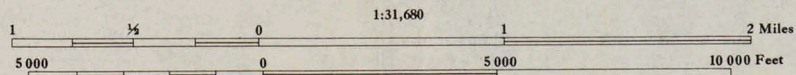
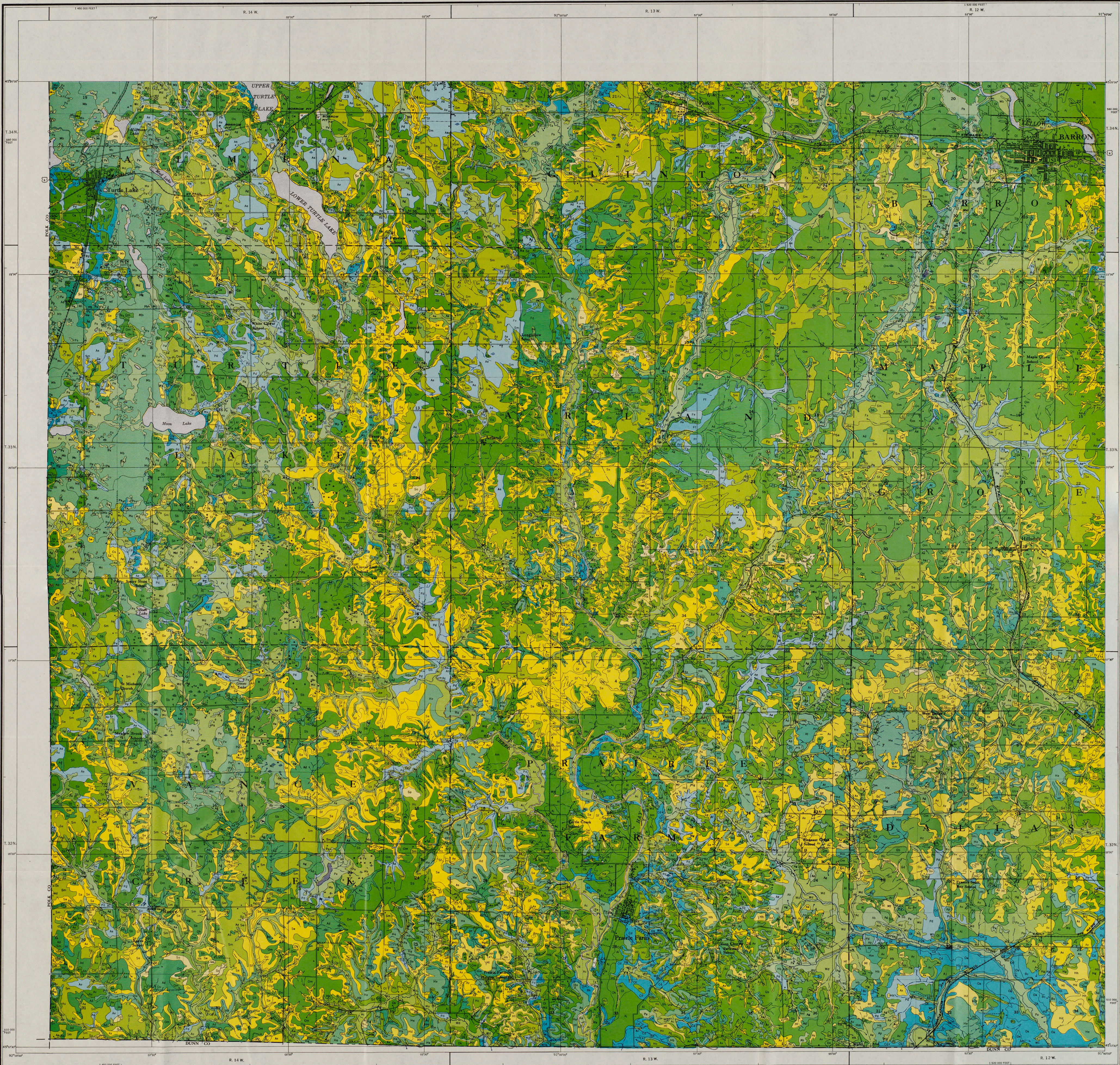


Inspection and correlation by: Iver J. Noyes, U. S. Department of Agriculture, and R. J. Muckelbauer, Wisconsin Agricultural Experiment Station.  
Soils mapped 1943-47 by: Glenn H. Robinson and Anton J. Vessell, in charge, and R. A. Erickson, W. W. Carter, E. F. Nelson, S. W. Torrence, and S. E. Wilke, U. S. Department of Agriculture, and E. T. Barnes, F. J. Carls, M. A. Fehring, E. J. Gaud, F. D. Hoke, A. J. Kinglowsky, R. J. Muckelbauer, L. B. Nelson, J. G. Quaillette, and S. Rieger, University of Wisconsin.

