

Hydric Soils

Stearns 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
5A:					
Dakota loam, 0 to 2 percent slopes	Dakota	90	Outwash plains	No	---
	Dorset	3	---	No	---
	Estherville	3	---	No	---
	Biscay	2	Depressions, Drainageways	Yes	2B3
	Cylinder	2	---	No	---
5B:					
Dakota loam, 2 to 6 percent slopes	Dakota	90	Outwash plains	No	---
	Dorset	3	---	No	---
	Estherville	3	---	No	---
	Biscay	2	Depressions, Drainageways	Yes	2B3
	Cylinder	2	---	No	---
7A:					
Hubbard loamy sand, 0 to 2 percent slopes	Hubbard	90	Stream terraces	No	---
	Duelm	4	---	No	---
	Dickman	3	---	No	---
	Isan	3	Depressions, Drainageways	Yes	2B2, 3
7B:					
Hubbard loamy sand, 2 to 6 percent slopes	Hubbard	90	Stream terraces	No	---
	Duelm	4	---	No	---
	Dickman	3	---	No	---
	Isan	3	Depressions, Drainageways	Yes	2B2, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
7C:					
Hubbard loamy sand, 6 to 12 percent slopes	Hubbard	90	Stream terraces	No	---
	Dickman	5	---	No	---
	Hawick	5	---	No	---
25:					
Becker fine sandy loam	Becker	90	Stream terraces	No	---
	Hubbard	4	---	No	---
	Kalmarville	4	Flood plains	Yes	2B3, 4
	Udifluvents, frequently flooded	2	Flood plains	Yes	2B3, 4
32B:					
Nebish sandy loam, 2 to 8 percent slopes	Nebish	90	Moraines	No	---
	Bluffton	5	Depressions	Yes	2B3, 3
	Shooker	5	Drainageways	Yes	2B3
32C:					
Nebish sandy loam, 8 to 15 percent slopes	Nebish	90	Moraines	No	---
	Cordova	5	Drainageways	Yes	2B3
	Shooker	5	Drainageways	Yes	2B3
32E:					
Nebish sandy loam, 15 to 25 percent slopes	Nebish	90	Moraines	No	---
	Bluffton	5	Depressions	Yes	2B3, 3
	Cordova	5	Drainageways	Yes	2B3
32F:					
Nebish sandy loam, 25 to 40 percent slopes	Nebish	90	Moraines	No	---
	Stroden	10	---	No	---
35:					
Blue Earth mucky silt loam	Blue Earth	100	Depressions, Moraines	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
36: Flom loam	Flom	90	Moraines, Swales	Yes	2B3
	Normania	10	---	No	---
38B: Waukon loam, 2 to 6 percent slopes	Waukon	90	Moraines	No	---
	Cordova	10	Drainageways, Swales	Yes	2B3
38C: Waukon loam, 6 to 12 percent slopes	Waukon	90	Moraines	No	---
	Cordova	10	Drainageways, Swales	Yes	2B3
38D: Waukon loam, 12 to 18 percent slopes	Waukon	90	Moraines	No	---
	Cordova	10	Drainageways, Swales	Yes	2B3
41A: Estherville sandy loam, 0 to 2 percent slopes	Estherville	90	Outwash plains	No	---
	Hawick	5	---	No	---
	Regal	5	Swales	Yes	2B3
41B: Estherville sandy loam, 2 to 6 percent slopes	Estherville	90	Outwash plains	No	---
	Hawick	5	---	No	---
	Regal	5	Swales	Yes	2B3
41C: Estherville sandy loam, 6 to 12 percent slopes	Estherville	90	Outwash plains	No	---
	Hawick	5	---	No	---
	Regal	5	Swales	Yes	2B3

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69B:					
Fedji loamy sand, 2 to 6 percent slopes	Fedji	90	Moraines	No	---
	Duelm	5	---	No	---
	Gonvick	5	---	No	---
72:					
Shooker loam	Shooker	90	Drainageways, Moraines	Yes	2B3
	Beltrami	10	---	No	---
75:					
Bluffton loam	Bluffton	100	Depressions, Moraines	Yes	2B3, 3
109:					
Cordova loam	Cordova	90	Drainageways, Moraines	Yes	2B3
	Gonvick	5	---	No	---
	Marcellon	5	---	No	---
114:					
Glencoe loam	Glencoe	100	Depressions, Moraines	Yes	2B3, 3
119B:					
Pomroy fine sand, 1 to 6 percent slopes	Pomroy	90	Drumlins	No	---
	Brainerd	4	---	No	---
	Mahtomedi	3	---	No	---
	Watab	3	Draws, Swales	Yes	2B2

