

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed. The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (USDA, 1999) and "Keys to Soil Taxonomy" (USDA, 1998) and in the "Soil Survey Manual" (USDA, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1996).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units in the Hydric Soil Interpretations table meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1996).

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

These map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 2 of 10

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
045OE: OSKA SILTY CLAY LOAM, 3 TO 6 PERCENT SLOPES	OSKA	No	hillslope	---	---	---	---
	GYMER	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
045SV: SIBLEYVILLE COMPLEX, 7 TO 15 PERCENT SLOPES	SIBLEYVILLE	No	hillslope	---	---	---	---
	Unnamed series 1 - shallow	No	hillslope	---	---	---	---
	Unnamed series 2 - deep	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
	GYMER	No	hillslope	---	---	---	---
045SX: VINLAND-ROCK OUTCROP COMPLEX, 20 TO 40 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
	ROCK OUTCROP	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
045VM: VINLAND-MARTIN COMPLEX, 7 TO 15 PERCENT SLOPES	OSKA	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	Unnamed soil	No	hillslope	---	---	---	---
	SIBLEYVILLE	No	hillslope	---	---	---	---
045WS: WOODSON SILT LOAM, 1 TO 3 PERCENT SLOPES	SOGN	No	hillslope	---	---	---	---
	WOODSON	No	divide	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
	KENNEBEC	No	flood plain	---	---	---	---
085KB: KENNEBEC SOILS, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	BURCHARD	No	hillslope	---	---	---	---
	CHASE	No	flood-plain step	---	---	---	---
	KENNEBEC	No	flood plain	---	---	---	---
	SHELBY	No	hillslope	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO
085MC: MARTIN-VINLAND SILTY CLAY LOAMS, 5 TO 10 PERCENT SLOPES	ZOOK	Yes	flood plain	2B3	YES	NO	NO
	MARTIN	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
	CLIME	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
085ZA: ZOOK SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	ROCK OUTCROP	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	ZOOK	Yes	flood plain	2B3	YES	NO	NO
	CHASE	No	flood-plain step	---	---	---	---
	KENNEBEC	No	flood plain	---	---	---	---
087EC: EUDORA-BISMARCKGROVE FINE SANDY LOAMS, 0 TO 3 PERCENT SLOPES, OVERWASH, OCCASIONALLY FLOODED	OLMITZ	No	fan terrace	---	---	---	---
	READING	No	flood plain	---	---	---	---
	EUDORA	No	flood-plain step	---	---	---	---
	BISMARCKGROVE	No	flood-plain step	---	---	---	---
	BOURBONAIS	No	flood-plain step	---	---	---	---
	KIMO	No	meander scar	---	---	---	---
	STONEHOUSE	No	flood-plain step	---	---	---	---

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 3 of 10

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
087HC: HAIG SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES	HAIG	Yes	hillslope	2B3	YES	NO	NO
	GRUNDY	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
087KV: KONAWA COMPLEX, 4 TO 10 PERCENT SLOPES	KONAWA	No	hillslope	---	---	---	---
	GYMER	No	hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
087RS: ROSSVILLE SILT LOAM, 0 TO 2 PERCENT SLOPES, VERY RARELY FLOODED	ROSSVILLE	No	terrace	---	---	---	---
	READING MUSCOTAH	No No	terrace terrace	--- ---	--- ---	--- ---	--- ---
087SO: SHELBY-PAWNEE COMPLEX, 8 TO 12 PERCENT SLOPES	SHELBY	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
	OSKA	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
087WC: WABASH SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES, VERY RARELY FLOODED	WABASH	Yes	terrace	2B3	YES	NO	NO
	KENNEBEC	No	flood plain	---	---	---	---
139ED: ELMONT LOAM, 3 TO 7 PERCENT SLOPES	READING	No	terrace	---	---	---	---
	ELMONT	No	hillslope	---	---	---	---
	ERAM KENOMA	No No	hillslope hillslope	--- ---	--- ---	--- ---	--- ---
149KM: KIMO SILTY CLAY, RARELY FLOODED	KIMO	No	flood-plain step	---	---	---	---
	EUDORA	No	flood plain	---	---	---	---
	HAYNIE	No	flood-plain step	---	---	---	---
	SARPY	No	flood plain	---	---	---	---
	UNNAMED HYDRIC SOIL	Yes	ephemeral oxbow lake, flood plain	3,2B3	YES	NO	YES
197IB: IRWIN SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES	IRWIN	No	hillslope	---	---	---	---
	DWIGHT	No	hillslope	---	---	---	---
	LADYSMITH	No	divide	---	---	---	---
197IV: IVAN SILT LOAM, OCCASIONALLY FLOODED	IVAN	No	flood plain	---	---	---	---
	CHASE	No	stream terrace	---	---	---	---
	READING	No	stream terrace	---	---	---	---
	UNNAMED HYDRIC SOIL (saturation)	Yes	flood plain, marsh	2B3	YES	NO	NO
197IX: IVAN SILTY CLAY LOAM, CHANNELED	IVAN	No	flood plain	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	READING	No	stream terrace	---	---	---	---
	UNNAMED HYDRIC SOIL	Yes	flood plain, marsh	2B3	YES	NO	NO
197MR: MORRILL LOAM, 4 TO 7 PERCENT SLOPES	MORRILL	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	WYMORE	No	hillslope	---	---	---	---
197MS: MORRILL LOAM, 5 TO 12 PERCENT SLOPES, VERY STONY	MORRILL	No	hillslope	---	---	---	---
	CLIME PAWNEE	No No	hillslope hillslope	--- ---	--- ---	--- ---	--- ---