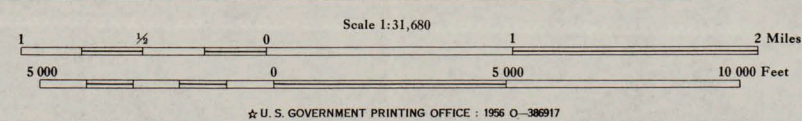


Map constructed by Division of Cartography, Soil Conservation Service, USDA, from 1938-39 aerial photographs. Soils surveyed on 1958-59 aerial photographs. Polyconic projection, 1927 North American datum. 10,000-foot grid based on Wisconsin (Central) rectangular coordinate system.



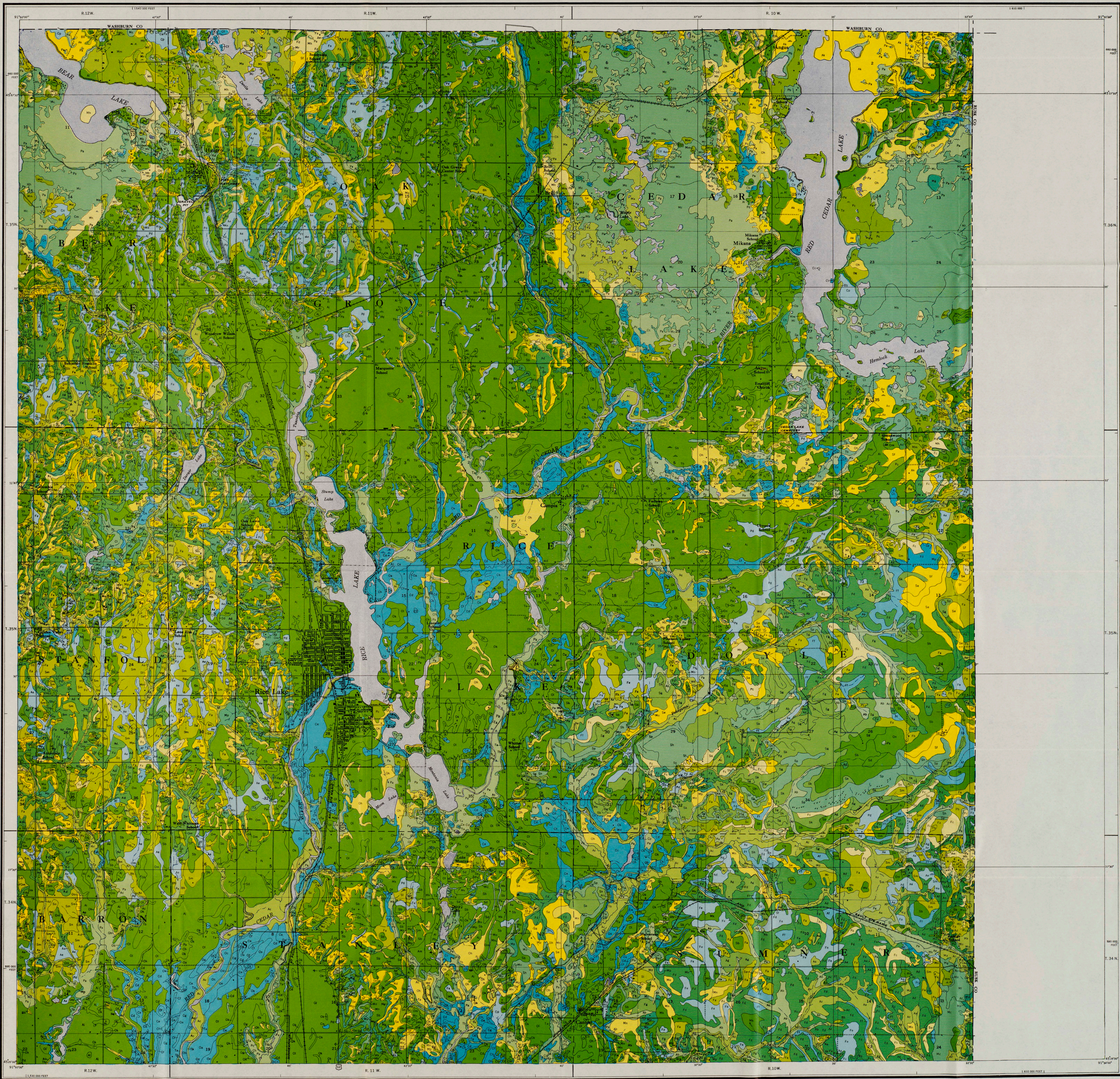


Inspection and correlation by: Iver J. Nugent, U. S. Department of Agriculture,  
and R. J. Muckenridge, Wisconsin Agricultural Experiment Station.  
Soils mapped 1940-42 by Glenn M. Robinson and Arthur J. Vogel, in charge,  
R. A. Erickson, W. W. Carter, E. F. Nelson, S. W. Torrence, and S. L. Wilke,  
U. S. Department of Agriculture, and E. T. Barnes, F. J. Carls,  
M. A. Fosberg, E. J. Gault, F. D. Hole, A. J. Klingbecker, R. J. Muckenridge,  
L. B. Nelson, J. G. Ouellette, and G. Reager, University of Wisconsin.



Map constructed by Division of Cartography,  
Soil Conservation Service, USDA,  
from 1938-39 aerial photographs.  
Soils surveyed on 1938-39 aerial photographs.  
Photocopy projection, 1927 North American datum.  
10,000-foot grid based on Wisconsin (Central)  
rectangular coordinate system.





Inspection and correlation by: Roy J. Neff, U. S. Department of Agriculture,  
and R. J. Muckenheim, Wisconsin Agricultural Experiment Station.  
Soils mapped 1940-42 by: Glenn H. Robinson and Arthur J. Ward, in charge, and  
R. A. Erickson, W. W. Carter, E. F. Nelson, S. W. Torrence, and G. E. Wiley,  
U. S. Department of Agriculture, and E. T. Barnes, F. J. Corbitt,  
M. A. Fosberg, E. J. Gravel, F. D. Holt, A. J. Klingbecker, R. J. Muckenheim,  
L. B. Nelson, J. G. Ouellette, and S. Rieger, University of Wisconsin.

Scale 1:31,680  
0 1 2 Miles  
5000 0 5000 10 000 Feet

