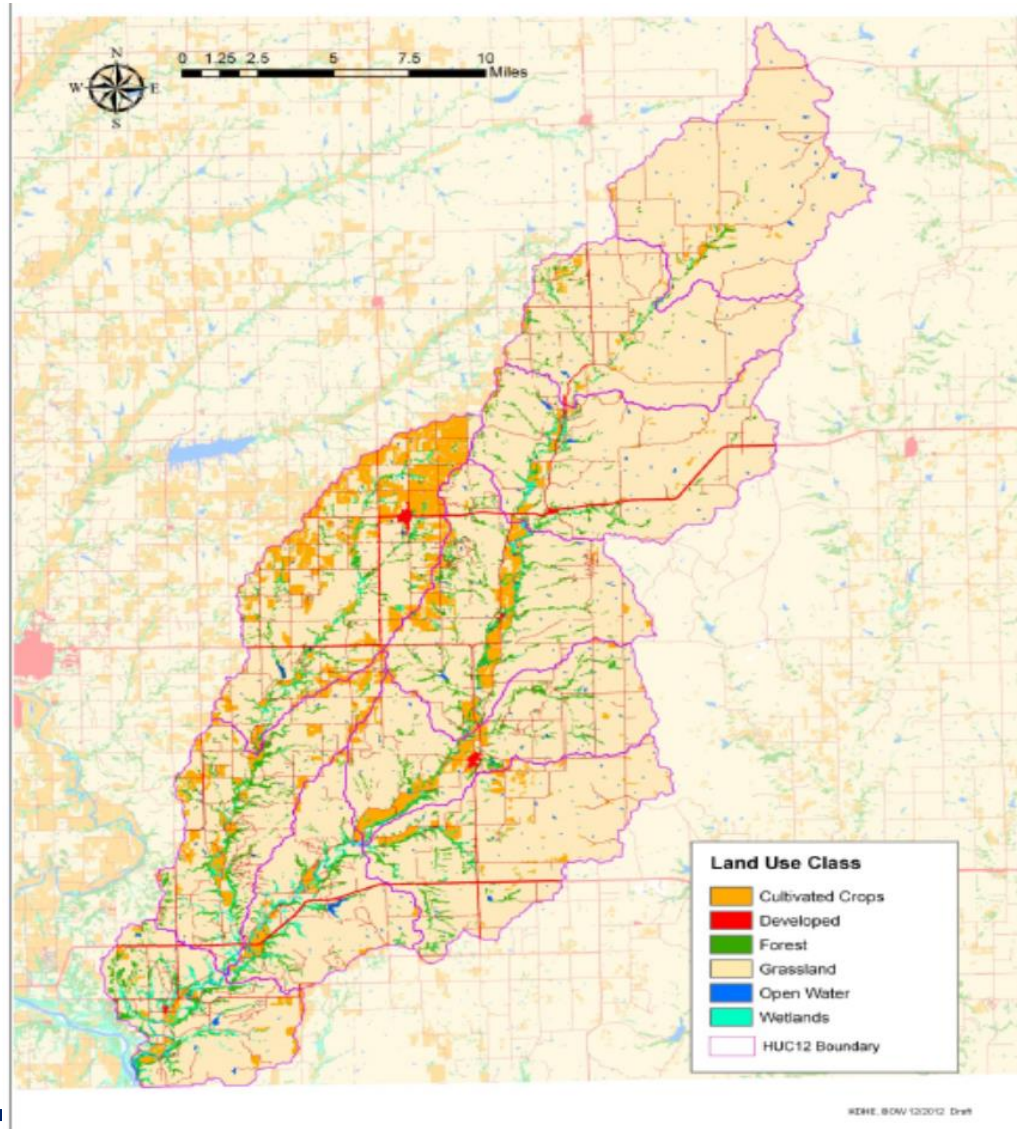


Kansas *Protection* **TMDLs**



Our Mission: To protect and improve the health and environment of all Kansans.

