Hydric Soils

Washington 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
2:					
Ostrander silt loam, 0 to 2 percent slopes	Ostrander	90	Loess hills	No	---
	Baytown	4	---	No	---
	Gale	3	---	No	---
	Waukegan	3	---	No	---
2B:					
Ostrander silt loam, 2 to 6 percent slopes	Ostrander	90	Loess hills	No	---
	Baytown	4	---	No	---
	Gale	3	---	No	---
	Waukegan	3	---	No	---
2C:					
Ostrander silt loam, 6 to 12 percent slopes	Ostrander	90	Loess hills	No	---
	Ripon	4	---	No	---
	Baytown	3	---	No	---
	Lindstrom	3	---	No	---
7B:					
Hubbard loamy sand, 1 to 6 percent slopes	Hubbard	90	Outwash plains	No	---
	Dickman	5	---	No	---
	Sparta	5	---	No	---
7C:					
Hubbard loamy sand, 6 to 12 percent slopes	Hubbard	90	Outwash plains	No	---
	Dickman	10	---	No	---
7D:					
Hubbard loamy sand, 12 to 18 percent slopes					

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
8:					
Sparta loamy sand, 0 to 2 percent slopes	Sparta	90	Outwash terraces	No	---
	Dickman	4	---	No	---
	Hubbard	3	---	No	---
	Sparta, bedrock substratum	3	---	No	---
8B:					
Sparta loamy sand, 2 to 6 percent slopes	Sparta	90	Outwash terraces	No	---
	Dickman	4	---	No	---
	Hubbard	3	---	No	---
	Sparta, bedrock substratum	3	---	No	---
8C:					
Sparta loamy sand, 6 to 15 percent slopes	Sparta	90	Outwash terraces	No	---
	Dickman	5	---	No	---
	Hubbard	5	---	No	---
12C:					
Emmert gravelly loamy coarse sand, 3 to 12 percent slopes	Emmert	90	Pitted outwash plains	No	---
	Chetek	5	---	No	---
	Kingsley	5	---	No	---
12D:					
Emmert gravelly loamy coarse sand, 15 to 25 percent slopes	Emmert	90	Pitted outwash plains	No	---
	Chetek	5	---	No	---
	Kingsley	5	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
49:					
Antigo silt loam, 0 to 2 percent slopes	Antigo	90	Outwash plains	No	---
	Brill	2	---	No	---
	Campia	2	---	No	---
	Chetek	2	---	No	---
	Rosholt	2	---	No	---
	Barronett, sandy substratum	1	Drainageways	Yes	2B3
	Poskin	1	---	No	---
49B:					
Antigo silt loam, 2 to 6 percent slopes	Antigo	90	Outwash plains	No	---
	Brill	2	---	No	---
	Campia	2	---	No	---
	Chetek	2	---	No	---
	Rosholt	2	---	No	---
	Barronett, sandy substratum	1	Drainageways	Yes	2B3
	Poskin	1	---	No	---
49C:					
Antigo silt loam, 6 to 12 percent slopes	Antigo	90	Pitted outwash plains	No	---
	Brill	2	---	No	---
	Campia	2	---	No	---
	Chetek	2	---	No	---
	Rosholt	2	---	No	---
	Barronett, sandy substratum	1	Drainageways	Yes	2B3
	Poskin	1	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
49D:					
Antigo silt loam, 12 to 18 percent slopes	Antigo	90	Pitted outwash plains	No	---
	Chetek	5	---	No	---
	Mahtomedi	5	---	No	---
75:					
Bluffton loam	Bluffton	85	Depressions, Moraines	Yes	2B3, 3
	Cathro	5	Depressions	Yes	1, 3
	Dundas	5	Drainageways, Moraines	Yes	2B3
	Webster	5	Drainageways, Moraines	Yes	2B3
100B:					
Copaston loam, 0 to 6 percent slopes	Copaston	100	Terraces	No	---
100C:					
Copaston loam, 6 to 12 percent slopes	Copaston	100	Terraces	No	---
113:					
