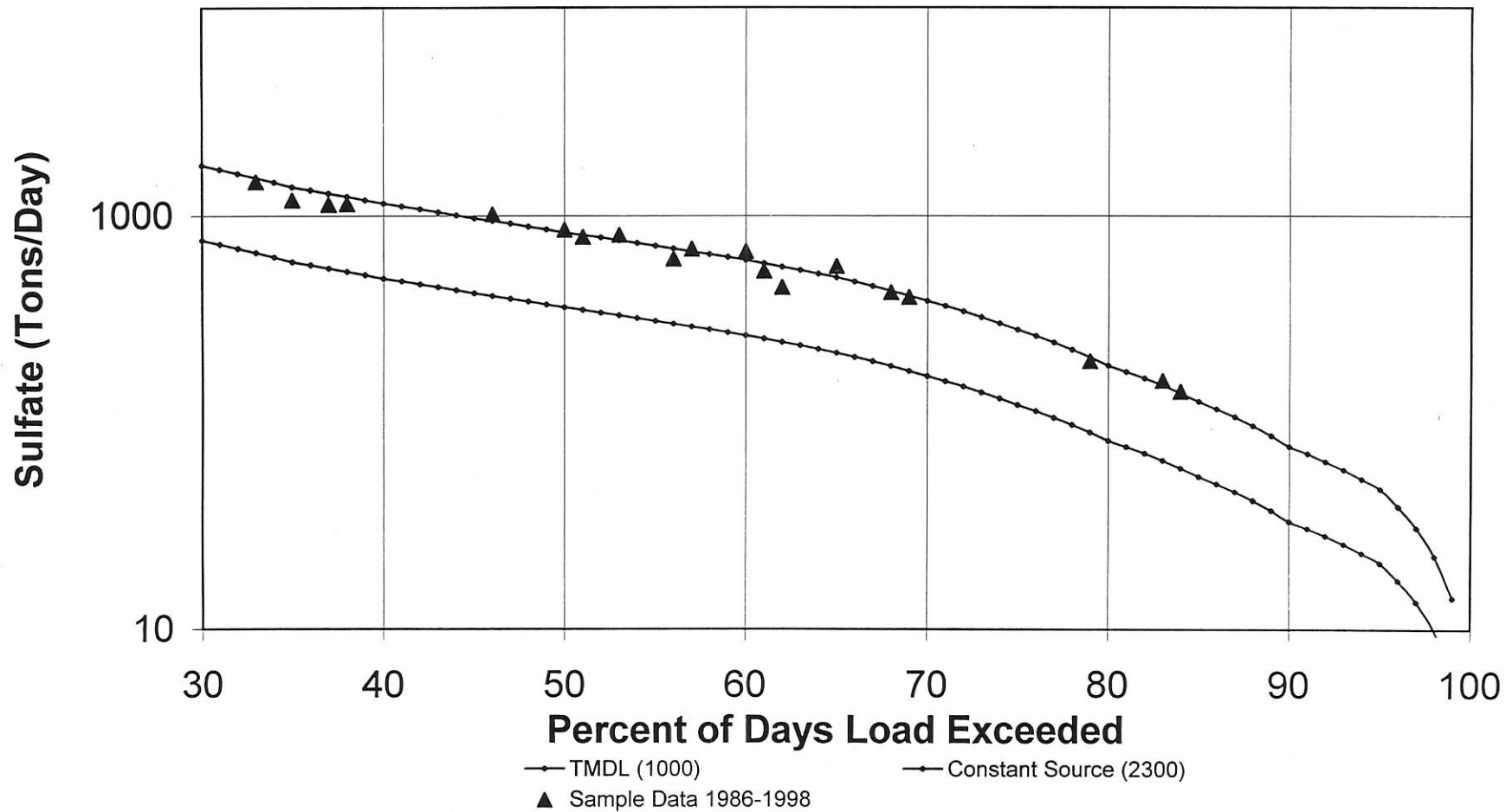


# Ark R. nr Hutchinson Winter Chloride TMDL





# Arkansas River nr Coolidge Spring Sulfate TMDL



# Public Participation

The following meetings about TMDLs will be held:

## Cimarron River Basin

**Wednesday, January 12, 9:30 a.m.:** Cimarron Basin Advisory Committee Meeting, Montezuma.

**Wednesday, March 8, 1:00 p.m.:** Public Meeting, Meade

**Tuesday, April 25, 1:00 p.m.:** Public Meeting, Meade

**Tuesday, May 30, 7:00 p.m.:** Public Hearing, Meade

## Lower Arkansas River Basin

**Thursday, January 13, 1:30 p.m.:** Lower Arkansas Basin Advisory Committee Meeting, Wellington.

**Wednesday, February 9, 7:00 p.m.:** Lower Arkansas Agricultural Meeting, Sedgwick County Extension

Education Center, 7001 West 21st St., Wichita.

**Thursday, March 9, 6:00 p.m.:** Public Meeting, Wichita

**Wednesday, April 26, 1:00 p.m.:** Public Meeting, Hutchinson

**Wednesday, April 26, 7:00 p.m.:** Public Meeting, Wichita

**Thursday, April 27, 1:00 p.m.:** Public Meeting, Arkansas City

**Thursday, April 27, 7:00 p.m.:** Public Meeting, Medicine Lodge

**Thursday, June 1, 7:00 p.m.:** Public Hearing, Wichita

## Upper Arkansas River Basin

**Monday, January 24, 1:00 p.m.:** Upper Arkansas Basin Advisory Committee Meeting, Jetmore.  
(Snow date: January 26)

**Wednesday, March 8, 7:00 p.m.:** Public Meeting, Garden City

**Monday, April 24, 7:00 p.m.:** Public Meeting, Garden City

**Tuesday, April 25, 7:00 p.m.:** Public Meeting, Great Bend

**Wednesday, May 31, 7:00 p.m.:** Public Hearing, Garden City

**For additional information about TMDLs, contact Tom Stiles (785) 296-6170 or e-mail [tstiles@kdhe.state.ks.us](mailto:tstiles@kdhe.state.ks.us).**

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# Lower Arkansas River Basin KDHE Water Quality Monitoring Sites

1-17