U. S. GOVERNMENT PRINTING OFFICE: 1966 O-38017

Map constructed by Division of Cartography,  
Soil Conservation Service, USDA,  
from 1938-39 aerial photographs.  
Soils surveyed on 1938-39 aerial photographs.  
Polyconic projection, 1927 North American datum.  
1:250,000 feet and based on Wisconsin (Central)  
rectangular coordinate system.





Inspection and correlation by J. E. Nye, U. S. Department of Agriculture, and R. J. Muckenhou, Wisconsin Agricultural Experiment Station.  
Soils mapped 1940-42 by G. H. Robinson and A. J. Venzel, in charge, and R. A. Erickson, W. W. Carter, E. F. Nelson, S. W. Torrence, and S. E. Wilke, U. S. Department of Agriculture, and E. T. Barnes, F. J. Carlisle, M. A. Folberg, E. J. Gaud, F. D. Heit, A. J. Klingbecker, R. J. Muckenhou, L. B. Nelson, J. G. Quivette, and S. Greer, University of Wisconsin.

Scale 1:31,000  
1 2 Miles  
5000 10,000 Feet

Map constructed by Division of Cartography, Soil Conservation Service, USDA, from 1939-39 aerial photographs. Soils surveyed on 1939-39 aerial photographs. Projection, 1927 North American datum. 10,000-foot grid based on Wisconsin (Central) rectangular coordinate system.



## COLOR GROUPING

**1 - GOOD CROPLAND**

**A - WELL-DRAINED SILTY SILTS ON NEARLY LEVEL TERRACES AND UPLANDS**

Antigo silt loam, nearly level  
Arling silt loam, shallow, nearly level  
Campia silt loam, nearly level  
Otterholt silt loam, nearly level  
Santiago silt loam, nearly level

**B - WELL-DRAINED SILTY SOILS ON GENTLY SLOPING TERRACES AND UPLANDS**

Antigo silt loam, gently sloping  
Antigo silt loam, shallow, gently sloping  
Arland silt loam, gently sloping  
Campia silt loam, gently sloping  
Gale silt loam, gently sloping  
Otterholt silt loam, gently sloping  
Santiago silt loam, gently sloping