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125: Beltrami loam	Beltrami	90	Moraines	No	---
	Bluffton	3	Depressions, Drainageways	Yes	2B3, 3
	Glencoe	3	Depressions, Drainageways	Yes	2B3, 3
	Nebish	2	---	No	---
	Shooker	2	Depressions, Drainageways	Yes	2B3
129: Cylinder loam	Cylinder	90	Outwash plains	No	---
	Estherville	10	---	No	---
133B: Dalbo loam, 2 to 8 percent slopes	Dalbo	90	Outwash plains	No	---
	Hubbard	10	---	No	---
142: Nokay fine sandy loam	Nokay	90	Drumlins	No	---
	Flak	5	---	No	---
	Prebish	5	Depressions, Drainageways	Yes	2B3, 3
144B: Flak sandy loam, 4 to 8 percent slopes	Flak	90	Drumlins	No	---
	Chetek	5	---	No	---
	Prebish	5	Depressions, Drainageways	Yes	2B3, 3
144C: Flak sandy loam, 8 to 15 percent slopes	Flak	90	Drumlins	No	---
	Chetek	5	---	No	---
	Prebish	5	Depressions	Yes	2B3, 3

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144E:					
Flak sandy loam, 15 to 25 percent slopes	Flak	90	Drumlins	No	---
	Chetek	5	---	No	---
	Prebish	5	Depressions, Drainageways	Yes	2B3, 3
155B:					
Chetek sandy loam, 1 to 6 percent slopes	Chetek	90	Outwash plains	No	---
	Mahtomedi	10	---	No	---
156A:					
Fairhaven loam, 0 to 2 percent slopes	Fairhaven	90	Outwash plains	No	---
	Biscay	5	Depressions, Drainageways	Yes	2B3, 3
	Ridgeport	5	---	No	---
156B:					
Fairhaven loam, 2 to 6 percent slopes	Fairhaven	90	Outwash plains	No	---
	Biscay	5	Depressions, Drainageways	Yes	2B3, 3
	Ridgeport	5	---	No	---
159B:					
Anoka loamy sand, 2 to 8 percent slopes	Anoka	90	Outwash plains	No	---
	Dorset	5	---	No	---
	Nymore	5	---	No	---
163B:					
Brainerd fine sandy loam, 1 to 4 percent slopes	Brainerd	90	Drumlins	No	---
	Prebish	10	Depressions, Drainageways, Swales	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
179B:					
Langola loamy sand, 1 to 4 percent slopes	Langola	90	Moraines	No	---
	Hubbard	5	---	No	---
	Watab	5	Depressions, Swales	Yes	2B2
180A:					
Gonvick loam, 1 to 2 percent slopes	Gonvick	90	Moraines	No	---
	Cordova	4	Drainageways, Swales	Yes	2B3
	Glencoe	3	Depressions, Swales	Yes	2B3, 3
	Waukon	3	---	No	---
180B:					
Gonvick loam, 2 to 4 percent slopes	Gonvick	90	Moraines	No	---
	Hamel	4	Drainageways, Swales	Yes	2B3
	Cordova	3	Drainageways, Swales	Yes	2B3
	Waukon	3	---	No	---
181:					
Litchfield loamy sand	Litchfield	90	Outwash plains	No	---
	Darfur	5	Drainageways, Swales	Yes	2B3
	Dassel	5	Depressions	Yes	2B3
183:					
Dassel sandy loam	Dassel	90	Drainageways, Outwash plains	Yes	2B3
	Estherville	5	---	No	---
	Litchfield	5	---	No	---
200B:					
Holdingford sandy loam, 4 to 8 percent slopes	Holdingford	90	Moraines	No	---
	Prebish	10	Depressions	Yes	2B3, 3