Webster loam	Webster	85	Drainageways, Moraines	Yes	2B3
	Dundas	15	Drainageways	Yes	2B3
120:					
Brill silt loam	Brill	90	Drainageways, Outwash plains	No	---
	Antigo	5	---	No	---
	Barronett	5	Depressions, Drainageways, Lake plains	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
123:					
Dundas fine sandy loam	Dundas	85	Drainageways, Moraines	Yes	2B3
	Bluffton	5	Depressions	Yes	2B3, 3
	Cathro	5	Depressions	Yes	1, 3
	Hayden	5	---	No	---
132B:					
Hayden fine sandy loam, 2 to 6 percent slopes	Hayden	90	Moraines	No	---
	Bluffton	4	Depressions	Yes	2B3, 3
	Nessel	3	---	No	---
	Rifle	3	Depressions	Yes	1, 3
132C:					
Hayden fine sandy loam, 6 to 12 percent slopes	Hayden	90	Moraines	No	---
	Bluffton	3	Depressions	Yes	2B3, 3
	Braham	3	---	No	---
	Nessel	2	---	No	---
	Rifle	2	Depressions	Yes	1, 3
132D:					
Hayden fine sandy loam, 12 to 25 percent slopes	Hayden	90	Moraines	No	---
	Dundas	4	Drainageways	Yes	2B3
	Bluffton	3	Depressions	Yes	2B3, 3
	Rifle	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
151:					
Burkhardt sandy loam, 0 to 3 percent slopes	Burkhardt	90	Outwash terraces	No	---
	Dickman	4	---	No	---
	Hubbard	3	---	No	---
	Sparta	3	---	No	---
151B:					
Burkhardt sandy loam, 3 to 9 percent slopes	Burkhardt	90	Outwash terraces	No	---
	Dickman	4	---	No	---
	Hubbard	3	---	No	---
	Sparta	3	---	No	---
153B:					
Santiago silt loam, 2 to 6 percent slopes	Santiago	90	Moraines	No	---
	Freeon	5	---	No	---
	Kingsley	5	---	No	---
153C:					
Santiago silt loam, 6 to 15 percent slopes	Santiago	90	Moraines	No	---
	Freeon	5	---	No	---
	Kingsley	5	---	No	---
155B:					
Chetek sandy loam, 0 to 6 percent slopes	Chetek	90	Outwash plains	No	---
	Kingsley	5	---	No	---
	Poskin	5	---	No	---
155C:					
Chetek sandy loam, 6 to 12 percent slopes	Chetek	90	Pitted outwash plains	No	---
	Kingsley	5	---	No	---
	Poskin	5	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
155D:					
Chetek sandy loam, 12 to 25 percent slopes	Chetek	90	Pitted outwash plains	No	---
	Kingsley	5	---	No	---
	Poskin	5	---	No	---
158B:					
Zimmerman loamy fine sand, 0 to 6 percent slopes	Zimmerman	90	Lake plains	No	---
	Isanti	5	Depressions	Yes	2B2, 3
	Lino	5	---	No	---
158C:					
Zimmerman loamy fine sand, 6 to 12 percent slopes	Zimmerman	90	Lake plains	No	---
	Isanti	5	Depressions	Yes	2B2, 3
	Lino	5	---	No	---
158D:					
Zimmerman loamy fine sand, 12 to 25 percent slopes	Zimmerman	90	Lake plains	No	---
	Braham	5	---	No	---
	Demontreville	5	---	No	---
159:					
Anoka loamy fine sand, 0 to 3 percent slopes	Anoka	90	Outwash plains	No	---
	Lino	5	---	No	---
	Soderville	5	---	No	---
159B:					
Anoka loamy fine sand, 3 to 9 percent slopes	Anoka	90	Outwash plains	No	---
	Lino	5	---	No	---
	Soderville	5	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
161:					
Isanti loamy fine sand, depressional	Isanti, depressional	85	Depressions, Outwash plains	Yes	2B2, 3
	Lino	8	---	No	---
	Markey	7	Depressions	Yes	1, 3
162:					
Lino loamy fine sand	Lino	90	Outwash plains	No	---
