

Hydric Soils

Mower County, Minnesota

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
2A:					
Ostrander loam, 0 to 2 percent slopes	Ostrander	90	Flats, Till plains	No	---
	Clyde	5	Drainageways, Till plains	Yes	2B3
	Floyd	5	Till plains	No	---
2B:					
Ostrander loam, 2 to 6 percent slopes	Ostrander	90	Till plains	No	---
	Clyde	5	Drainageways, Till plains	Yes	2B3
	Floyd	5	Till plains	No	---
23:					
Skyberg silt loam	Skyberg	85	Till plains	No	---
	Brownsdale	5	Depressions, Till plains	Yes	2B3
	Hayfield	5	Till plains	No	---
	Kasson	5	Till plains	No	---
24B:					
Kasson silt loam, 1 to 4 percent slopes	Kasson	85	Till plains	No	---
	Tripoli	15	Flats, Till plains	Yes	2B3
27A:					
Dickinson fine sandy loam, 0 to 2 percent slopes	Dickinson	90	Flats, Outwash plains, Stream terraces	No	---
	Bertram	5	Flats, Outwash plains, Stream terraces	No	---
	Cylinder	5	Flats, Outwash plains, Stream terraces	No	---
27B:					
Dickinson fine sandy loam, 2 to 6 percent slopes	Dickinson	90	Outwash plains, Stream terraces	No	---
	Cylinder	10	Flats, Outwash plains, Stream terraces	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
30B:					
Kenyon silt loam, 1 to 6 percent slopes	Kenyon	90	Till plains	No	---
	Tripoli	10	Flats, Till plains	Yes	2B3
44:					
Ankeny fine sandy loam	Ankeny, occasionally flooded	85	Flood plains	No	---
	Coland, occasionally flooded	5	Flood plains	Yes	2B3
	Dickinson, occasionally flooded	5	Flood plains, Rises, Stream terraces	No	---
	Kalmarville, occasionally flooded	5	Flood plains	Yes	2B3
79B:					
Billett fine sandy loam, 2 to 6 percent slopes	Billett	85	Outwash plains	No	---
	Udolpho, loamy substratum	10	Depressions, Outwash plains, Stream terraces	Yes	2B3
	Marshan	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
83:					
Maxcreek silty clay loam, swales	Maxcreek, swales	85	Depressions, Moraines	Yes	2B3, 3
	Barbert	10	Depressions, Moraines	Yes	2B3, 3
	Palms	5	Depressions, Moraines	Yes	1, 3
88:					
Clyde silty clay loam	Clyde	80	Drainageways, Till plains	Yes	2B3
	Palms	10	Depressions, Till plains	Yes	1, 3
	Shandep	10	Depressions, Till plains	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
99A:					
Racine silt loam, 0 to 2 percent slopes	Racine	90	Flats, Till plains	No	---
	Skyberg	5	Flats, Till plains	No	---
	Tripoli	3	Flats, Till plains	Yes	2B3
	Clyde	2	Drainageways, Till plains	Yes	2B3
99B:					
Racine silt loam, 2 to 6 percent slopes	Racine	90	Till plains	No	---
	Skyberg	5	Flats, Till plains	No	---
	Tripoli	3	Flats, Till plains	Yes	2B3
	Clyde	2	Drainageways, Till plains	Yes	2B3
99C:					
Racine silt loam, 6 to 12 percent slopes	Racine	90	Till plains	No	---
	Clyde	5	Drainageways, Till plains	Yes	2B3
	Tripoli	5	Flats, Till plains	Yes	2B3
129:					
Cylinder loam	Cylinder	85	Flats, Outwash plains, Stream terraces	No	---
	Fairhaven	5	Flats, Outwash plains, Stream terraces	No	---
	Dickinson	3	Flats, Outwash plains, Stream terraces	No	---
	Marshan	3	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Shandep	2	Depressions, Outwash plains, Stream terraces	Yes	2B3
	Waukee	2	Flats, Outwash plains, Stream terraces	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
135:					
Donnan silt loam	Donnan	85	Till plains	No	---
	Riceville	5	Till plains	No	---
	Stateline	5	Flats, Till plains	Yes	2B3
	Tripoli	5	Flats, Till plains	Yes	2B3
156A:					
Fairhaven silt loam, 0 to 2 percent slopes	Fairhaven	85	Flats, Outwash plains, Stream terraces	No	---
	Cylinder	5	Flats, Outwash plains, Stream terraces	No	---
	Marshan	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Shandep	3	Depressions, Outwash plains, Stream terraces	Yes	2B3
	Udolpho	2	Flats, Outwash plains, Stream terraces	Yes	2B3
156B:					
Fairhaven silt loam, 2 to 6 percent slopes	Fairhaven	85	Outwash plains	No	---