Grouse Creek Watershed is dominated by grass

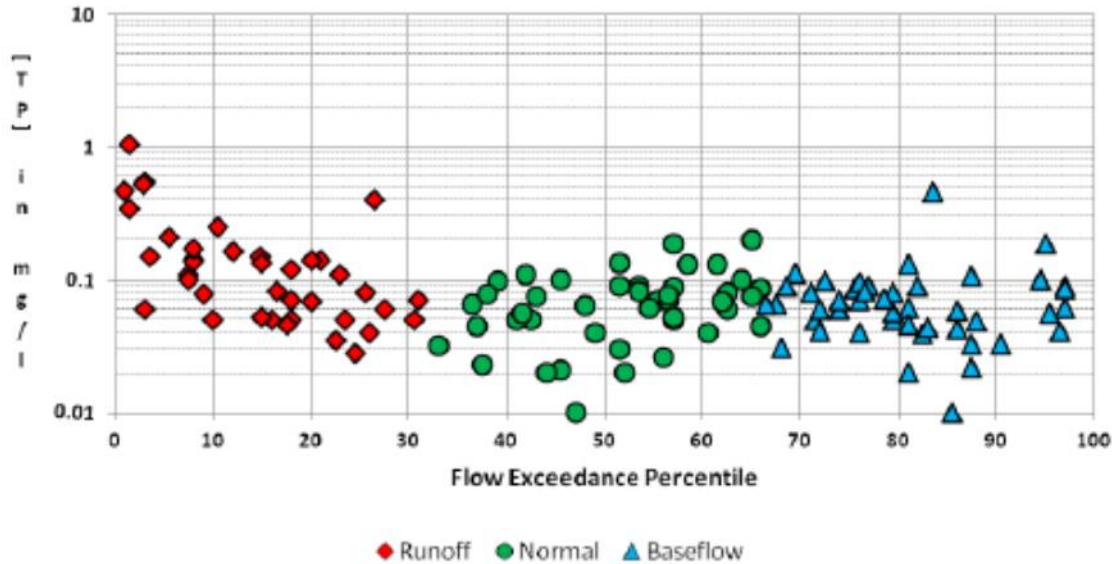


Our Mission: To protect and improve the health and environment of all Kansans.