	Isanti	5	Depressions	Yes	2B2, 3
	Zimmerman	5	---	No	---
166:					
Ronneby fine sandy loam	Ronneby	90	Drainageways, Moraines	No	---
	Freer	5	---	No	---
	Prebish	5	Depressions	Yes	2B3, 3
169B:					
Braham loamy fine sand, 1 to 6 percent slopes	Braham	90	Moraines	No	---
	Blomford	3	Drainageways	Yes	2B2
	Zimmerman	3	---	No	---
	Cathro	2	Depressions	Yes	1, 3
	Kratka	2	Depressions, Drainageways	Yes	2B3
169C:					
Braham loamy fine sand, 6 to 15 percent slopes	Braham	90	Moraines	No	---
	Blomford	3	Drainageways	Yes	2B2
	Zimmerman	3	---	No	---
	Cathro	2	Depressions	Yes	1, 3
	Kratka	2	Depressions, Drainageways	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
170:					
Blomford loamy fine sand	Blomford	85	Drainageways, Moraines	Yes	2B2
	Braham	4	---	No	---
	Lino	4	---	No	---
	Markey	4	Depressions	Yes	1, 3
	Cathro	3	Depressions	Yes	1, 3
174C:					
Gale silt loam, 6 to 15 percent slopes	Gale	90	Hills	No	---
	Baytown	5	---	No	---
	Ostrander	5	---	No	---
174F:					
Gale silt loam, 25 to 50 percent slopes	Gale	90	Hills	No	---
	Doreton	5	---	No	---
	Mahtomedi	5	---	No	---
177B:					
Gotham loamy sand, 1 to 6 percent slopes	Gotham	90	Pitted outwash plains	No	---
	Anoka	3	---	No	---
	Chetek	3	---	No	---
	Mahtomedi	2	---	No	---
	Zimmerman	2	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
177C:					
Gotham loamy sand, 6 to 12 percent slopes	Gotham	90	Pitted outwash plains	No	---
	Anoka	2	---	No	---
	Brill	2	---	No	---
	Chetek	2	---	No	---
	Mahtomedi	2	---	No	---
	Rosholt	2	---	No	---
177D:					
Gotham loamy sand, 12 to 20 percent slopes	Gotham	90	Pitted outwash plains	No	---
	Anoka	5	---	No	---
	Chetek	5	---	No	---
189:					
Auburndale silt loam	Auburndale	85	Drainageways, Moraines	Yes	2B3
	Cathro	8	Depressions	Yes	1, 3
	Freer	7	---	No	---
225:					
Nessel fine sandy loam, 1 to 4 percent slopes	Nessel	90	Moraines	No	---
	Braham	4	---	No	---
	Dundas	3	Drainageways	Yes	2B3
	Hayden	3	---	No	---
259B:					
Grays silt loam, 2 to 6 percent slopes	Grays	90	Lake plains	No	---
	Barronett	10	Drainageways	Yes	2B3, 3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
264:					
Freeon silt loam, 1 to 4 percent slopes	Freeon	90	Moraines	No	---
	Kingsley	3	---	No	---
	Santiago	3	---	No	---
	Auburndale	2	Depressions, Drainageways	Yes	2B3
	Freer	2	---	No	---
265:					
Soderville loamy fine sand	Soderville	90	Outwash plains	No	---
	Anoka	4	---	No	---
	Isanti	3	Depressions	Yes	2B2, 3
	Zimmerman	3	---	No	---
266:					
Freer silt loam	Freer	90	Moraines	No	---
	Auburndale	5	Depressions, Drainageways	Yes	2B3
	Freeon	5	---	No	---
298:					
Richwood silt loam, 0 to 2 percent slopes	Richwood	90	Outwash plains	No	---
	Lindstrom	10	---	No	---
298B:					
Richwood silt loam, 2 to 6 percent slopes	Richwood	90	Outwash plains	No	---
	Campia	5	---	No	---
	Lindstrom	5	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
301B:					
Lindstrom silt loam, 2 to 4 percent slopes	Lindstrom	90	Loess hills	No	---