**C - WELL-DRAINED MAINLY LOAMY SOILS ON NEARLY LEVEL AND GENTLY SLOPING TERRACES AND UPLANDS**

Onamia loam, nearly level  
Onamia loam, gently sloping  
Milaca silt loam, gently sloping

**2 - FAIR TO GOOD CROPLAND**

**A - WELL-DRAINED LOAMY SOILS ON GENTLY SLOPING UPLANDS**

Arland fine sandy loam, gently sloping  
Hixton loam, gently sloping  
Milaca fine sandy loam, gently sloping

**B - WELL-DRAINED LOAMY SOILS ON SLOPING UPLANDS AND GENTLY ROLLING TERRACES**

Arland fine sandy loam, sloping  
Hixton fine sandy loam, sloping  
Hixton loam, sloping  
Milaca fine sandy loam, sloping  
Milaca silt loam, sloping  
Onamia loam, gently rolling

**C - WELL-DRAINED SILTY SOILS ON SLOPING UPLANDS AND GENTLY ROLLING AND SLOPING TERRACES**

Antigo silt loam, sloping  
Antigo silt loam, shallow, gently rolling  
Arland silt loam, sloping  
Gale silt loam, sloping  
Otterholt silt loam, sloping  
Santiago silt loam, sloping  
Santiago silt loam, eroded, sloping

**D - WELL-DRAINED MAINLY SILTY SOILS ON STRONGLY SLOPING UPLANDS AND SLOPING TERRACES**

Antigo silt loam, shallow, sloping  
Arland silt loam, strongly sloping  
Otterholt silt loam, strongly sloping  
Santiago silt loam, strongly sloping

**E - MODERATELY WELL DRAINED SILTY SOILS ON NEARLY LEVEL TERRACES AND UPLANDS**

Brill silt loam, nearly level  
Crystal Lake silt loam  
Freelon silt loam, nearly level  
Spencer silt loam, nearly level

**F - MODERATELY WELL DRAINED MAINLY LOAMY SOILS ON NEARLY LEVEL TERRACES**

Crystal Lake loam  
Scott Lake sandy loam

**G - MODERATELY WELL DRAINED MAINLY SILTY SOILS ON GENTLE SLOPES OF UPLANDS, TERRACES, AND LOCAL ALLUVIAL LAND**

Brill silt loam, gently sloping  
Chaseburg silt loam  
Freelon silt loam, gently sloping  
Milaca silt loam, undulating  
Spencer silt loam, gently sloping

**H - MODERATELY WELL DRAINED SILTY SOILS ON SLOPING AND GENTLY ROLLING UPLANDS**

Freelon silt loam, sloping  
Milaca silt loam, gently rolling  
Spencer silt loam, sloping

**I - SOMEWHAT POORLY DRAINED SILTY SOILS ON GENTLY SLOPING UPLANDS**

Almena silt loam, gently sloping  
Freer silt loam, gently sloping

**3 - FAIR TO POOR CROPLAND**

**A - WELL-DRAINED LOAMY SOILS ON STRONGLY ROLLING UPLANDS**

Arland fine sandy loam, strongly sloping  
Hixton fine sandy loam, strongly sloping  
Hixton loam, strongly sloping  
Milaca fine sandy loam, strongly sloping  
Milaca silt loam, strongly sloping

**B - EXCESSIVELY DRAINED SANDY SOILS ON GENTLY ROLLING AND SLOPING TERRACES AND UNULATING AND GENTLY ROLLING UPLANDS**

Cloquet sandy loam, undulating and gently rolling  
Chekek sandy loam, sloping  
Chekek sandy loam, gently rolling  
Omega loamy sand, sloping

**C - EXCESSIVELY DRAINED SANDY SOILS ON NEARLY LEVEL AND GENTLY SLOPING TERRACES**

Burkhardt loams and sandy loams  
Chekek sandy loam, nearly level  
Chekek sandy loam, gently sloping  
Chekek sandy loam, undulating  
Chekek sandy loam, shallow, nearly level  
Chekek sandy loam, shallow, gently sloping

**D - EXCESSIVELY DRAINED VERY SANDY SOILS ON NEARLY LEVEL AND GENTLY SLOPING TERRACES AND GENTLY SLOPING UPLANDS**

Boone loamy fine sand, gently sloping  
Omega loamy sand, nearly level  
Omega loamy sand, gravelly subsoil, nearly level  
Omega loamy sand, gently sloping  
Omega loamy sand, gravelly subsoil, gently sloping