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 4 of 10

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
197SA: SARPY LOAMY SAND, FREQUENTLY FLOODED	SARPY	Yes	flood plain	4	NO	YES	NO
	EUDORA	No	flood plain	---	---	---	---
	HAYNIE	No	flood plain	---	---	---	---
	PAXICO	Yes	flood plain	4	NO	YES	NO
197WF: WAMEGO SILTY CLAY LOAM, 7 TO 15 PERCENT SLOPES	WAMEGO	No	hillslope	---	---	---	---
	CLIME	No	hillslope	---	---	---	---
	ELMONT	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	ROCK OUTCROP	---	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
197WY: WYMORE SILTY CLAY LOAM, 2 TO 6 PERCENT SLOPES	WYMORE	No	hillslope	---	---	---	---
2797: MORRILL GRAVELLY LOAM, 4 TO 20 PERCENT SLOPES, STONY	MORRILL	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
AED: ARENTS, EARTHEN DAM	ARENTS, EARTHEN DAM	Unranked	---	---	---	---	---
An: KENNEBEC SILT LOAM, CHANNELED	KENNEBEC	No	flood plain	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO
Bk: MARTIN-KENNEBEC COMPLEX, 0 TO 12 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
	KENNEBEC	No	flood plain	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO
BOA: BORROW AREAS	BORROW AREAS	Unranked	---	---	---	---	---
Br: FLUVENTS, CHANNELED, FREQUENTLY FLOODED	FLUVENTS	Unranked	flood plain	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO
Dm: DWIGHT-MARTIN SILTY CLAY LOAMS, 1 TO 3 PERCENT SLOPES	DWIGHT	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	LABETTE	No	hillslope	---	---	---	---
	LADYSMITH	No	paleoterrace	---	---	---	---
Ds: DWIGHT SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES	DWIGHT	No	hillslope	---	---	---	---
	LADYSMITH	No	paleoterrace	---	---	---	---
Dw: DWIGHT SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES	DWIGHT	No	hillslope	---	---	---	---
	LABETTE	No	hillslope	---	---	---	---
	LADYSMITH	No	paleoterrace	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
El: ELMONT SILT LOAM, 3 TO 7 PERCENT SLOPES	ELMONT	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SIBLEYVILLE	Unranked	hillslope	---	---	---	---
Em: ELMONT SILT LOAM, 3 TO 7 PERCENT SLOPES, ERODED	ELMONT	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SIBLEYVILLE	Unranked	hillslope	---	---	---	---
En: ELMONT SILT LOAM, 7 TO 12 PERCENT SLOPES	ELMONT	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SIBLEYVILLE	No	hillslope	---	---	---	---