	Otter	4	Drainageways	Yes	2B3
	Richwood	3	---	No	---
	Ripon	3	---	No	---
302B:					
Rosholt sandy loam, 1 to 6 percent slopes	Rosholt	90	Outwash plains	No	---
	Antigo	3	---	No	---
	Barronett, sandy substratum	3	Depressions	Yes	2B3
	Brill	2	---	No	---
	Poskin	2	---	No	---
302C:					
Rosholt sandy loam, 6 to 15 percent slopes	Rosholt	90	Outwash plains	No	---
	Antigo	3	---	No	---
	Barronett, sandy substratum	3	Depressions	Yes	2B3
	Brill	2	---	No	---
	Poskin	2	---	No	---
325:					
Prebish loam	Prebish	85	Depressions, Moraines	Yes	2B3, 3
	Auburndale	5	Depressions	Yes	2B3
	Cathro	5	Depressions	Yes	1, 3
	Ronneby	5	---	No	---
327:					
Dickman sandy loam, 0 to 2 percent slopes	Dickman	90	Outwash terraces	No	---
	Hubbard	5	---	No	---
	Sparta	5	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
327B:					
Dickman sandy loam, 2 to 6 percent slopes	Dickman	90	Outwash terraces	No	---
	Hubbard	5	---	No	---
	Sparta	5	---	No	---
327C:					
Dickman sandy loam, 6 to 12 percent slopes	Dickman	90	Outwash terraces	No	---
	Hubbard	5	---	No	---
	Sparta	5	---	No	---
329:					
Chaska silt loam	Chaska	90	Flood plains	Yes	2B3, 4
	Algansee	10	---	No	---
340B:					
Whalan silt loam, 1 to 6 percent slopes	Whalan	90	Loess hills	No	---
	Ostrander	5	---	No	---
	Ripon	5	---	No	---
340C:					
Whalan silt loam, 6 to 12 percent slopes	Whalan	90	Loess hills	No	---
	Ostrander	5	---	No	---
	Ripon	5	---	No	---
342B:					
Kingsley sandy loam, 2 to 6 percent slopes	Kingsley	90	Moraines	No	---
	Freeon	3	---	No	---
	Prebish	3	Depressions	Yes	2B3, 3
	Ronneby	2	---	No	---
	Rosholt	2	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
342C:					
Kingsley sandy loam, 6 to 12 percent slopes	Kingsley	90	Moraines	No	---
	Freeon	4	---	No	---
	Ronneby	3	---	No	---
	Rosholt	3	---	No	---
342D:					
Kingsley sandy loam, 12 to 18 percent slopes	Kingsley	90	Moraines	No	---
	Freeon	4	---	No	---
	Ronneby	3	---	No	---
	Rosholt	3	---	No	---
342E:					
Kingsley sandy loam, 18 to 30 percent slopes	Kingsley	90	Moraines	No	---
	Freeon	4	---	No	---
	Ronneby	3	---	No	---
	Rosholt	3	---	No	---
367B:					
Campia silt loam, 0 to 8 percent slopes	Campia	90	Lake plains	No	---
	Antigo	2	---	No	---
	Barronett	2	Outwash plains	Yes	2B3
	Comstock	2	---	No	---
	Crystal Lake	2	---	No	---
	Santiago	2	---	No	---
408:					
Faxon silt loam	Faxon	85	Drainageways, Terraces	Yes	2B3
	Copaston	15	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
411:					
Waukegan silt loam, 0 to 2 percent slopes	Waukegan	90	Outwash plains	No	---
	Chetek	5	---	No	---
	Dickman	5	---	No	---
411B:					
Waukegan silt loam, 2 to 6 percent slopes	Waukegan	90	Outwash plains	No	---
	Chetek	5	---	No	---
	Dickman	5	---	No	---
411C:					
Waukegan silt loam, 6 to 12 percent slopes	Waukegan	90	Outwash plains	No	---
	Chetek	5	---	No	---
	Dickman	5	---	No	---
449:					
Crystal Lake silt loam, 1 to 3 percent slopes	Crystal Lake	90	Lake plains	No	---
	Barronett	3	Depressions	Yes	2B3
	Brill	3	---	No	---