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200C:					
Holdingford sandy loam, 8 to 15 percent slopes	Holdingford	90	Moraines	No	---
	Chetek	5	---	No	---
	Prebish	5	Depressions, Drainageways	Yes	2B3, 3
204B:					
Cushing sandy loam, 2 to 8 percent slopes	Cushing	90	Moraines	No	---
	DeMontreville	3	---	No	---
	Prebish	3	Depressions, Drainageways	Yes	2B3, 3
	Jewett	2	---	No	---
	Nokay	2	---	No	---
204C:					
Cushing sandy loam, 8 to 15 percent slopes	Cushing	90	Moraines	No	---
	DeMontreville	3	---	No	---
	Prebish	3	Depressions, Drainageways, Moraines	Yes	2B3, 3
	Jewett	2	---	No	---
	Nokay	2	---	No	---
204E:					
Cushing sandy loam, 15 to 25 percent slopes	Cushing	90	Moraines	No	---
	DeMontreville	4	---	No	---
	Nokay	3	---	No	---
	Prebish	3	Depressions, Drainageways	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
207B:					
Nymore loamy sand, 2 to 8 percent slopes	Nymore	90	Outwash plains	No	---
	Duelm	5	---	No	---
	Hubbard	5	---	No	---
207C:					
Nymore loamy sand, 8 to 15 percent slopes	Nymore	90	Outwash plains	No	---
	Duelm	5	---	No	---
	Hubbard	5	---	No	---
207E:					
Nymore loamy sand, 15 to 25 percent slopes	Nymore	100	Outwash plains	No	---
218:					
Watab loamy fine sand	Watab	90	Interdrumlins, Swales	Yes	2B2
	Langola	5	---	No	---
	Pomroy	5	---	No	---
233B:					
Growton sandy loam, 1 to 4 percent slopes	Growton	90	Moraines	No	---
	Prebish	10	Depressions, Drainageways, Swales	Yes	2B3, 3
236:					
Vallers loam	Vallers	90	Flats, Moraines	Yes	2B3
	Flom	5	Depressions, Flats	Yes	2B3
	Roliss	5	Depressions, Flats	Yes	2B3
255:					
Mayer loam	Mayer	90	Flats, Stream terraces	Yes	2B3
	Mayer, depressional	10	Depressions	Yes	2B3, 3

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260: Duelm loamy sand	Duelm	90	Stream terraces	No	---
	Dickman	5	---	No	---
	Isan	5	Depressions	Yes	2B2, 3
261: Isan loamy sand	Isan	90	Depressions, Stream terraces	Yes	2B2, 3
	Duelm	10	---	No	---
281: Darfur coarse sandy loam	Darfur	90	Drainageways, Outwash plains	Yes	2B3
	Dickman	4	---	No	---
	Litchfield	3	---	No	---
	Ridgeport	3	---	No	---
292B: Alstad sandy loam, 1 to 4 percent slopes	Alstad	90	Moraines	No	---
	Prebish	10	Depressions, Drainageways	Yes	2B3, 3
318: Mayer loam, depressional	Mayer, depressional	100	Depressions, Outwash plains	Yes	2B3, 3
325: Prebish sandy loam, depressional	Prebish, depressional	90	Depressions, Moraines	Yes	2B3, 3
	Brainerd	4	---	No	---
	Cathro	3	Depressions	Yes	1, 3
	Nokay	3	---	No	---

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327A:					
Dickman sandy loam, 0 to 2 percent slopes	Dickman	90	Outwash plains	No	---
	Duelm	5	---	No	---
	Hubbard	5	---	No	---
327B:					
Dickman sandy loam, 2 to 6 percent slopes	Dickman	95	Outwash plains	No	---
	Hubbard	5	---	No	---
392:					
Biscay loam	Biscay	90	Drainageways, Outwash plains	Yes	2B3
	Biscay, depressional	5	Depressions	Yes	2B3, 3
	Mayer, depressional	5	Depressions	Yes	2B3, 3
399:					
Biscay loam, depressional	Biscay, depressional	100	Depressions, Outwash plains	Yes	2B3, 3
406B:					
Dorset sandy loam, 2 to 8 percent slopes	Dorset	90	Outwash plains	No	---
	Biscay	4	Depressions	Yes	2B3, 3
	Nymore	3	---	No	---
	Regal	3	Depressions	Yes	2B3, 3
406C:					
Dorset sandy loam, 8 to 15 percent slopes	Dorset	90	Outwash plains	No	---
	Biscay	4	Depressions	Yes	2B3, 3
	Nymore	3	---	No	---
	Regal	3	Depressions	Yes	2B3, 3