	Marshan	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Shandep	5	Depressions, Outwash plains, Stream terraces	Yes	2B3
	Udolpho	5	Flats, Outwash plains, Stream terraces	Yes	2B3
190:					
Hayfield loam	Hayfield	85	Flats, Outwash plains, Stream terraces	No	---
	Marshan	15	Drainageways, Outwash plains, Stream terraces	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
228B:					
Mottland loam, 2 to 6 percent slopes	Mottland	85	Upland slopes	No	---
	Rossfield	10	Upland slopes	No	---
	Terril	5	Upland slopes	No	---
228C:					
Mottland loam, 6 to 12 percent slopes	Mottland	85	Upland slopes	No	---
	Terril	15	Upland slopes	No	---
244A:					
Lilah sandy loam, 0 to 2 percent slopes	Lilah	85	Flats, Terraces	No	---
	Hayfield	5	Flats, Terraces	No	---
	Marshan	5	Drainageways, Terraces	Yes	2B3
	Shandep	5	Depressions, Terraces	Yes	2B3
244B:					
Lilah sandy loam, 2 to 6 percent slopes	Lilah	85	Terraces	No	---
	Terril	15	Terraces	No	---
244C:					
Lilah sandy loam, 6 to 12 percent slopes	Lilah	85	Terraces	No	---
	Terril	15	Terraces	No	---
252:					
Marshan clay loam	Marshan	90	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Faxon, variant	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Mayer	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
253:					
Maxcreek silty clay loam	Maxcreek	85	Drainageways, Moraines	Yes	2B3
	Merton	5	Flats, Moraines	No	---
	Canisteo	3	Flats, Moraines	Yes	2B3
	Newry	3	Moraines	No	---
	Havana	2	Flats, Moraines	Yes	2B3
	Palms	2	Depressions, Moraines	Yes	1, 3
255:					
Mayer loam	Mayer	90	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Marshan	3	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Maxcreek	3	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Palms	2	Depressions, Outwash plains, Stream terraces	Yes	1, 3
	Shandep	2	Depressions, Outwash plains, Stream terraces	Yes	2B3
295:					
Readlyn silt loam	Readlyn	85	Till plains	No	---
	Kenyon	15	Till plains	No	---
307:					
Sargeant silt loam	Sargeant	85	Till plains	Yes	2B3
	Brownsdale	5	Drainageways, Till plains	Yes	2B3
	Kasson	5	Till plains	No	---
	Vlasaty	5	Till plains	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
313:					
Spillville loam, occasionally flooded	Spillville, occasionally flooded	90	Flood plains	No	---
	Kalmarville, occasionally flooded	5	Flood plains	Yes	2B3
	Shandep, occasionally flooded	5	Depressions, Flood plains	Yes	2B3
331:					
Tripoli silty clay loam	Tripoli	85	Flats, Till plains	Yes	2B3
	Oran	15	Till plains	No	---
334B:					
Vlasaty silt loam, 1 to 4 percent slopes	Vlasaty	85	Till plains	No	---
	Tripoli	10	Flats, Till plains	Yes	2B3
	Dowagiac	5	Till plains	No	---
376B:					
Moland silt loam, 1 to 6 percent slopes	Moland	85	Moraines	No	---
	Merton	10	Flats, Moraines	No	---
	Maxcreek	5	Drainageways, Moraines	Yes	2B3
377:					
Merton silt loam	Merton	85	Flats, Moraines	No	---
	Blooming	5	Moraines	No	---
	Maxcreek	5	Drainageways, Moraines	Yes	2B3
	Moland	5	Moraines	No	---
380:					
Havana silt loam	Havana	85	Flats, Moraines	Yes	2B3
	Blooming	10	Moraines	No	---
	Moland	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
381:					
Newry silt loam	Newry	85	Moraines	No	---
	Maxcreek	10	Drainageways, Moraines	Yes	2B3
	Canisteo	5	Flats, Moraines	Yes	2B3
382B:					
Blooming silt loam, 2 to 6 percent slopes	Blooming	90	Moraines	No	---
	Havana	5	Flats, Moraines	Yes	2B3
	Maxcreek	5	Drainageways, Moraines	Yes	2B3
382C:					
Blooming silt loam, 6 to 15 percent slopes	Blooming	90	Moraines	No	---
	Maxcreek	5	Drainageways, Moraines	Yes	2B3
	Terril	5	Moraines	No	---
393:					
Udolpho silt loam	Udolpho	90	Flats, Outwash plains, Stream terraces	Yes	2B3
	Dowagiac	5	Outwash plains, Stream terraces	No	---
	Fairhaven	5	Flats, Outwash plains, Stream terraces	No	---
444:					
Canisteo silty clay loam	Canisteo	85	Flats, Moraines	Yes	2B3