	Campia	2	---	No	---
	Comstock	2	---	No	---
452:					
Comstock silt loam	Comstock	90	Lake plains	No	---
	Barronett	2	Depressions	Yes	2B3
	Campia	2	---	No	---
	Cathro	2	Depressions	Yes	1, 3
	Crystal Lake	2	---	No	---
	Poskin	2	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
453B:					
DeMontreville loamy fine sand, 2 to 6 percent slopes	DeMontreville	90	Moraines	No	---
	Mahtomedi	4	---	No	---
	Rifle	3	Depressions	Yes	1, 3
	Ronneby	3	---	No	---
453C:					
DeMontreville loamy fine sand, 6 to 12 percent slopes	DeMontreville	90	Moraines	No	---
	Mahtomedi	4	---	No	---
	Rifle	3	Depressions	Yes	1, 3
	Ronneby	3	---	No	---
453D:					
DeMontreville loamy fine sand, 12 to 25 percent slopes	DeMontreville	90	Moraines	No	---
	Mahtomedi	4	---	No	---
	Rifle	3	Depressions	Yes	1, 3
	Ronneby	3	---	No	---
454B:					
Mahtomedi loamy sand, 0 to 6 percent slopes	Mahtomedi	90	Outwash plains	No	---
	Antigo	3	---	No	---
	Brill	3	---	No	---
	Demontreville	2	---	No	---
	Kingsley	2	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
454C:					
Mahtomedi loamy sand, 6 to 12 percent slopes	Mahtomedi	90	Outwash plains	No	---
	Antigo	3	---	No	---
	Brill	3	---	No	---
	Demontreville	2	---	No	---
	Kingsley	2	---	No	---
454D:					
Mahtomedi loamy sand, 12 to 25 percent slopes	Mahtomedi	90	Outwash plains	No	---
	Antigo	4	---	No	---
	Demontreville	3	---	No	---
	Kingsley	3	---	No	---
454F:					
Mahtomedi loamy sand, 25 to 40 percent slopes	Mahtomedi	90	Outwash plains	No	---
	Demontreville	5	---	No	---
	Kingsley	5	---	No	---
456:					
Barronett silt loam	Barronett	85	Drainageways, Lake plains	Yes	2B3
	Grays	8	---	No	---
	Cathro	7	Depressions	Yes	1, 3
460B:					
Baytown silt loam, 1 to 6 percent slopes	Baytown	90	Hills	No	---
	Ostrander	3	---	No	---
	Waukegan	3	---	No	---
	Gale	2	---	No	---
	Lindstrom	2	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
460C:					
Baytown silt loam, 6 to 12 percent slopes	Baytown	90	Hills	No	---
	Ostrander	4	---	No	---
	Copaston	3	---	No	---
	Gale	3	---	No	---
468:					
Otter silt loam	Otter	85	Drainageways, Loess hills	Yes	2B3
	Cathro	8	Depressions	Yes	1, 3
	Lindstrom	7	---	No	---
472B:					
Channahon silt loam, 1 to 6 percent slopes	Channahon	90	Hills	No	---
	Ripon	10	---	No	---
472C:					
Channahon silt loam, 6 to 12 percent slopes	Channahon	90	Hills	No	---
	Ripon	10	---	No	---
472D:					
Channahon silt loam, 12 to 18 percent slopes	Channahon	90	Hills	No	---
	Ripon	10	---	No	---
481:					
Kratka fine sandy loam	Kratka	90	Drainageways, Moraines	Yes	2B3, 3
	Blomford	3	Drainageways	Yes	2B2
	Braham	3	---	No	---
	Markey	2	Depressions	Yes	1, 3
	Webster	2	Drainageways	Yes	2B3
488F:					
Brodale flaggy loam, 20 to 50 percent slopes	Brodale	100	Hills	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
504B:					
Duluth silt loam, 1 to 6 percent slopes	Duluth	90	Moraines	No	---
	Ronneby	4	---	No	---
	Mahtomedi	3	---	No	---
	Rifle	3	Depressions	Yes	1, 3
504C:					
Duluth silt loam, 6 to 12 percent slopes	Duluth	90	Moraines	No	---