**4 - POOR TO VERY POOR CROPLAND**

**A - WELL-DRAINED MAINLY LOAMY SILTS OF ROLLING TO STEEP UPLANDS AND PITTED OUTWASH**

Arland fine sandy loam, moderately steep and steep  
Hixton fine sandy loam, moderately steep  
Milaca silt loam, rolling  
Pitted outwash, rolling

**B - WELL-DRAINED MAINLY SILTY SOILS OF STRONGLY SLOPING AND MODERATELY STEEP UPLANDS**

Arland silt loam, moderately steep  
Gale silt loam, strongly sloping  
Hixton loam, moderately steep  
Santiago silt loam, moderately steep

**C - WELL-DRAINED ERODED SOILS ON SLOPING AND STRONGLY SLOPING UPLANDS**

Arland silt loam, eroded, strongly sloping  
Gale silt loam, eroded, sloping and strongly sloping  
Hixton loam, eroded, strongly sloping

**D - WELL AND SOMEWHAT POORLY DRAINED STONY SOILS ON GENTLY SLOPING TO STRONGLY SLOPING UPLANDS**

Almena stony silt loam, gently sloping  
Freer stony silt loam, gently sloping  
Santiago stony silt loam, sloping  
Santiago stony silt loam, strongly sloping

**E - POORLY AND VERY POORLY DRAINED SOILS ON MAINLY NEARLY LEVEL TOPOGRAPHY**

Adolph silt loam  
Alluvial land  
Auburndale silt loam  
Barnett silt loam  
Barnett loam  
Milaca-Cloquet-Peat complex, undulating  
Milaca-Cloquet-Peat complex, gently rolling  
Watkill silt loam  
Warman silt loam  
Warman loamy fine sand  
Warman loamy sand, gravelly subsoil

**5 - VERY POOR CROPLAND**

**A - WELL-DRAINED SOILS MAINLY ON HILLY AND STEEP UPLANDS AND STONY STEEP LAND**

Hixton fine sandy loam, steep  
Milaca silt loam, hilly  
Milaca silt loam, steep  
Milaca-Cloquet-Peat complex, rolling  
Milaca-Cloquet-Peat complex, hilly  
Santiago stony silt loam, steep  
Stony steep land

**B - WELL-DRAINED ERODED SOILS ON STRONGLY SLOPING AND STEEP UPLANDS**

Arland fine sandy loam, eroded, strongly sloping  
Hixton fine sandy loam, eroded, strongly sloping  
Hixton fine sandy loam, eroded, steep

**C - EXCESSIVELY DRAINED SANDY SOILS ON ROLLING TO STEEP SLOPES, PITTED OUTWASH, AND TERRACE ESCARPMENTS**

Boone loamy fine sand, strongly sloping  
Boone loamy fine sand, steep  
Cloquet sandy loam, rolling and hilly  
Cloquet sandy loam, hilly  
Omega loamy sand, strongly sloping  
Omega loamy sand, gravelly subsoil, sloping and strongly sloping  
Pitted outwash, hilly  
Terrace escarpment, strongly sloping  
Terrace escarpment, moderately steep

**D - VERY POORLY DRAINED SOILS ON NEARLY LEVEL SLOPES**

Adolph stony silt loam  
Peat and muck  
Riverwash

**CONVENTIONAL SIGNS**

**CULTURE**  
(Printed in black)

City or Village, Roads, Buildings, Wharves, Jetties, Breakwater, Levee, Lighthouse, Fort

Secondary roads, Trails, Bridges, Ferry, Ford, Dam, Sawmill, Windmill, School, Church, Cemetery, Crennery, Cemeteries

Triangulation station, Boundary monument, Oil or Gas wells, Forest fire station, Airway beacon, Oil or Gas tanks

Double track, Single track, Road, River, Lake, Stream, Canal, Ditch, Drainage, E. S. above, E. S. below, U. S. above, U. S. below, State, County, Township, Boundary lines, Reservation, Land, About, City or Village, Boundary lines

U. S. Township and Section lines, Recovered corners, Transmission line, Oil or Gas pipe line, Mine or Quarry, Gravel pit, Soil boundaries, Stony, Gravelly, and Cherty areas

**RELIEF**  
(Printed in brown or black)

Contours, Depression contours, Sand, Wash, Sand dunes, Prominent hills or Mountain peaks, Bluff, Escarpment, Mine dumps

