Hydric Soils

Faribault 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
8B:					
Sparta loamy fine sand, 0 to 6 percent slopes	Sparta	90	Outwash plains	No	---
	Farrar	4	Till plains	No	---
	Darfur	3	Outwash plains	Yes	2B3
	Litchfield	3	Outwash plains	No	---
27B:					
Dickinson fine sandy loam, 0 to 6 percent slopes	Dickinson	85	Outwash plains	No	---
	Clarion	10	Moraines	No	---
	Darfur	5	Outwash plains	Yes	2B3
27C:					
Dickinson fine sandy loam, 6 to 12 percent slopes	Dickinson	85	Outwash plains	No	---
	Darfur	5	Outwash plains	Yes	2B3
	Farrar	5	Till plains	No	---
	Sparta	5	Outwash plains	No	---
35:					
Blue Earth mucky silty clay loam	Blue Earth	90	Depressions, Till plains	Yes	2B3, 3
	Canisteo	5	Rims	Yes	2B3
	Fieldon	5	Outwash plains	Yes	2B3
37B:					
Farrar fine sandy loam, 1 to 6 percent slopes	Farrar	90	Hills, Moraines	No	---
	Nicollet	4	Moraines	No	---
	Estherville	3	Outwash plains	No	---
	Litchfield	3	Outwash plains	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
41B:					
Estherville sandy loam, 0 to 6 percent slopes	Estherville	90	Outwash plains	No	---
	Clarion	4	Moraines	No	---
	Dickinson	3	Outwash plains	No	---
	Storden	3	Moraines	No	---
84:					
Brownton silty clay loam	Brownton	90	Flats, Moraines	Yes	2B3
	Okoboji	5	Depressions	Yes	2B3, 3
	Waldorf	5	Flats	Yes	2B3
86:					
Canisteo clay loam	Canisteo	90	Depressions, Flats, Moraines, Rims	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
	Webster	5	Drainageways	Yes	2B3
94B:					
Terril loam, 2 to 6 percent slopes	Terril	90	Hills, Moraines	No	---
	Clarion	4	Moraines	No	---
	Delft	2	Drainageways	Yes	2B3
	Swanlake	2	Moraines	No	---
	Webster	2	Drainageways	Yes	2B3
96A:					
Collinwood silty clay loam, 0 to 3 percent slopes	Collinwood	85	Hills, Rises	No	---
	Truman	10	Lake plains	No	---
	Waldorf	5	Drainageways	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
96B:					
Collinwood silty clay loam, 3 to 6 percent slopes	Collinwood	85	Hills, Lake plains	No	---
	Waldorf	10	Drainageways	Yes	2B3
	Truman	5	Lake plains	No	---
101B:					
Truman silt loam, 1 to 6 percent slopes	Truman	85	Hills, Lake plains	No	---
	Kingston	5	Lake plains	No	---
	Madelia	5	Drainageways	Yes	2B3
	Grogan	3	Lake plains	No	---
	Spicer	2	Rims	Yes	2B3
102B:					
Clarion loam, 1 to 6 percent slopes	Clarion	85	Hills, Moraines	No	---
	Nicollet	5	Moraines	No	---
	Webster	5	Drainageways	Yes	2B3
	Canisteo	3	Rims	Yes	2B3
	Swanlake	2	Moraines	No	---
110:					
Marna silty clay loam	Marna	90	Flats, Lake plains	Yes	2B3
	Okoboji	4	Depressions	Yes	2B3, 3
	Brownton	3	Rims	Yes	2B3
	Guckeen	3	Lake plains	No	---
113:					
Webster clay loam	Webster	90	Flats, Moraines	Yes	2B3
	Glencoe	4	Depressions	Yes	2B3, 3
	Canisteo	3	Rims	Yes	2B3
	Nicollet	3	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
114:					
Glencoe clay loam	Glencoe	90	Depressions, Moraines	Yes	2B3, 3
	Canisteo	4	Rims	Yes	2B3
	Klossner	3	Depressions	Yes	1, 3
	Webster	3	Drainageways	Yes	2B3
118:					
Crippin loam	Crippin	85	Moraines, Rises	No	---
	Canisteo	5	Rims	Yes	2B3
	Clarion	5	Moraines	No	---
	Swanlake	5	Moraines	No	---
128B:					
Grogan silt loam, 1 to 6 percent slopes	Grogan	85	Hills, Lake plains	No	---
	Clarion	5	Moraines	No	---
	Madelia	5	Drainageways	Yes	2B3
	Ocheydan	5	Moraines	No	---
130:					
Nicollet clay loam	Nicollet	85	Moraines, Rises	No	---
	Clarion	10	Moraines	No	---
	Webster	5	Drainageways	Yes	2B3