	Ronneby	4	---	No	---
	Mahtomedi	3	---	No	---
	Rifle	3	Depressions	Yes	1, 3
504D:					
Duluth silt loam, 12 to 25 percent slopes	Duluth	90	Moraines	No	---
	Ronneby	4	---	No	---
	Mahtomedi	3	---	No	---
	Rifle	3	Depressions	Yes	1, 3
507:					
Poskin silt loam	Poskin	90	Outwash plains	No	---
	Antigo	3	---	No	---
	Barronett, sandy substratum	3	Depressions	Yes	2B3
	Brill	2	---	No	---
	Rosholt	2	---	No	---
529:					
Ripon silt loam, 1 to 2 percent slopes	Ripon	90	Hills	No	---
	Channahon	4	---	No	---
	Waukegan	3	---	No	---
	Whalan	3	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
529B:					
Ripon silt loam, 2 to 6 percent slopes	Ripon	90	Hills	No	---
	Channahon	4	---	No	---
	Waukegan	3	---	No	---
	Whalan	3	---	No	---
529C:					
Ripon silt loam, 6 to 12 percent slopes	Ripon	90	Hills	No	---
	Channahon	4	---	No	---
	Waukegan	3	---	No	---
	Whalan	3	---	No	---
540:					
Seelyeville muck	Seelyeville	85	Depressions	Yes	1, 3
	Cathro	8	Depressions	Yes	1, 3
	Markey	7	Depressions	Yes	1, 3
541:					
Rifle muck	Rifle	85	Depressions	Yes	1, 3
	Cathro	8	Depressions	Yes	1, 3
	Markey	7	Depressions	Yes	1, 3
543:					
Markey muck	Markey	85	Depressions	Yes	1, 3
	Isanti	5	Depressions	Yes	2B2, 3
	Lino	5	---	No	---
	Seelyeville	5	Depressions	Yes	1, 3

Hydric Soils

Washington County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
544:					
Cathro muck	Cathro	85	Depressions	Yes	1, 3
	Bluffton	4	Depressions	Yes	2B3, 3
	Prebish	4	Depressions	Yes	2B3, 3
	Seelyeville	4	Depressions	Yes	1, 3
	Ronneby	3	---	No	---
852B:					
Urban land-Copaston complex, 0 to 8 percent slopes	Urban land	65	Terraces	No	---
	Copaston	35	Terraces	No	---
857:					
Urban land-Waukegan complex, 0 to 3 percent slopes	Urban land	65	Outwash plains	Unranked	---
	Waukegan	35	Outwash plains	No	---
857C:					
Urban land-Waukegan complex, 3 to 15 percent slopes	Urban land	65	Outwash plains	No	---
	Waukegan	35	Outwash plains	No	---
858:					
Urban land-Chetek complex, 0 to 3 percent slopes	Urban land	65	Outwash plains	Unranked	---
	Chetek	35	Outwash plains	No	---
858C:					
Urban land-Chetek complex, 3 to 15 percent slopes	Urban land	65	Outwash plains	No	---
	Chetek	35	Outwash plains	No	---
859B:					
Urban land-Zimmerman complex, 1 to 8 percent slopes	Urban land	60	Outwash plains	No	---
	Zimmerman	35	Outwash plains	No	---

Hydric Soils

Washington County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
860C:					
Urban land-Hayden-Kingsley complex, 3 to 15 percent slopes	Urban land	55	Moraines	No	---
	Hayden	25	Moraines	No	---
	Kingsley	15	Moraines	No	---
860D:					
Urban land-Hayden-Kingsley complex, 15 to 25 percent slopes	Urban land	50	Moraines	No	---
	Hayden	25	Moraines	No	---
	Kingsley	20	Moraines	No	---
861C:					
Urban land-Kingsley complex, 3 to 15 percent slopes	Urban land	60	Moraines	No	---
	Kingsley	35	Moraines	No	---
861D:					
Urban land-Kingsley complex, 15 to 25 percent slopes	Urban land	60	Moraines	No	---