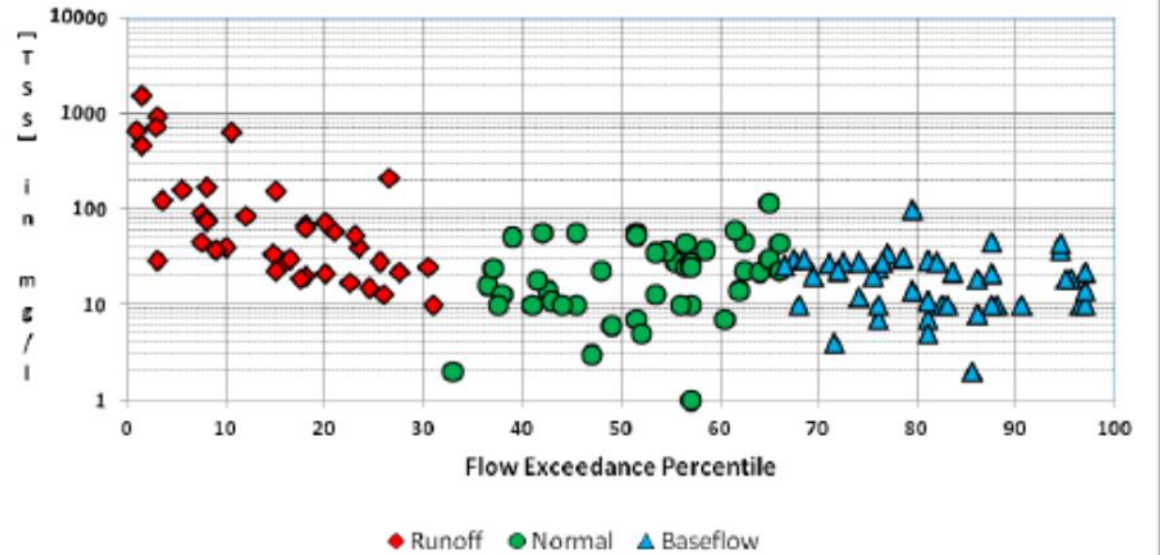


Generally High Water Quality except at Runoff

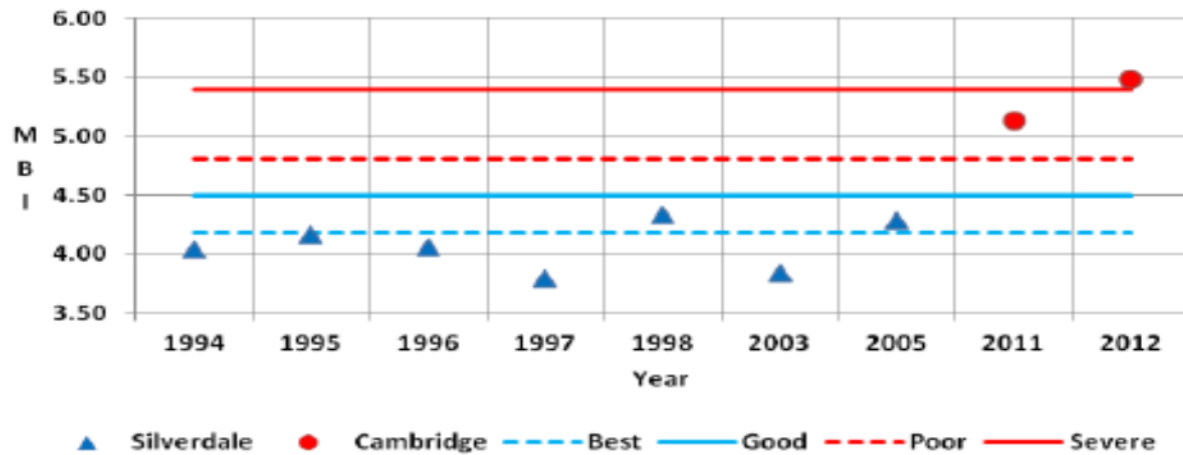
TP Concentrations on Lower Grouse Creek at Various Flows



TSS Concentrations on Lower Grouse Creek at Various Flows



Macroinvertebrate Biotic Index for Grouse Creek



Grouse Creek – Implementation of a Protection TMDL

- 1. Two small towns have 2#/d WLAs for their lagoon systems = no impact to streams
- 2. Water quality is generally good except during runoff conditions
- 3. Maintain WLA and LA's at normal or baseflow conditions
- 4. Implement on MOS; Target practices for TSS or TP abatement under runoff conditions
- 5. Implementation will further enhance pollutant abatement and maintenance of good water quality under normal conditions
- 6. This was the locals' idea; top down initiatives from the State have NOT worked
- This TMDL was not submitted to EPA, per 40 CFR 130.7(e)

Kansas Protection TMDLs - Incidental

- KDHE develops watershed TMDLs
- All segments within the watershed are covered under the TMDL, impaired and unimpaired