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 5 of 10

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Eo: ELMONT SILT LOAM, 7 TO 12 PERCENT SLOPES, ERODED	ELMONT	No	hillslope	---	---	---	---
	MARTIN SIBLEYVILLE	No No	hillslope hillslope	---	---	---	---
Ep: ELMONT-DWIGHT SILTY CLAY LOAMS, 3 TO 7 PERCENT SLOPES, ERODED	ELMONT	No	hillslope	---	---	---	---
	DWIGHT	No	hillslope	---	---	---	---
Es: EUDORA FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	EUDORA	No	fan terrace	---	---	---	---
	KENNEBEC	No	flood plain	---	---	---	---
Et: EUDORA SILT LOAM, RARELY FLOODED	EUDORA	No	flood plain	---	---	---	---
	KIMO	No	flood plain	---	---	---	---
	SARPY	No	flood plain	---	---	---	---
	UNNAMED HYDRIC SOIL	Yes	depression, flood plain	2B3	YES	NO	NO
Eu: EUDORA SOILS, 6 TO 12 PERCENT SLOPES, ERODED	EUDORA	No	flood plain	---	---	---	---
	KIMO	No	flood plain	---	---	---	---
	MUIR READING	No No	terrace terrace	---	---	---	---
Ev: EUDORA-KIMO COMPLEX, RARELY FLOODED	EUDORA	No	flood plain	---	---	---	---
	KIMO	No	flood plain	---	---	---	---
	SARPY WABASH	No Yes	flood plain flood plain	---	---	---	---
Ew: EUDORA-KIMO COMPLEX, OVERWASH, RARELY FLOODED	EUDORA	No	flood plain	2B3	YES	NO	NO
	EUDORA	No	flood plain	---	---	---	---
	KIMO SARPY	No No	flood plain flood plain	---	---	---	---
Gm: GYMER SILT LOAM, 3 TO 8 PERCENT SLOPES	GYMER	No	terrace	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
	SHARPSBURG	No	hillslope	---	---	---	---
	THURMAN	No	hillslope	---	---	---	---
Gy: GYMER SILT LOAM, 3 TO 8 PERCENT SLOPES, ERODED	GYMER	No	hillslope	---	---	---	---
INL: AQUOLLS	AQUOLLS	Yes	flood plain	3, 2B3	YES	NO	YES
Kb: KENNEBEC SILT LOAM, OCCASIONALLY FLOODED	KENNEBEC	No	flood plain	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO
	UNNAMED HYDRIC SOIL	Yes	flood plain, marsh	2B3	YES	NO	NO
Kc: CHASE SILT LOAM, OCCASIONALLY FLOODED	CHASE	No	terrace	---	---	---	---
	KENNEBEC	No	flood plain	---	---	---	---
	READING	No	terrace	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO
KF: KENNEBEC SILT LOAM, 0 TO 2 PERCENT SLOPES, CHANNELED, FREQUENTLY FLOODED	KENNEBEC	No	flood plain	---	---	---	---
Km: KIMO SILTY CLAY LOAM, RARELY FLOODED	COLO	Yes	flood plain	3, 2B3	YES	NO	YES
	KIMO	No	flood plain	---	---	---	---
	EUDORA WABASH	No Yes	flood plain flood plain	---	---	---	---
Ko: KIMO SOILS, DEPRESSIONAL, OCCASIONALLY FLOODED	WABASH	Yes	flood plain	2B3	YES	NO	NO
	KIMO	No	flood plain	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 6 of 10

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				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Ks: KIPSON-SOGN COMPLEX, 3 TO 25 PERCENT SLOPES	KIPSON	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	ELMONT	No	hillslope	---	---	---	---
	LABETTE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
Ku: KONAWA FINE SANDY LOAM, 4 TO 8 PERCENT SLOPES	KONAWA	No	hillslope	---	---	---	---
	GYMER	---	hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
Kw: KONAWA FINE SANDY LOAM, 8 TO 12 PERCENT SLOPES	KONAWA	No	hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
	SHELBY	No	hillslope	---	---	---	---
La: LABETTE SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES	LABETTE	No	hillslope	---	---	---	---
	DWIGHT	No	hillslope	---	---	---	---
	LADYSMITH	No	paleoterrace	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
Lb: LABETTE SILTY CLAY LOAM, 3 TO 6 PERCENT SLOPES	LABETTE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
Lc: LABETTE SILTY CLAY LOAM, 3 TO 6 PERCENT SLOPES, ERODED	LABETTE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
Ld: LADYSMITH SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES	LADYSMITH	No	paleoterrace	---	---	---	---
	LABETTE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
LIQ: LIMESTONE QUARRIES AND GRAVEL PITS	LIMESTONE QUARRY	Unranked	---	---	---	---	---
Lm: LADYSMITH SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES	LADYSMITH	No	paleoterrace	---	---	---	---
	LABETTE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
LS: LADYSMITH SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES, ERODED	LADYSMITH	No	paleoterrace	---	---	---	---
Ma: MADE LAND	MADE LAND	Unranked	---	---	---	---	---
Mb: MARTIN SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
	LABETTE	No	hillslope	---	---	---	---
	LADYSMITH	No	paleoterrace	---	---	---	---
Mc: MARTIN SILTY CLAY LOAM, 3 TO 7 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
	GYMER	No	hillslope	---	---	---	---
	OSKA	No	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
	SIBLEYVILLE	No	hillslope	---	---	---	---
Me: MARTIN SILTY CLAY LOAM, 3 TO 7 PERCENT SLOPES, ERODED	MARTIN	No	hillslope	---	---	---	---
	ELMONT	No	hillslope	---	---	---	---