	Kingsley	35	Moraines	No	---
862:					
Urban land-Dundas complex, 1 to 4 percent slopes	Urban land	60	Moraines	No	---
	Dundas	40	Drainageways	Yes	2B3
863:					
Urban land-Lino complex, 0 to 3 percent slopes	Urban land	65	Outwash plains	No	---
	Lino	35	Outwash plains	No	---
896C:					
Mahtomedi-Kingsley complex, 3 to 12 percent slopes	Mahtomedi	60	Moraines	No	---
	Kingsley	35	Moraines	No	---
	Demontreville	2	---	No	---
	Poskin	1	---	No	---
	Ronneby	1	---	No	---
	Santiago	1	---	No	---

Hydric Soils

Washington County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
896D:					
Mahtomedi-Kingsley complex, 12 to 25 percent slopes	Mahtomedi	60	Moraines	No	---
	Kingsley	35	Moraines	No	---
	Demontreville	2	---	No	---
	Poskin	1	---	No	---
	Ronneby	1	---	No	---
	Santiago	1	---	No	---
896F:					
Mahtomedi-Kingsley complex, 25 to 40 percent slopes	Mahtomedi	65	Moraines	No	---
	Kingsley	30	Moraines	No	---
	Antigo	2	---	No	---
	Demontreville	2	---	No	---
	Santiago	1	---	No	---
1013:					
Pits,quarry	Pits, quarry	100	Moraines		---
1027:					
Udorthents, wet substratum	Udorthents, wet substratum	90	Moraines	No	---
1029:					
Pits, gravel	Pits, gravel	100	Outwash plains		---
1033:					
Udifluvents	Udifluvents	90	Shorelines	No	---
1039:					
Urban land	Urban land	100	Moraines	No	---
1040:					
Udorthents	Udorthents	90	Moraines	No	---
1055:					
Aquolls and Histosols, ponded	Aquolls, ponded	50	Depressions, Moraines	Yes	2B3, 3
	Histosols, ponded	50	Depressions, Moraines	Yes	1, 3

Hydric Soils

Washington County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1813B:					
Lino variant loamy fine sand, 2 to 6 percent slopes	Lino	95	Outwash plains	No	---
	Zimmerman	5	---	No	---
1819F:					
Dorerton-Rock outcrop complex, 25 to 65 percent slopes	Dorerton	80	Terraces	No	---
	Rock outcrop	20	Escarpments, Terraces	No	---
1820F:					
Mahtomedi variant-Rock outcrop complex, 25 to 60 percent slopes	Mahtomedi	80	Terraces	No	---
	Rock outcrop	20	Escarpments, Terraces	No	---
1821:					
Algansee loamy sand	Algansee	95	Flood plains	No	---
	Chaska	5	Depressions	Yes	2B3, 4
1827:					
Waukegan variant silt loam, 0 to 2 percent slopes	Waukegan	90	Outwash terraces	No	---
	Waukegan	4	---	No	---
	Antigo	3	---	No	---
	Ripon	3	---	No	---
1827B:					
Waukegan variant silt loam, 2 to 9 percent slopes	Waukegan	90	Outwash terraces	No	---
	Waukegan	4	---	No	---
	Antigo	3	---	No	---
	Ripon	3	---	No	---

Hydric Soils

Washington County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1847:					
Barronett silt loam, sandy substratum	Barronett, sandy substratum	85	Drainageways, Outwash plains	Yes	2B3, 3
	Brill	5	---	No	---
	Markey	5	Depressions	Yes	1, 3
	Poskin	5	---	No	---
1848B:					
Sparta loamy sand, bedrock substratum, 0 to 6 percent slopes	Sparta, bedrock substratum	90	Outwash terraces	No	---
	Dickman	5	---	No	---
	Hubbard	5	---	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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