134:					
Okoboji silty clay loam	Okoboji	90	Depressions, Moraines	Yes	2B3, 3
	Spicer	4	Rims	Yes	2B3
	Canisteo	3	Rims	Yes	2B3
	Klossner	3	Depressions	Yes	1, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
136:					
Madelia silty clay loam	Madelia	90	Flats, Lake plains	Yes	2B3
	Kingston	5	Lake plains	No	---
	Spicer	5	Rims	Yes	2B3
140:					
Spicer silt loam	Spicer	90	Flats, Lake plains	Yes	2B3
	Okoboji	4	Depressions	Yes	2B3, 3
	Kingston	3	Lake plains	No	---
	Madelia	3	Drainageways	Yes	2B3
160:					
Fieldon loam	Fieldon	90	Flats, Outwash plains	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
	Litchfield	5	Outwash plains	No	---
181:					
Litchfield fine sandy loam	Litchfield	90	Outwash plains	No	---
	Dickinson	4	Outwash plains	No	---
	Darfur	3	Outwash plains	Yes	2B3
	Fieldon	3	Rims	Yes	2B3
197:					
Kingston silt loam	Kingston	85	Lake plains, Rises	No	---
	Bold	5	Lake plains	No	---
	Madelia	5	Drainageways	Yes	2B3
	Spicer	5	Rims	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
211:					
Lura silty clay	Lura	90	Depressions, Lake plains	Yes	2B3, 3
	Brownton	5	Rims	Yes	2B3
	Klossner	5	Depressions	Yes	1, 3
229:					
Waldorf silty clay loam	Waldorf	90	Flats, Lake plains	Yes	2B3
	Brownton	4	Rims	Yes	2B3
	Collinwood	3	Lake plains	No	---
	Okoboji	3	Depressions	Yes	2B3, 3
230A:					
Guckeen silty clay loam, 0 to 3 percent slopes	Guckeen	85	Lake plains, Rises	No	---
	Marna	5	Drainageways	Yes	2B3
	Ocheyedan	5	Moraines	No	---
	Okoboji	3	Depressions	Yes	2B3, 3
	Waldorf	2	Flats	Yes	2B3
230B:					
Guckeen silty clay loam, 3 to 6 percent slopes	Guckeen	85	Lake plains, Rises	No	---
	Marna	5	Drainageways	Yes	2B3
	Ocheyedan	5	Moraines	No	---
	Okoboji	3	Depressions	Yes	2B3, 3
	Waldorf	2	Flats	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
247:					
Linder loam	Linder	90	Outwash plains	No	---
	Dickinson	3	Outwash plains	No	---
	Estherville	3	Outwash plains	No	---
	Biscay	2	Drainageways	Yes	2B3
	Coland	2	Flood plains	Yes	2B3
248:					
Lomax loam	Lomax	90	Terraces	No	---
	Coland	5	Flood plains	Yes	2B3
	Spillville	5	Drainageways	No	---
255:					
Mayer loam	Mayer	90	Flats, Outwash plains	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
	Linder	5	Outwash plains	No	---
269:					
Millington clay loam	Millington, occasionally flooded	90	Flood plains	Yes	2B3
	Coland	5	Flood plains	Yes	2B3
	Spillville	5	Drainageways	No	---
275B:					
Ocheyedan loam, 2 to 6 percent slopes	Ocheyedan	85	Hills, Lake plains	No	---
	Fostoria	5	Lake plains	No	---
	Kingston	5	Lake plains	No	---
	Webster	5	Drainageways	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
275C2:					
Ocheyedan loam, 6 to 12 percent slopes, eroded	Ocheyedan, eroded	85	Hills, Lake plains	No	---
	Delft	5	Drainageways	Yes	2B3
	Fostoria	5	Lake plains	No	---
	Kingston	5	Lake plains	No	---
281:					
Darfur loam	Darfur	90	Flats, Outwash plains	Yes	2B3
	Fieldon	5	Flats	Yes	2B3
	Litchfield	5	Outwash plains	No	---
286A:					
Shorewood silty clay loam, 0 to 3 percent slopes	Shorewood	85	Hills, Lake plains	No	---
	Ocheyedan	10	Lake plains	No	---
	Minnetonka	5	Drainageways	Yes	2B3
286B:					
Shorewood silty clay loam, 3 to 6 percent slopes	Shorewood	85	Hills, Lake plains	No	---
	Ocheyedan	10	Lake plains	No	---
	Minnetonka	5	Drainageways	Yes	2B3
286C2:					
Shorewood silty clay loam, 6 to 12 percent slopes, eroded	Shorewood, eroded	90	Hills, Lake plains	No	---