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406E:					
Dorset sandy loam, 15 to 25 percent slopes	Dorset	90	Outwash plains	No	---
	Hawick	5	---	No	---
	Nymore	5	---	No	---
413:					
Osakis loam	Osakis	90	Outwash plains	No	---
	Estherville	5	---	No	---
	Regal	5	Depressions, Swales	Yes	2B3
414:					
Hamel loam	Hamel	90	Drainageways, Moraines	Yes	2B3
	Normania	4	---	No	---
	Gonvick	3	---	No	---
	Marcellon	3	---	No	---
421B:					
Ves loam, 2 to 6 percent slopes	Ves	90	Moraines	No	---
	Flom	5	Swales	Yes	2B3
	Hamel	5	Swales	Yes	2B3
421C:					
Ves loam, 6 to 12 percent slopes	Ves	90	Moraines	No	---
	Storden	10	---	No	---
446A:					
Normania loam, 1 to 3 percent slopes	Normania	90	Moraines	No	---
	Bluffton	5	Depressions, Swales	Yes	2B3, 3
	Flom	5	Drainageways, Swales	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
446B:					
Normania loam, 3 to 5 percent slopes	Normania	90	Moraines	No	---
	Flom	5	Drainageways, Swales	Yes	2B3, 3
	Hamel	5	Drainageways, Swales	Yes	2B3
453B:					
DeMontreville loamy sand, 2 to 8 percent slopes	DeMontreville	90	Moraines	No	---
	Cushing	4	---	No	---
	Nokay	3	---	No	---
	Prebish	3	Depressions, Drainageways	Yes	2B3, 3
453C:					
DeMontreville loamy sand, 8 to 15 percent slopes	DeMontreville	90	Moraines	No	---
	Cushing	4	---	No	---
	Nokay	3	---	No	---
	Prebish	3	Depressions, Drainageways	Yes	2B3, 3
454B:					
Mahtomedi loamy coarse sand, 2 to 8 percent slopes	Mahtomedi	90	Outwash plains	No	---
	Chetek	2	---	No	---
	Cushing	2	---	No	---
	DeMontreville	2	---	No	---
	Flak	2	---	No	---
	Holdingford	2	---	No	---
454C:					
Mahtomedi loamy coarse sand, 8 to 15 percent slopes	Mahtomedi	90	Outwash plains	No	---
	Cushing	5	---	No	---
	DeMontreville	5	---	No	---

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454E:					
Mahtomedi loamy coarse sand, 15 to 25 percent slopes	Mahtomedi	90	Outwash plains	No	---
	Cushing	4	---	No	---
	DeMontreville	3	---	No	---
	Flak	3	---	No	---
454F:					
Mahtomedi loamy coarse sand, 25 to 40 percent slopes	Mahtomedi	90	Outwash plains	No	---
	Cushing	5	---	No	---
	Flak	5	---	No	---
459:					
Corunna loam	Corunna	95	Moraines, Swales	Yes	2B3
	Coriff	5	Swales	Yes	2B3
461B:					
Koronis loam, 2 to 6 percent slopes	Koronis	90	Moraines	No	---
	Cordova	4	Drainageways, Swales	Yes	2B3
	Hamel	3	Drainageways, Swales	Yes	2B3
	Marcellon	3	---	No	---
465:					
Kalmarville sandy loam, frequently flooded	Kalmarville, frequently flooded	100	Alluvial flats	Yes	2B3, 4
511:					
Marcellon loam	Marcellon	90	Moraines	No	---
	Glencoe	10	Depressions	Yes	2B3, 3
525:					
Muskego muck	Muskego	90	Depressions	Yes	1, 3
	Cathro	5	Depressions	Yes	1, 3
	Markey	5	Depressions	Yes	1, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
540: Seelyeville muck	Seelyeville	100	Depressions	Yes	1, 3
541: Rifle mucky peat	Rifle	90	Depressions	Yes	1, 3
	Muskego	5	Depressions	Yes	1, 3
	Seelyeville	5	Depressions	Yes	1, 3
543: Markey muck	Markey	100	Depressions, Outwash plains	Yes	1, 3
544: Cathro muck	Cathro	90	Depressions, Moraines	Yes	1, 3
	Glencoe	10	Depressions	Yes	2B3, 3
565: Eckvoll loamy sand	Eckvoll	90	Moraines	No	---
	Cordova	5	Drainageways, Swales	Yes	2B3
	Gonvick	5	---	No	---
566: Regal loam	Regal	90	Outwash plains, Swales	Yes	2B3
	Osakis	10	---	No	---
571: Coriff loam	Coriff	90	Moraines, Swales	Yes	2B3
	Corunna	5	Swales	Yes	2B3
	Roliss	5	Flats	Yes	2B3
572: Lowlein sandy loam	Lowlein	90	Moraines	No	---
	Corunna	10	Swales	Yes	2B3