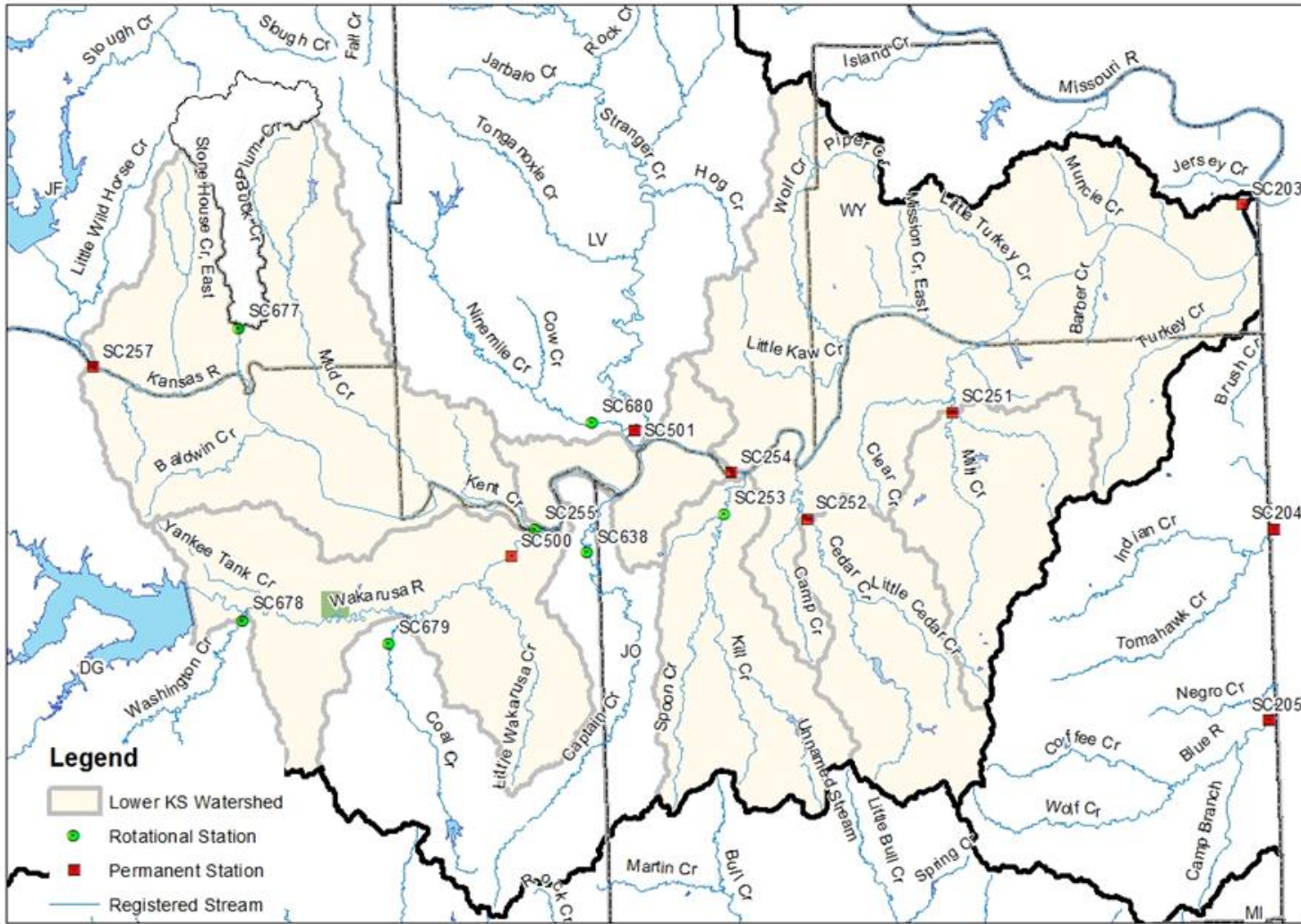
Non-Water Quality Limited Segments Covered Under this TMDL:

<u>Station</u>	<u>Main Stem</u>	<u>Tributary</u>
SC500	Wakarusa R (24, 25)	Yankee Tank Cr (70) Little Wakarusa Cr (71)
SC253	Kill Cr (37)	Hanson Cr (437) Spoon Cr (75) Unnamed Stream (452)

303(d) Listings:	SC203: 2008, 2010, 2012, 2014 & 2016
	SC254: 2008, 2010, 2012, 2014 & 2016
	SC255: 2010, 2012, 2014 & 2016
	SC251: 2008, 2010, 2012, 2014 & 2016
	SC252: 2008, 2010, 2012, 2014 & 2016
	SC500: Not listed
	SC253: Not listed

Our Mission: To Protect and Improve the Health and Environment of all Kansans





Our Mission: To protect and improve the health and environment of all Kansans.



