

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Johnson County, Kansas

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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.

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All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

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
CA: CHASE SILT LOAM, OCCASIONALLY FLOODED	CHASE	No	flood plain	---	---	---	---
EA: EUDORA SILT LOAM, RARELY FLOODED	WABASH	Yes	terrace	2B3	YES	NO	NO
	EUDORA	No	flood plain	---	---	---	---
	KIMO SARPY UNNAMED HYDRIC SOIL	No No Yes	flood plain flood plain depression, flood plain	---	---	---	---
EB: EUDORA SOILS, OVERWASH, RARELY FLOODED	EUDORA	No	flood-plain step	---	---	---	---
	KIMO	No	flood-plain step	---	---	---	---
EC: EUDORA-KIMO COMPLEX, RARELY FLOODED	EUDORA	No	flood plain	---	---	---	---
	KIMO SARPY	No No	flood plain flood plain	---	---	---	---
	WABASH	Yes	flood plain	2B3	YES	NO	NO
ED: EUDORA-KIMO COMPLEX, OVERWASH, RARELY FLOODED	EUDORA	No	flood-plain step	---	---	---	---
	KIMO	No	flood-plain step	---	---	---	---
GA: GRUNDY SILT LOAM, 1 TO 3 PERCENT SLOPES	GRUNDY	No	hillslope	---	---	---	---
KA: KENNEBEC SILT LOAM, OCCASIONALLY FLOODED	KENNEBEC	No	flood plain	---	---	---	---
	WABASH UNNAMED HYDRIC SOIL	Yes Yes	flood plain flood plain, marsh	2B3 2B3	YES YES	NO NO	NO NO
	KENNEBEC	No	flood plain	---	---	---	---
KB: KENNEBEC SILT LOAM, CHANNELED	MARTIN	No	hillslope	---	---	---	---
KC: KIMO SILTY CLAY LOAM, RARELY FLOODED	KIMO	No	flood plain	---	---	---	---
	EUDORA WABASH	No Yes	flood plain flood plain	---	---	---	---
	LADOGA	No	hillslope	---	---	---	---
LA: LADOGA SILT LOAM, 3 TO 8 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
LB: LADOGA SILT LOAM, 8 TO 15 PERCENT SLOPES	LADOGA	No	hillslope	---	---	---	---
MA: MARTIN SILTY CLAY LOAM, 2 TO 5 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
	OSKA VINLAND	No Unranked	hillslope hillslope	---	---	---	---
MB: MARTIN-VINLAND SILTY CLAY LOAMS, 7 TO 15 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
	VINLAND SOGN	No No	hillslope hillslope	---	---	---	---
	ROCK OUTCROP	---	---	---	---	---	---
MC: MORRILL LOAM, 3 TO 8 PERCENT SLOPES	MORRILL	No	hillslope	---	---	---	---
	GRUNDY LADOGA	No No	hillslope hillslope	---	---	---	---
OA: ORTHENTS, SHALLOW	ORTHENTS	Unranked	---	---	---	---	
OB: OSKA SILTY CLAY LOAM, 3 TO 6 PERCENT SLOPES	OSKA	No	hillslope	---	---	---	---
	GYMER	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---

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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
OC: OSKA-MARTIN COMPLEX, 4 TO 8 PERCENT SLOPES	OSKA	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	SHARPSBURG	No	hillslope	---	---	---	---
	SIBLEYVILLE	Unranked	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
PA: PAWNEE CLAY LOAM, 3 TO 6 PERCENT SLOPES	VINLAND	Unranked	hillslope	---	---	---	---
	PAWNEE	No	hillslope	---	---	---	---
PC: POLO SILT LOAM, 2 TO 5 PERCENT SLOPES	GRUNDY	No	hillslope	---	---	---	---
	WOODSON	No	divide	---	---	---	---
QA: PITS, QUARRIES	POLO	No	hillslope	---	---	---	---
RA: READING SILT LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	Pits, quarries	Unranked	---	---	---	---	---
	READING	No	terrace	---	---	---	---
SA: SHARPSBURG SILT LOAM, 3 TO 8 PERCENT SLOPES	CHASE	No	terrace	---	---	---	---
	WABASH	Yes	terrace	2B3	YES	NO	NO
SB: SHARPSBURG-URBAN LAND COMPLEX, 3 TO 8 PERCENT SLOPES	SHARPSBURG	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
SC: SIBLEYVILLE LOAM, 3 TO 7 PERCENT SLOPES	OSKA	No	hillslope	---	---	---	---
	URBAN LAND	Unranked	hillslope	---	---	---	---
SD: SIBLEYVILLE-VINLAND LOAMS, 3 TO 7 PERCENT SLOPES	SIBLEYVILLE	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
SE: SOGN-VINLAND COMPLEX, 5 TO 20 PERCENT SLOPES	MARTIN	No	hillslope	---	---	---	---
	SOGN	No	hillslope	---	---	---	---
VA: VINLAND-ROCK OUTCROP COMPLEX, 20 TO 40 PERCENT SLOPES	VINLAND	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
WA: WABASH SILTY CLAY LOAM, OCCASIONALLY FLOODED	OSKA	No	hillslope	---	---	---	---
	SIBLEYVILLE	No	hillslope	---	---	---	---
WB: WOODSON SILT LOAM, 0 TO 2 PERCENT SLOPES	ROCK OUTCROP	No	hillslope	---	---	---	---
	VINLAND	No	hillslope	---	---	---	---
WA: WABASH SILTY CLAY LOAM, OCCASIONALLY FLOODED	SOGN	No	hillslope	---	---	---	---
	MARTIN	No	hillslope	---	---	---	---
	OSKA	No	hillslope	---	---	---	---
	WABASH	Yes	terrace	3	NO	NO	YES
	KENNEBEC	No	flood plain	---	---	---	---
WB: WOODSON SILT LOAM, 0 TO 2 PERCENT SLOPES	LEANNA	Unranked	flood plain	---	---	---	---
	READING	No	terrace	---	---	---	---
WB: WOODSON SILT LOAM, 0 TO 2 PERCENT SLOPES	WABASH	Yes	flood plain	2B3	YES	NO	NO
	WOODSON	No	divide	---	---	---	---

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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.