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582:					
Roliss loam	Roliss	90	Flats, Moraines	Yes	2B3
	Normania	10	---	No	---
591B:					
Doland silt loam, 1 to 6 percent slopes	Doland	90	Moraines	No	---
	Flom	10	Drainageways, Swales	Yes	2B3
597:					
Tara silt loam	Tara	90	Moraines	No	---
	Flom	10	Flats, Swales	Yes	2B3
611C:					
Hawick loamy sand, 6 to 12 percent slopes	Hawick	90	Outwash plains	No	---
	Estherville	10	---	No	---
611D:					
Hawick loamy sand, 12 to 40 percent slopes	Hawick	95	Outwash plains	No	---
	Estherville	5	---	No	---
639A:					
Ridgeport sandy loam, 0 to 2 percent slopes	Ridgeport	90	Outwash plains	No	---
	Biscay	4	Depressions, Drainageways	Yes	2B3
	Estherville	3	---	No	---
	Litchfield	3	---	No	---
639B:					
Ridgeport sandy loam, 2 to 6 percent slopes	Ridgeport	90	Outwash plains	No	---
	Biscay	3	Depressions, Drainageways	Yes	2B3
	Estherville	3	---	No	---
	Fairhaven	2	---	No	---
	Litchfield	2	---	No	---

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804D:					
Koronis-Estherville complex, 12 to 25 percent slopes	Koronis	70	Moraines	No	---
	Estherville	20	Moraines	No	---
	Hawick	10	---	No	---
848:					
Urban land-Osakis complex	Urban land	80	Outwash plains		---
	Osakis	20	Outwash plains	No	---
850:					
Urban land-Dassel complex	Urban land	80	Outwash plains		---
	Dassel	20	Depressions, Outwash plains	Yes	2B3, 3
865B:					
Urban land-Hubbard complex, 1 to 8 percent slopes	Urban land	90	Outwash plains		---
	Hubbard	10	Outwash plains	No	---
873:					
Prebish-Nokay complex	Prebish	45	Depressions, Moraines	Yes	2B3, 3
	Nokay	35	Moraines	No	---
	Alstad	10	---	No	---
	Cathro	10	Depressions	Yes	1, 3
875B:					
Estherville-Hawick complex, 2 to 6 percent slopes	Estherville	55	Outwash plains	No	---
	Hawick	35	Outwash plains	No	---
	Biscay	4	Depressions, Swales	Yes	2B3
	Fairhaven	3	---	No	---
	Osakis	3	---	No	---

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954C:					
Ves-Storden loams, 6 to 12 percent slopes	Ves	70	Moraines	No	---
	Storden	25	Moraines	No	---
	Normania	5	---	No	---
954D:					
Ves-Storden loams, 12 to 18 percent slopes	Ves	60	Moraines	No	---
	Storden	40	Moraines	No	---
999B:					
Ves-Estherville complex, 2 to 6 percent slopes	Ves	65	Moraines	No	---
	Estherville	20	Moraines	No	---
	Flom	4	Drainageways, Swales	Yes	2B3
	Hawick	4	---	No	---
	Lowlein	4	---	No	---
	Normania	3	---	No	---
999C:					
Ves-Estherville complex, 6 to 12 percent slopes	Ves	65	Moraines	No	---
	Estherville	25	Moraines	No	---
	Hawick	10	---	No	---
999D:					
Ves-Estherville complex, 12 to 25 percent slopes	Ves	65	Moraines	No	---
	Estherville	25	Moraines	No	---
	Hawick	10	---	No	---
1013:					
Pits, quarry	Pits, quarry	100	Stream terraces		---
1015:					
Psammets, sloping	Psammets, sloping	100	Stream terraces	No	---