	Minnetonka	4	Drainageways	Yes	2B3
	Ocheyedan	3	Lake plains	No	---
	Truman	3	Lake plains	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
287:					
Minnetonka silty clay loam	Minnetonka	90	Flats, Lake plains	Yes	2B3
	Okoboji	4	Depressions	Yes	2B3, 3
	Barbert	3	Depressions	Yes	2B3, 3
	Guckeen	3	Lake plains	No	---
310:					
Beauford silty clay	Beauford	90	Flats, Lake plains	Yes	2B3
	Barbert	5	Depressions	Yes	2B3, 3
	Lura	5	Depressions	Yes	2B3, 3
313:					
Spillville loam	Spillville, occasionally flooded	90	Flood plains	No	---
	Coland	5	Flood plains	Yes	2B3
	Linder	5	Terraces	No	---
319:					
Barbert silty clay loam	Barbert	90	Depressions, Lake plains	Yes	2B3, 3
	Collinwood	5	Lake plains	No	---
	Waldorf	5	Flats	Yes	2B3
336:					
Delft loam	Delft	90	Drainageways, Moraines	Yes	2B3
	Glencoe	4	Depressions	Yes	2B3, 3
	Clarion	3	Moraines	No	---
	Terril	3	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
392:					
Biscay loam	Biscay	90	Flats, Outwash plains	Yes	2B3
	Fieldon	4	Flats	Yes	2B3
	Estherville	3	Outwash plains	No	---
	Linder	3	Outwash plains	No	---
525:					
Muskego muck	Muskego	90	Depressions, Moraines	Yes	1, 3
	Blue Earth	4	Depressions	Yes	1, 3
	Fieldon	3	Flats	Yes	2B3
	Linder	3	Rises	No	---
539:					
Klossner muck	Klossner	90	Depressions, Moraines	Yes	1, 3
	Glencoe	4	Depressions	Yes	2B3, 3
	Canisteo	3	Rims	Yes	2B3
	Okoboji	3	Depressions	Yes	2B3, 3
887B:					
Clarion-Swanlake complex, 2 to 6 percent slopes	Clarion	55	Hills, Moraines	No	---
	Swanlake	30	Hills, Moraines	No	---
	Canisteo	5	Rims	Yes	2B3
	Nicollet	5	Moraines	No	---
	Webster	5	Drainageways	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
909C2:					
Truman-Bold complex, 6 to 12 percent slopes, eroded	Truman, eroded	50	Hills, Lake plains	No	---
	Bold, eroded	35	Hills, Lake plains	No	---
	Kingston	5	Lake plains	No	---
	Madelia	5	Drainageways	Yes	2B3
	Terril	5	Moraines	No	---
909D2:					
Bold-Truman complex, 12 to 18 percent slopes, eroded	Bold, eroded	40	Hills, Lake plains	No	---
	Truman, eroded	35	Hills, Lake plains	No	---
	Madelia	10	Drainageways	Yes	2B3
	Terril	10	Moraines	No	---
	Kingston	5	Lake plains	No	---
920B:					
Clarion-Estherville complex, 2 to 6 percent slopes	Clarion	55	Hills, Moraines	No	---
	Estherville	35	Hills, Moraines	No	---
	Swanlake	4	Moraines	No	---
	Terril	3	Moraines	No	---
	Webster	3	Drainageways	Yes	2B3
920C2:					
Clarion-Storden-Estherville complex, 6 to 12 percent slopes, eroded	Clarion, eroded	30	Hills, Moraines	No	---
	Estherville, eroded	20	Hills, Moraines	No	---
	Storden, eroded	20	Hills, Moraines	No	---
	Terril	15	Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
	Nicollet	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
920D2:					
Clarion-Storden-Estherville complex, 12 to 18 percent slopes, eroded	Clarion, eroded	30	Hills, Moraines	No	---
	Storden, eroded	25	Hills, Moraines	No	---
	Estherville, eroded	20	Hills, Moraines	No	---
	Terril	15	Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
921C2:					
Clarion-Storden complex, 6 to 12 percent slopes, eroded	Clarion, eroded	50	Hills, Moraines	No	---
	Storden, eroded	30	Hills, Moraines	No	---
	Terril	10	Moraines	No	---
	Delft	5	Drainageways	Yes	2B3
	Nicollet	5	Moraines	No	---
929:					
Fieldon-Canisteo complex	Fieldon	50	Flats, Moraines	Yes	2B3
	Canisteo	30	Flats, Moraines	Yes	2B3
	Darfur	10	Drainageways	Yes	2B3