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 7 of 10

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Mf: MARTIN SILTY CLAY LOAM, 7 TO 11 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
Mh: MARTIN SILTY CLAY LOAM, 7 TO 11 PERCENT SLOPES, ERODED	ELMONT	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
Mk: MARTIN SOILS, 3 TO 7 PERCENT SLOPES, SEVERELY ERODED	MARTIN	No	hillslope	---	---	---	---
	ELMONT	No	hillslope	---	---	---	---
	MARTIN VINLAND	No No	hillslope hillslope	---	---	---	---
Mm: MORRILL CLAY LOAM, 3 TO 8 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
	MARTIN VINLAND	No No	hillslope hillslope	---	---	---	---
Mn: MORRILL CLAY LOAM, 3 TO 8 PERCENT SLOPES, ERODED	MORRILL	No	hillslope	---	---	---	---
	GYMER	No	hillslope	---	---	---	---
	PAWNEE SHELBY	No No	hillslope hillslope	---	---	---	---
Mo: MORRILL CLAY LOAM, 8 TO 12 PERCENT SLOPES	MORRILL	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	PAWNEE SHELBY	No No	hillslope hillslope	---	---	---	---
MOO: MORRILL LOAM, 3 TO 7 PERCENT SLOPES	MORRILL	No	hillslope	---	---	---	---
	ORTELLO PAWNEE	No No	hillslope hillslope	---	---	---	---
Mp: MORRILL-GRAVELLY LAND COMPLEX, 4 TO 12 PERCENT SLOPES	MORRILL	No	hillslope	---	---	---	---
	GRAVELLY LAND LIMESTONE	No ---	hillslope hillslope	---	---	---	---
	OUTCROPS PAWNEE SHELBY	No No	hillslope hillslope	---	---	---	---
Mr: MUIR SILT LOAM, RARELY FLOODED	MUIR	No	terrace	---	---	---	---
	EUDORA READING WABASH	No No Yes	flood plain terrace flood plain	---	---	---	---
MRR: MORRILL CLAY LOAM, 3 TO 7 PERCENT SLOPES	MORRILL	No	hillslope	---	---	---	---
	OSKA PAWNEE	No No	hillslope hillslope	---	---	---	---
Pa: PAWNEE CLAY LOAM, 0 TO 3 PERCENT SLOPES	PAWNEE	No	hillslope	---	---	---	---
Pc: PAWNEE CLAY LOAM, 3 TO 7 PERCENT SLOPES	PAWNEE	No	hillslope	---	---	---	---
Pe: PAWNEE CLAY LOAM, 3 TO 7 PERCENT SLOPES, ERODED	MARTIN	No	hillslope	---	---	---	---
	MORRILL OSKA	No No	hillslope hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
Pn: PAWNEE CLAY LOAM, 7 TO 11 PERCENT SLOPES	MARTIN MORRILL	No No	hillslope hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
	MARTIN MORRILL SHELBY	No No No	hillslope hillslope hillslope	---	---	---	---