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1016: Udorthents, loamy	Udorthents, loamy	100	Moraines		---
1018: Udifluvents, frequently flooded	Udifluvents, frequently flooded	90	Flood plains	No	---
	Fordum, frequently flooded	5	Flood plains	Yes	2B3, 4
	Winterfield, occasionally flooded	5	---	No	---
1029: Pits, gravel	Pits, gravel	100	Stream terraces		---
1055: Histosols and Haplaquolls, ponded	Haplaquolls, ponded	50	Depressions, Moraines	Yes	2B3, 3
	Histosols, ponded	50	Depressions, Moraines	Yes	1, 3
1064: Rock outcrop-Lithic Eutrochrepts complex	Rock outcrop	55	Stream terraces	No	---
	Lithic Eutrochrepts	45	Stream terraces	No	---
1163: Cohoctah loam, 0 to 2 percent slopes, frequently flooded	Cohoctah, frequently flooded	90	Flood plains	Yes	2B3, 4
	Havelock	10	Flood plains	Yes	2B3
1805: Blue Earth variant, mucky silt loam	Blue Earth, variant	100	Depressions, Outwash plains	Yes	2B3, 3
1825C: Seelyeville muck, sloping	Seelyeville, sloping	100	Hillslopes, Toes	Yes	1
1828: Glencoe muck	Glencoe	85	Depressions, Moraines	Yes	2B3, 3
	Bluffton	8	Depressions	Yes	2B3, 3
	Cathro	7	Depressions	Yes	1, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1842F:					
Cushing and Flak sandy loams, steep	Cushing, steep	50	Moraines	No	---
	Flak, steep	40	Moraines	No	---
	DeMontreville	5	---	No	---
	Mahtomedi	5	---	No	---
1843C:					
Cushing-DeMontreville complex, 8 to 15 percent slopes	Cushing	50	Moraines	No	---
	DeMontreville	35	Moraines	No	---
	Nokay	8	---	No	---
	Prebish	7	Depressions, Drainageways	Yes	2B3, 3
1843E:					
Cushing-DeMontreville complex, 15 to 25 percent slopes	Cushing	45	Moraines	No	---
	DeMontreville	40	Moraines	No	---
	Nokay	8	---	No	---
	Prebish	7	Depressions, Drainageways	Yes	2B3, 3
1879:					
Seelyeville muck, calcareous	Seelyeville, calcareous	100	Depressions	Yes	1, 3
1880:					
Martisco mucky silt loam	Martisco	90	Depressions	Yes	2B3, 3
	Blue Earth, variant	5	Depressions, Marshes	Yes	2B3, 3
	Seelyeville, calcareous	5	Depressions	Yes	1, 3
1892:					
Prebish fine sandy loam	Prebish	95	Flats, Moraines	Yes	2B3
	Nokay	5	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1902B:					
Jewett silt loam, 2 to 8 percent slopes	Jewett	90	Moraines	No	---
	Cushing	4	---	No	---
	Nokay	3	---	No	---
	Prebish	3	Depressions, Drainageways	Yes	2B3, 3
L307B:					
Koronis loam, 2 to 6 percent slopes	Koronis	80	Moraines	No	---
	Marcellon	10	Moraines	No	---
	Barry	5	Moraines	Yes	2B3
	Sunburg	5	Moraines	No	---
L307C2:					
Koronis loam, 6 to 12 percent slopes, moderately eroded	Koronis, moderately eroded	75	Moraines	No	---
	Sunburg	10	Moraines	No	---
	Forestcity	5	Moraines	Yes	2B3
	Marcellon	5	Moraines	No	---
	Terril	5	Moraines	No	---
L307E:					
Koronis loam, 18 to 40 percent slopes	Koronis	75	Moraines	No	---
	Ridgeton	10	Moraines	No	---
	Sunburg	10	Moraines	No	---
	Forestcity, overwash	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L316B:					
Haplosaprists, calcareous-Aquolls complex, 1 to 6 percent slopes	Haplosaprists, calcareous	70	Moraines	Yes	1
	Aquolls	20	Moraines	Yes	2B3
	Arctander	5	Moraines	Yes	2B3
	Swedegrove	3	Moraines	Yes	2B3
	Crowriver	2	Moraines	Yes	2B3
L317A:					
Barry loam, 0 to 2 percent slopes	Barry	85	Moraines	Yes	2B3
	Marcellon	10	Moraines	No	---
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
L318A:					
Lundlake silty clay loam, 0 to 1 percent slopes	Lundlake	85	Depressions, Moraines	Yes	2B3, 3
	Histic Endoaquolls	5	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	5	Moraines	Yes	2B3
	Uniongrove	5	Moraines	Yes	2B3
L319A:					
Swedegrove-Lundlake complex, 0 to 2 percent slopes	Swedegrove	65	Moraines	Yes	2B3
	Lundlake	20	Depressions, Moraines	Yes	2B3, 3
	Crowriver	10	Moraines	Yes	2B3
	Seaforth, lundlake catena	5	Moraines	No	---
L320A:					
Muskego and Klossner soils, lundlake catena, 0 to 1 percent slopes, frequently flooded	Klossner, frequently flooded	45	Flood plains	Yes	1, 3, 4
	Muskego, frequently flooded	45	Flood plains	Yes	1, 3, 4
	Suckercreek, frequently flooded	10	Flood plains	Yes	2B3, 4