	Glencoe	5	Depressions	Yes	2B3, 3
	Webster	5	Drainageways	Yes	2B3
956:					
Canisteo-Glencoe complex	Canisteo	50	Depressions, Flats, Moraines, Rims	Yes	2B3
	Glencoe	25	Depressions, Moraines	Yes	2B3, 3
	Klossner	10	Depressions	Yes	1, 3
	Webster	10	Drainageways	Yes	2B3
	Crippen	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
960D2:					
Storden-Clarion complex, 12 to 18 percent slopes, eroded	Storden, eroded	40	Hills, Moraines	No	---
	Clarion, eroded	35	Hills, Moraines	No	---
	Terril	15	Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
960E:					
Storden-Clarion complex, 18 to 24 percent slopes	Storden	45	Hills, Moraines	No	---
	Clarion	30	Hills, Moraines	No	---
	Terril	15	Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
1030:					
Pits, gravel-Udorthents complex	Pits, gravel	50	Outwash plains	Unranked	---
	Udorthents	40	Outwash plains	No	2B3, 3
	Biscay	10	Depressions	Yes	2B3, 3
1052:					
Klossner-Okoboji complex, ponded	Klossner, ponded	60	Depressions, Moraines	Yes	1, 3
	Okoboji, ponded	30	Depressions, Moraines	Yes	2B3, 3
	Canisteo	5	Rims	Yes	2B3
	Fieldon	5	Rims	Yes	2B3
1356:					
Water, miscellaneous	Water, miscellaneous	100	---	Unranked	---
1833:					
Coland silty clay loam, occasionally flooded	Coland, occasionally flooded	90	Flood plains	Yes	2B3
	Linder	5	Terraces	No	---
	Spillville	5	Terraces	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1834:					
Coland loam, frequently flooded	Coland, frequently flooded	90	Flood plains	Yes	2B3, 4
	Spillville	4	Terraces	No	---
	Linder	3	Terraces	No	---
	Millington	3	Flood plains	Yes	2B3
1852F:					
Swanlake-Terril complex, 18 to 40 percent slopes	Swanlake	45	Hills, Moraines	No	---
	Terril	35	Hills, Moraines	No	---
	Clarion	10	Moraines	No	---
	Delft	10	Drainageways	Yes	2B3
1877:					
Fostoria loam	Fostoria	85	Hills, Moraines	No	---
	Kingston	5	Lake plains	No	---
	Ocheyedan	5	Moraines	No	---
	Webster	5	Drainageways	Yes	2B3
1907:					
Lakefield silt loam	Lakefield	85	Hills, Lake plains	No	---
	Grogan	5	Lake plains	No	---
	Kingston	5	Lake plains	No	---
	Bold	3	Lake plains	No	---
	Spicer	2	Rims	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L83A:					
Webster clay loam, 0 to 2 percent slopes	Webster	65	Flats, Moraines, Swales	Yes	2B3
	Glencoe, depressional	14	Depressions, Moraines	Yes	2B3, 3
	Canisteo	8	Depressions, Flats, Moraines, Rims	Yes	2B3
	Nicollet	8	Flats, Moraines, Rises	No	---
	Poorly drained soil	5	Flats, Moraines, Swales	Yes	2B3
L84A:					
Glencoe clay loam, depressional, 0 to 1 percent slopes	Glencoe, depressional	80	Depressions, Moraines	Yes	2B3, 3
	Very poorly drained muck	10	Depressions, Moraines	Yes	2B3
	Canisteo	5	Depressions, Flats, Moraines, Rims	Yes	2B3
	Harps	5	Depressions, Rims	Yes	2B3
L85A:					
Nicollet clay loam, 1 to 3 percent slopes	Nicollet	85	Flats, Moraines, Rises	No	---
	Clarion	10	Hills, Moraines	No	---
	Webster	5	Flats, Moraines, Swales	Yes	2B3
L107A:					
Canisteo-Glencoe, depressional complex, 0 to 2 percent slopes	Canisteo	50	Moraines, Rims	Yes	2B3
	Glencoe, depressional	35	Depressions, Moraines	Yes	2B3, 3
	Harps	9	Moraines, Rims	Yes	2B3
	Canisteo, depressional	3	Depressions, Moraines	Yes	2B3
	Crippin	3	Flats, Moraines, Rises	No	---
W:					
Water	Water	100	---	Unranked	---

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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