	Maxcreek	5	Drainageways, Moraines	Yes	2B3
	Merton	5	Flats, Moraines	No	---
	Palms	5	Depressions, Moraines	Yes	1, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
465: Kalmarville loam, frequently flooded	Kalmarville, frequently flooded	90	Flood plains	Yes	2B3, 4
	Palms, frequently flooded	5	Depressions, Flood plains	Yes	1, 3, 4
	Spillville, frequently flooded	5	Flood plains	Yes	4
467: Sawmill silty clay loam	Sawmill, frequently flooded	90	Flood plains	Yes	2B3
	Palms, frequently flooded	5	Depressions, Flood plains	Yes	1, 3
	Spillville, frequently flooded	5	Flood plains	No	---
479: Floyd silt loam	Floyd	90	Till plains	No	---
	Clyde	5	Drainageways, Till plains	Yes	2B3
	Ostrander	5	Flats, Till plains	No	---
483A: Waukee loam, 0 to 2 percent slopes	Waukee	85	Flats, Outwash plains, Stream terraces	No	---
	Lawler	5	Flats, Outwash plains, Stream terraces	No	---
	Marshan	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Shandep	5	Depressions, Outwash plains, Stream terraces	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
483B:					
Waukee loam, 2 to 6 percent slopes	Waukee	85	Outwash plains	No	---
	Lawler	5	Flats, Outwash plains, Stream terraces	No	---
	Marshan	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Shandep	5	Depressions, Outwash plains, Stream terraces	Yes	2B3
485:					
Lawler silt loam	Lawler	85	Flats, Outwash plains, Stream terraces	No	---
	Marshan	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Dickinson	3	Outwash plains, Stream terraces	No	---
	Shandep	3	Depressions, Outwash plains, Stream terraces	Yes	2B3
	Dowagiac	2	Outwash plains, Stream terraces	No	---
	Waukee	2	Flats, Outwash plains, Stream terraces	No	---
516A:					
Dowagiac loam, 0 to 2 percent slopes	Dowagiac	85	Flats, Outwash plains, Stream terraces	No	---
	Lawler	5	Flats, Outwash plains, Stream terraces	No	---
	Marshan	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Shandep	3	Depressions, Outwash plains, Stream terraces	Yes	2B3
	Cylinder	2	Flats, Outwash plains, Stream terraces	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
516B:					
Dowagiac loam, 2 to 6 percent slopes	Dowagiac	85	Outwash plains	No	---
	Lawler	5	Flats, Outwash plains, Stream terraces	No	---
	Marshan	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Shandep	3	Depressions, Outwash plains, Stream terraces	Yes	2B3
	Cylinder	2	Flats, Outwash plains, Stream terraces	No	---
517:					
Shandep clay loam	Shandep	90	Depressions, Outwash plains, Stream terraces	Yes	2B3
	Coland	5	Drainageways, Outwash plains, Stream terraces	Yes	2B3
	Palms	5	Depressions, Outwash plains, Stream terraces	Yes	1, 3
539:					
Palms muck	Palms	85	Depressions, Moraines	Yes	1, 3
	Canisteo	5	Flats, Moraines	Yes	2B3
	Maxcreek	5	Drainageways, Moraines	Yes	2B3
	Sawmill	5	Drainageways, Moraines	Yes	2B3
631:					
Oran silt loam, 1 to 4 percent slopes	Oran	90	Till plains	No	---
	Racine	5	Till plains	No	---
	Tripoli	5	Flats, Till plains	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
632:					
Kensett variant silt loam	Kensett, variant	90	Flats, Upland slopes	No	---
	Rossfield	5	Upland slopes	No	---
	Taopi	5	Upland slopes	No	---
633B:					
Nordness variant loam, 2 to 6 percent slopes	Nordness, variant	95	Upland slopes	No	---
	Taopi	5	Upland slopes	No	---
634:					
Protivin silt loam	Protivin	85	Till plains	No	---
	Kenyon	10	Till plains	No	---
	Hayfield, loamy substratum	5	Till plains	No	---
635:					
Riceville silt loam	Riceville	85	Till plains	No	---
	Hayfield, loamy substratum	10	Till plains	No	---
	Udolpho, loamy substratum	5	Depressions, Till plains	Yes	2B3
637:					
Schley silt loam	Schley	85	Till plains	No	---
	Udolpho, loamy substratum	10	Depressions, Till plains	Yes	2B3
	Hayfield, loamy substratum	5	Till plains	No	---
638B:					