**DRAINAGE**  
(Printed in blue)

**CULTURE**  
(Printed in black)

**City or Village, Roads, Buildings, Wharves, Jetty, Breakwater, Levee, Lighthouse, Fort**

**Secondary roads, Trails**

**Bridges, Ferry**

**Ford, Dam, Sewerall, Windmill**

**School, Church, Crematory, Cemeteries**

**Triangulation station, Boundary monument, Oil or Gas wells**

**Forest fire station, Airway beacon, Oil or Gas tanks**

**Incinerator, Quarry, Gravel pit, Rock outcrop, Made land**

**Soil boundaries: Stony, Gravelly, and Cherty areas**

**RELIEF**  
(Printed in brown or black)

**Contours, Depression contours**

**Sand, Wash, Sand dunes**

**Bluff, Escarpment, Mica dunes**

**DRAINAGE**  
(Printed in blue)

**Streams, Springs, Wells, Flowing wells**

**Lakes, Ponds, Intermittent lakes**

**Canals, Ditches**

**Swamp, Salt marsh**

**Shoemaker marsh, Tidal flats**

**DEPRESSIONS**

- ◊ Easy to cultivate across
- Difficult to cultivate across



SOILS OF BARRON COUNTY, WISCONSIN: SUMMARY OF IMPORTANT CHARACTERISTICS																
Soil	Map symbol	Range of slope	Surface soil	Subsoil	Parent material or substratum	Soil depth <sup>1</sup>	Drainage		Surface runoff	Water-holding capacity	Erosion hazard	Natural fertility	Workability	Present use	Management sub-group	
							Surface soil	Subsoil								
Adolph silt loam.....	Aa	Percent 0-2	Very dark gray to nearly black, friable, medium acid silt loam; slightly mottled in lower part.	Gray, mottled with yellowish-brown, neutral silty clay loam; moderately plastic and sticky when wet.	Reddish-brown, highly mottled, neutral gravelly sandy glacial till; often saturated with water.	Inches 33-48	Very slow	Very slow	Ponded	High	None	Moderate	Very difficult.	Marsh grasses, sedges, ash, elm, alder, and aspen.	4-E	
Adolph stony silt loam.....	An	0-6	Very dark gray, friable, very strongly acid stony silt loam.	Same	Same	30-40	Very slow	Very slow	Ponded	High	None	Moderate	Very difficult.	Same	5-D	
Alluvial land.....	Ac		Dark - brown to dark grayish-brown, friable, slightly acid loam, silt loam, or fine sandy loam.	Brownish - gray to grayish-brown, usually mottled, neutral, friable loam to silt loam.	Recent alluvium, which may include many small areas of various other materials.	12-30	Moderate	Moderate	Very slow	Variable	Frequent overflow.	Moderate	Very difficult.	Various grasses, ash, elm, aspen; used primarily for forest or pasture.	4-E	
Almena silt loam: Nearly level.....	Ar	0-2	Grayish - brown to pale - brown, medium platy, friable, moderately acid silt loam; usually mottled in the lower part.	Yellowish - brown to light yellowish-brown, mottled, moderately plastic, strongly acid silty clay loam.	Yellowish - brown silt and reddish-brown, moderately compact glacial till; thickness of silt and till ranges from 6 to 18 inches.	30-42	Slow	Slow	Very slow	High	Slight	Moderate	Moderately difficult.	Hay, oats, corn, pasture, and some forest.	3-E	
Gently sloping.....	Ad	2-6	Same	Same	Same	30-42	Slow	Slow	Slow	High	Slight	Moderate	Moderately difficult.	Same	2-I	
Sloping.....	Ar	6-10	Same	Same	Same	28-40	Slow	Slow	Medium	High	Moderate	Moderate	Moderately difficult.	Hay, oats, pasture, and forest.	3-F	
Almena stony silt loam, gently sloping.....	Ag	0-6	Grayish-brown to pale-brown, medium platy, friable, moderately acid silt loam; usually mottled in the lower part; numerous stones and boulders on surface and throughout soil.	Same	Same	28-38	Slow	Slow	Very slow	High	Slight	Moderate	Very difficult.	Forest and some pasture	4-D	