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L321A:					
Swedegrove loam, 0 to 2 percent slopes	Swedegrove	85	Moraines	Yes	2B3
	Crowriver	5	Moraines	Yes	2B3
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
	Seaforth, lundlake catena	5	Moraines	No	---
L322A:					
Uniongrove loam, 0 to 2 percent slopes	Uniongrove	80	Moraines	Yes	2B3
	Lundlake	10	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	10	Moraines	Yes	2B3
L323A:					
Crowriver loam, 0 to 2 percent slopes	Crowriver	90	Moraines	Yes	2B3
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	5	Moraines	Yes	2B3
L324A:					
Forestcity, overwash-Forestcity complex, 1 to 4 percent slopes	Forestcity, overwash	45	Moraines	No	---
	Forestcity	40	Moraines	Yes	2B3
	Lundlake	10	Depressions, Moraines	Yes	2B3, 3
	Marcellon	5	Moraines	No	---
L325A:					
Crowriver-Lundlake complex, 0 to 2 percent slopes	Crowriver	45	Moraines	Yes	2B3
	Lundlake	35	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	15	Moraines	Yes	2B3
	Seaforth, lundlake catena	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L326B:					
Rohrbeck-Koronis complex, 1 to 6 percent slopes	Rohrbeck	55	Moraines	No	---
	Koronis	35	Moraines	No	---
	Barry	8	Moraines	Yes	2B3
	Lundlake	2	Depressions, Moraines	Yes	2B3, 3
L330A:					
Muskego, Blue Earth and Houghton soils, lundlake catena, 0 to 1 percent slopes, ponded	Blue Earth, ponded	30	Depressions, Moraines	Yes	2B3, 3
	Houghton, ponded	30	Depressions, Moraines	Yes	1, 3
	Muskego, ponded	30	Depressions, Moraines	Yes	1, 3
	Klossner, lundlake catena, ponded	10	Depressions, Moraines	Yes	1, 3
L331A:					
Klossner muck, lundlake catena, 0 to 1 percent slopes	Klossner, drained, lundlake catena	80	Depressions, Moraines	Yes	1, 3
	Lundlake	15	Depressions, Moraines	Yes	2B3, 3
	Houghton, drained	5	Depressions, Moraines	Yes	1, 3
L333A:					
Blue Earth soils, lundlake catena, 0 to 1 percent slopes	Blue Earth, lundlake catena, surface drained	70	Depressions, Moraines	Yes	2B3, 3
	Blue Earth, lundlake catena, drained	20	Depressions, Moraines	Yes	2B3, 3
	Swedegrove	10	Moraines	Yes	2B3
L334A:					
Houghton and Muskego soils, lundlake catena, 0 to 1 percent slopes	Houghton, surface drained	40	Depressions, Moraines	Yes	1, 3
	Muskego, surface drained	40	Depressions, Moraines	Yes	1, 3
	Klossner, drained lundlake catena	10	Depressions, Moraines	Yes	1, 3
	Lundlake	10	Depressions, Moraines	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L335A:					
Klossner soils, lundlake catena, 0 to 1 percent slopes	Klossner, surface drained, lundlake catena	65	Depressions, Moraines	Yes	1, 3
	Klossner, drained, lundlake catena	20	Depressions, Moraines	Yes	1, 3
	Lundlake	15	Depressions, Moraines	Yes	2B3, 3
L337B:					
Wadenill-Sunburg complex, 2 to 6 percent slopes	Wadenill	65	Moraines	No	---
	Sunburg	20	Moraines	No	---
	Grovecity	10	Moraines	No	---
	Uniongrove	5	Moraines	Yes	2B3
L347A:					
Klossner and Lundlake soils, 0 to 1 percent slopes, ponded	Klossner, lundlake catena, ponded	50	Depressions, Moraines	Yes	1, 3
	Lundlake, ponded	45	Depressions, Moraines	Yes	2B3, 3