Taopi silt loam, 1 to 6 percent slopes	Taopi	90	Upland slopes	No	---
	Racine	10	Upland slopes	No	---
638C:					
Taopi silt loam, 6 to 12 percent slopes	Taopi	90	Upland slopes	No	---
	Racine	5	Upland slopes	No	---
	Terril	5	Upland slopes	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
699A:					
Rosfield silt loam, 0 to 2 percent slopes	Rosfield	95	Flats, Upland slopes	No	---
	Kensett, variant	5	Flats, Upland slopes	No	---
699B:					
Rosfield silt loam, 2 to 6 percent slopes	Rosfield	95	Upland slopes	No	---
	Mottland	5	Upland slopes	No	---
1013:					
Pits, quarry	Pits, quarry	100	Outwash plains, Terraces		---
1030:					
Udorthents-Pits complex	Udorthents	60	Outwash plains, Terraces	No	---
	Pits	40	Outwash plains, Terraces		---
1078:					
Udorthents, nearly level to sloping	Udorthents, nearly level to sloping	100	Outwash plains, Terraces	No	---
1356:					
Water, miscellaneous	Water, miscellaneous	100	---		---
1812:					
Terril silt loam	Terril	90	Till plains	No	---
	Clyde	5	Drainageways, Till plains	Yes	2B3
	Marshan	5	Drainageways, Till plains	Yes	2B3
1814B:					
Waucoma silt loam, 1 to 6 percent slopes	Waucoma	85	Upland slopes	No	---
	Faxon, variant	5	Drainageways, Upland slopes	Yes	2B3
	Kensett, variant	5	Flats, Upland slopes	No	---
	Ostrander	5	Flats, Upland slopes	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1841:					
Hayfield loam, loamy substratum	Hayfield, loamy substratum	85	Till plains	No	---
	Dowagiac	5	Till plains	No	---
	Lilah	5	Till plains	No	---
	Schley	5	Till plains	No	---
1844:					
Atkinson loam	Atkinson	85	Flats, Upland slopes	No	---
	Faxon, variant	5	Drainageways, Upland slopes	Yes	2B3
	Kensett, variant	5	Flats, Upland slopes	No	---
	Ostrander	5	Flats, Upland slopes	No	---
1884:					
Stateline silt loam	Stateline	85	Flats, Till plains	Yes	2B3
	Hayfield, loamy substratum	10	Till plains	No	---
	Donnan	5	Till plains	No	---
1891:					
Faxon variant silty clay loam	Faxon, variant	90	Drainageways, Upland slopes	Yes	2B3
	Clyde	5	Drainageways, Upland slopes	Yes	2B3
	Marshan	3	Drainageways, Upland slopes	Yes	2B3
	Shandep	2	Depressions, Upland slopes	Yes	2B3
1903:					
Udolpho silt loam, loamy substratum, swales	Udolpho, loamy substratum, swales	90	Outwash plains, Swales	Yes	2B3, 3
	Dowagiac	5	Outwash plains	No	---
	Hayfield, loamy substratum	5	Outwash plains	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1904: Udolpho silt loam, loamy substratum	Udolpho, loamy substratum	90	Flats, Outwash plains	Yes	2B3
	Dowagiac	5	Outwash plains	No	---
	Hayfield, loamy substratum	5	Outwash plains	No	---
1905: Brownsdale silt loam	Brownsdale	85	Drainageways, Till plains	Yes	2B3
	Tripoli	10	Flats, Till plains	Yes	2B3
	Sargeant	5	Till plains	Yes	2B3
1974: Coland-Spillville loams, frequently flooded	Coland, frequently flooded	50	Flood plains	Yes	2B3
	Spillville, frequently flooded	30	Flood plains	No	---
	Kalmarville, frequently flooded	10	Flood plains	Yes	2B3
	Shandep, frequently flooded	10	Depressions, Flood plains	Yes	2B3
1992: Sargeant variant silt loam	Sargeant, variant	85	Flats, Upland slopes	Yes	2B3
	Faxon, variant	15	Drainageways, Upland slopes	Yes	2B3
W: Water	Water	100	---	---	---

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. 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, 2002).

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 all 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, under natural conditions, 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, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time 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 are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

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

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

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