Altoona silt loam.....	Au	2-6	Dark-gray to brownish-gray, weak platy, friable, acid silt loam.	Dark brownish-gray to light-gray, highly mottled, moderate blocky, acid sandy clay loam.	Yellowish-brown mottled finesand or loamy sand; profile has developed from a shallow till deposit or sediments from till, over sandstone.	24-36	Moderate	Slow	Very slow	High	Slight	Moderate	Moderately difficult.	Hay, oats, corn, pasture, and some forest.	3-F	
Antigo silt loam: Nearly level.....	At	0-2	Brownish-gray to yellowish-brown, weak platy, strongly acid, friable silt loam.	Reddish-brown to moderate-brown medium blocky, strongly acid silty clay loam.	Moderate yellowish-brown, massive, acid, moderately friable silt loam; underlain by stratified sand and gravel.	30-42	Moderate	Moderate	Very slow	High	Slight	Moderate	Easy	Corn, oats, hay, potatoes, and some pasture.	1-A	
Gently sloping.....	At	2-6	Same	Same	Same	30-42	Moderate	Moderate	Slow	High	Moderate	Moderate	Easy	Same	1-B	
Sloping.....	Ar	6-10	Same	Same	Same	28-36	Moderate	Moderate	Medium	High	Moderate	Moderate	Moderately difficult.	Same	2-C	
Antigo silt loam, shallow: Nearly level.....	Am	0-2	Same	Same	Moderate-brown, stratified sand and gravel.	18-30	Moderate	Moderate	Very slow	Moderate	Slight	Moderate	Easy	Same	1-B	
Gently sloping.....	Al	2-6	Same	Same	Same	18-30	Moderate	Moderate	Slow	Moderate	Moderate	Moderate	Easy	Same	1-C	
Gently rolling.....	Ar	6-10	Same	Same	Same	18-30	Moderate	Moderate	Medium	Moderate	Moderate	Moderate	Moderately difficult.	Same	2-C	
Sloping.....	As	10-20	Same	Same	Same	16-28	Moderate	Moderate	Rapid	Moderate	Great	Moderate	Moderately difficult.	Same	2-D	
Arland silt loam: Gently sloping.....	Av	2-6	Brownish-gray to grayish-brown, strongly acid, friable, granular silt loam.	Brown to grayish-brown, firm blocky, strongly acid, light silty clay loam; contains considerable grit.	Yellowish-red to reddish-brown glacial till over sandstone; in places the till layer is very thin but soil profile indicates its presence.	20-34	Moderate	Moderate	Slow	High	Slight	Moderate	Easy	Corn, oats, hay, and some pasture.	1-B	
Sloping.....	Ax	6-10	Same	Same	Same	20-34	Moderate	Moderate	Medium	High	Moderate	Moderate	Moderately difficult.	Same	2-C	
Strongly sloping.....	Ar	10-15	Same	Same	Same	18-32	Moderate	Moderate	Rapid	Low	Great	Moderate	Moderately difficult.	Same	2-D	
Eroded, strongly sloping.....	Ar	10-15	Grayish-brown, strongly acid silt loam; contains considerable subsoil material; very low in organic matter.	Same	Same	14-28	Low	Moderate	Very rapid	Low	Great	Low	Very difficult.	Idle land, oats, hay, and pasture.	4-C	
Moderately steep.....	Ar	15-20	Brownish-gray to grayish-brown, strongly acid, granular, friable silt loam.	Same	Same	18-32	Moderate	Moderate	Very rapid	Low	Great	Moderate	Difficult	Oats, hay, pasture, and some forest.	4-B	
Arland fine sandy loam: Gently sloping.....	Aq	2-6	Grayish-brown, weak granular, strongly acid fine sandy loam; low in organic matter; often contains gravel and stones.	Brown to yellowish-brown, weak blocky, strongly acid, heavy fine sandy loam to sandy clay loam.	Yellowish-red to reddish-brown glacial till over yellowish sandstone; till is often thinner and more sandy than under the Arland silt loams.	18-32	Rapid	Moderate	Slow	Moderate	Slight	Low	Easy	Corn, oats, hay, and pasture	2-A	
Sloping.....	As	6-10	Same	Same	Same	18-32	Rapid	Moderate	Medium	Moderate	Moderate	Low	Moderately difficult.	Same	2-B	
Strongly sloping.....	Ar	10-15	Same	Same	Same	18-32	Rapid	Moderate	Rapid	Moderate	Moderate	Low	Moderately difficult.	Same	3-A	
Eroded, strongly sloping.....	Ar	10-15	Grayish-brown to yellowish-brown, strongly acid, heavy fine sandy loam; low in organic matter; contains considerable subsoil material.	Same	Same	18-32	Moderate	Moderate	Very rapid	Low	Great	Low	Very difficult.	Idle land, hay, pasture, and forest.	5-B	