	Houghton, ponded	5	Depressions, Moraines	Yes	1, 3
L350A:					
Marcellon loam, 0 to 3 percent slopes	Marcellon	85	Moraines	No	---
	Barry	8	Moraines	Yes	2B3
	Koronis	5	Moraines	No	---
	Lundlake	2	Depressions, Moraines	Yes	2B3, 3
L351A:					
Houghton muck, lundlake catena, 0 to 1 percent slopes	Houghton, drained	80	Depressions, Moraines	Yes	1, 3
	Klossner, drained, lundlake catena	10	Depressions, Moraines	Yes	1, 3
	Lundlake	10	Depressions, Moraines	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L352A:					
Muskego muck, lundlake catena, 0 to 1 percent slopes	Muskego, drained, lundlake catena	90	Depressions, Moraines	Yes	1, 3
	Blue Earth, drained, lundlake catena	10	Depressions, Moraines	Yes	2B3, 3
L355B:					
Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes	Koronis	50	Moraines	No	---
	Sunburg	20	Moraines	No	---
	Hawick	15	Moraines	No	---
	Marcellon	10	Moraines	No	---
	Barry	5	Moraines	Yes	2B3
L355C2:					
Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, moderately eroded	Koronis, moderately eroded	45	Moraines	No	---
	Sunburg, moderately eroded	25	Moraines	No	---
	Hawick	15	Moraines	No	---
	Terril	10	Moraines	No	---
	Forestcity	5	Moraines	Yes	2B3
L355D2:					
Koronis-Sunburg-Hawick complex, 12 to 18 percent slopes, moderately eroded	Koronis, moderately eroded	40	Moraines	No	---
	Sunburg, moderately eroded	30	Moraines	No	---
	Hawick	15	Moraines	No	---
	Ridgeton	10	Moraines	No	---
	Forestcity, overwash	5	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L355E:					
Koronis-Sunburg-Hawick complex, 18 to 40 percent slopes	Koronis	50	Moraines	No	---
	Sunburg	20	Moraines	No	---
	Hawick	15	Moraines	No	---
	Ridgeton	10	Moraines	No	---
	Forestcity, overwash	5	Moraines	No	---
L356C2:					
Sunburg-Wadenill complex, 6 to 12 percent slopes, moderately eroded	Sunburg, moderately eroded	60	Moraines	No	---
	Wadenill, moderately eroded	30	Moraines	No	---
	Arctander	5	Moraines	Yes	2B3
	Terril	5	Moraines	No	---
L356D2:					
Sunburg-Wadenill complex, 12 to 18 percent slopes, moderately eroded	Sunburg, moderately eroded	70	Moraines	No	---
	Wadenill, moderately eroded	20	Moraines	No	---
	Arctander, overwash	5	Moraines	No	---
	Ridgeton	5	Moraines	No	---
L357B:					
Koronis-Sunburg complex, 2 to 6 percent slopes	Koronis	60	Moraines	No	---
	Sunburg	20	Moraines	No	---
	Marcellon	10	Moraines	No	---
	Barry	5	Moraines	Yes	2B3
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L357C2:					
Koronis-Sunburg complex, 6 to 12 percent slopes, moderately eroded	Koronis, moderately eroded	60	Moraines	No	---
	Sunburg, moderately eroded	20	Moraines	No	---
	Forestcity	10	Moraines	Yes	2B3
	Lundlake	5	Depressions, Moraines	Yes	2B3, 3
	Terril	5	Moraines	No	---
L357D2:					
Koronis-Sunburg complex, 12 to 18 percent slopes, moderately eroded	Koronis, moderately eroded	65	Moraines	No	---
	Sunburg, moderately eroded	20	Moraines	No	---
	Ridgeton	10	Moraines	No	---
	Forestcity, overwash	5	Moraines	No	---
M-W:					
Water, miscellaneous	Water, miscellaneous	100	---		---
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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