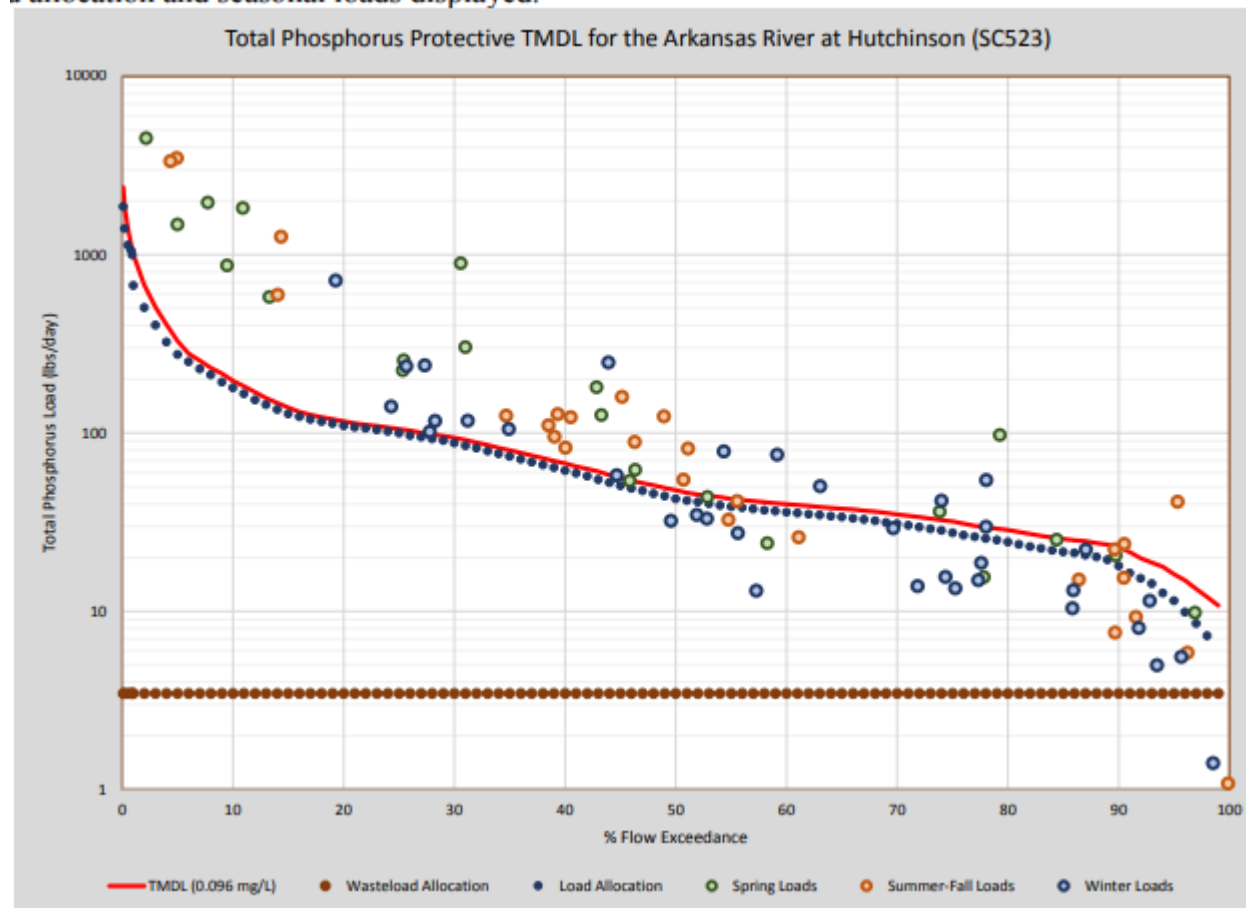
Kansas Protection TMDLs

Table 24. TMDL relative to percent flow exceedances for KDHE monitoring station SC500 (unimpaired) on the Wakarusa River.

<i>Percent Flow</i>	<i>Flow (cfs)</i>	<i>Load Capacity (lbs/day)</i>	<i>WLA (lbs/day)</i>	<i>LA (lbs/day)</i>	<i>MS4 (lbs/day)</i>	<i>MS4 Reserve (lbs/day)</i>
Phase I						
90	23.65	25.54	25.54	0.00	0.00	0.00
75	29.55	31.91	31.91	0.00	0.00	0.00
50	44.65	48.22	44.45	0.00	2.15	1.62
25	85.63	92.48	67.05	16.47	5.12	3.84
10	174.07	187.99	67.05	100.77	11.53	8.64
Phase II						
90	23.65	22.98	22.98	0.00	0.00	0.00
75	29.55	28.72	28.72	0.00	0.00	0.00
50	44.65	43.40	34.05	6.02	1.91	1.43
25	85.63	83.23	34.05	41.35	4.48	3.36
10	174.07	169.19	34.05	117.60	10.02	7.52

Protection - Endpoints

- Approaches Vary
 - Same endpoints as impaired stations/segments
 - New dischargers anticipated/
Reserve WLA
 - Separate endpoints established at current conditions
 - i.e. TP set at current median concentration
 - Nonpoint implementation focus on wet weather



Utility of Protection TMDLs

- Establishes Protection for unimpaired stations influencing WQ within the TMDL watershed
- Establishes TMDLs in watersheds with anticipated growth/ new dischargers
- Establishes TMDL and Protection for segments on the cusp of being listed
- Incidentally established telling our story with larger TMDL watersheds
- Counts as a WQ Measure - fwiw



www.kdheks.gov

Our Mission: To protect and improve the health and environment of all Kansans.