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 8 of 10

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
RD: READING SILT LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	READING	No	terrace	---	---	---	---
Re: READING SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	CHASE WABASH	No Yes	terrace terrace	---	---	---	---
	READING	No	stream terrace	2B3	YES	NO	NO
	KENNEBEC MUIR WABASH	No No Yes	flood plain terrace flood plain	---	---	---	---
Rv: RIVERWASH	RIVER WASH	Unranked	---	2B3	YES	NO	NO
Sa: SARPY SAND, FREQUENTLY FLOODED	SARPY	Yes	flood plain	---	---	---	---
SAP: SAND PIT	SAND PIT	Unranked	---	4	NO	YES	NO
Se: SARPY-EUDORA COMPLEX, OVERWASH, OCCASIONALLY FLOODED	SARPY	No	flood plain	---	---	---	---
Sg: SHARPSBURG SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES	EUDORA	No	flood plain	---	---	---	---
	SHARPSBURG	No	hillslope	---	---	---	---
	GYMER LADYSMITH PAWNEE SHELBY	No No No No	hillslope paleoterrace hillslope hillslope	---	---	---	---
	SHARPSBURG	No	hillslope	---	---	---	---
Sh: SHARPSBURG SILTY CLAY LOAM, 3 TO 6 PERCENT SLOPES	MARTIN PAWNEE SHELBY	No No No	hillslope hillslope hillslope	---	---	---	---
Sk: SHELBY CLAY LOAM, 1 TO 3 PERCENT SLOPES	SHELBY	No	hillslope	---	---	---	---
Sm: SHELBY CLAY LOAM, 3 TO 8 PERCENT SLOPES	PAWNEE	No	hillslope	---	---	---	---
	SHELBY	No	hillslope	---	---	---	---
	ELMONT MARTIN MORRILL PAWNEE	No No No No	hillslope hillslope hillslope hillslope	---	---	---	---
	SHELBY	No	hillslope	---	---	---	---
Sn: SHELBY CLAY LOAM, 3 TO 8 PERCENT SLOPES, ERODED	SHELBY	No	hillslope	---	---	---	---
So: SHELBY CLAY LOAM, 8 TO 12 PERCENT SLOPES	SHELBY	No	hillslope	---	---	---	---
Sp: MORRILL FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	ELMONT MARTIN MORRILL	No No No	hillslope hillslope hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
	GYMER MORRILL SHELBY	No No No	hillslope hillslope hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
Sr: MORRILL FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES, ERODED	MORRILL	No	hillslope	---	---	---	---
Ss: MORRILL FINE SANDY LOAM, 8 TO 12 PERCENT SLOPES	GYMER MORRILL SHELBY	No No No	hillslope hillslope hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---
	GYMER MORRILL SHELBY	No No No	hillslope hillslope hillslope	---	---	---	---
	MORRILL	No	hillslope	---	---	---	---

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 9 of 10

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
St: SIBLEYVILLE LOAM, 3 TO 7 PERCENT SLOPES	SIBLEYVILLE	No	hillslope	---	---	---	---
	ELMONT	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
Su: SIBLEYVILLE LOAM, 7 TO 11 PERCENT SLOPES	SIBLEYVILLE	No	hillslope	---	---	---	---
	ELMONT	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
Sv: SOGN-VINLAND COMPLEX, 3 TO 25 PERCENT SLOPES	SOGN	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
	ELMONT	No	hillslope	---	---	---	---
	LABETTE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	ROCK OUTCROP	---	hillslope	---	---	---	---
	STONY STEEP LAND	Unranked	hillslope	---	---	---	---
Sw: VINLAND-ROCK OUTCROP COMPLEX, 15 TO 45 PERCENT SLOPES	VINLAND	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	LABETTE	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
Vn: VINLAND SILTY CLAY LOAM, 4 TO 10 PERCENT SLOPES	VINLAND	No	hillslope	---	---	---	---
W: WATER	WATER	Yes	---	3,4	NO	YES	YES
Wa: WABASH SILTY CLAY, OCCASIONALLY FLOODED	WABASH	Yes	terrace	2B3	YES	NO	NO
	READING	No	terrace	---	---	---	---
	WABASH	Yes	flood plain	3	NO	NO	YES
Wb: WABASH SILTY CLAY LOAM, OCCASIONALLY FLOODED	WABASH	Yes	terrace	3	NO	NO	YES
	KENNEBEC	No	flood plain	---	---	---	---
	LEANNA	Unranked	flood plain	---	---	---	---
	READING	No	terrace	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO
We: WELDA SILT LOAM, 4 TO 10 PERCENT SLOPES	WELDA	No	hillslope	---	---	---	---
	GYMER	No	hillslope	---	---	---	---

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Shawnee County, Kansas

PAGE 10 of 10

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria

FOOTNOTE: There may be small areas of included soils or miscellaneous areas that are significant to use and management of the soil; yet are too small to delineate on the soil map at the map's original scale. These may be designated as spot symbols and are defined in the published Soil Survey Report or the USDA-NRCS Technical Guide, Part II.

Areas mapped as water or any map unit that contains one of the following conventional symbols is considered a hydric soil map unit: marshes or swamps; wet spots; depressions; streams, lakes and ponds.

1. All Histosols except Folists, or
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
 - a. Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
 - b. poorly drained or very poorly drained and have either:
 - (1) water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in), or for other soils
 - (2) water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in, or
 - (3) water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or
3. Soils that are frequently ponded for long duration or very long duration during the growing season, or
4. Soils that are frequently flooded for long duration or very long duration during the growing season.