Moderately steep and steep.....	Ar	15-30	Grayish-brown, weak granular, strongly acid, fine sandy loam; low in organic matter; often contains gravel and stones.	Same	Same	18-32	Rapid	Moderate	Very rapid	Low	Great	Low	Difficult	Hay, pasture, and forest	4-A	
Auburndale silt loam.....	Az	0-6	Gray, slightly mottled in lower part, acid, friable silt loam; somewhat sticky when wet; tends toward a platy structure.	Gray to light brownish-gray, mottled, blocky, acid, plastic, heavy silt loam.	Grayish-brown to yellowish-red, massive, heavy silt loam; underlain by reddish-brown glacial till.	32-44	Slow	Very slow	Ponded	High	None	Moderate	Very difficult.	Pasture or forest until drained; then oats, hay, pasture, and some corn.	4-E	
Barronett silt loam.....	Bb	0-2	Very dark gray to dark-gray, friable, strongly acid silt loam; thin platy to soft crumb structure; moderately plastic.	Gray to grayish-brown, mottled with yellowish red, strongly acid, massive silt loam; moderately plastic when wet.	Gray or pinkish-gray to brown, with yellowish red, strongly acid, 34 inches and calcareous below 60 inches.	34-40	Very slow	Very slow	Ponded	High	None	Moderate	Very difficult.	Forest and some pasture or hay	4-E	
Barronett loam.....	Ba	0-2	Very dark gray, strongly acid, friable loam; may be influenced by overwash of sandy material.	Same	Same	34-40	Slow	Very slow	Ponded	High	None	Moderate	Very difficult.	Forest and some pasture or hay	4-E	
Boone loamy fine sand: Gently sloping.....	Bc	0-6	Grayish-brown to dark yellowish-brown, friable, strongly acid loamy fine sand; weak crumb structure.	Yellowish-brown to yellowish-red, strongly acid loamy fine sand; B horizon is very weakly developed.	Very pale brown to yellowish-brown loose sand; contains many fragments of sandstone bedrock.	12-28	Rapid	Rapid	Slow	Very slow	Slight	Very low	Easy	Forest and some hay, pasture, and oats.	3-D	
Strongly sloping.....	Be	10-15	Same	Same	Same	10-25	Rapid	Rapid	Very rapid	Very slow	Moderate	Very low	Difficult	Forest and some pasture	5-C	
Steep.....	Bd	20-30	Same	Same	Same	10-20	Rapid	Rapid	Very rapid	Very slow	Moderate	Very low	Very difficult.	Forest	5-C	
Borrow and gravel pits.....																
Brill silt loam: Nearly level.....	Bh	0-2	Dark grayish-brown, fine platy, strongly acid, friable silt loam; soil aggregates are slightly vesicular.	Brown to reddish-brown, mottled, medium blocky, strongly acid, moderately plastic silty clay loam.	Reddish-brown to yellowish-brown stratified sand and gravel; in places a transition zone of sand, silt, and clay.	30-42	Moderate	Slow	Very slow	High	None	Moderate	Moderately difficult.	Corn, oats, hay, and pasture	2-E	
Gently sloping.....	Bg	2-6	Same	Same	Same	30-42	Moderate	Slow	Slow	High	Slight	Moderate	Moderately difficult.	Same	2-G	
Burkhardt loams and sandy loams.....	Bk	0-6	Very dark brown to dark-brown, granular, strongly acid, friable loam.	Reddish-brown to brown, weak blocky, strongly acid sandy clay loam.	Dark reddish-brown to yellowish-brown, loose, stratified sand and gravel.	12-26	Rapid	Rapid	Very slow	Low	None	Moderate	Easy	Same	3-C	
Campia silt loam: Nearly level.....	Cb	0-2	Gray to brownish-gray, strongly acid, friable silt loam; well-developed platy structure breaks into soft granules.	Yellowish-brown to brown, moderate blocky, strongly acid, medium plastic silty clay loam.	Yellowish-brown, moderately acid silty clay loam; stratified below 40 inches and calcareous below 7 feet.	32-44	Moderate	Moderate	Very slow	High	Slight	Moderate	Easy	Same	1-A	
Gently sloping.....	Ca	2-6	Same	Same	Same	32-44	Moderate	Moderate	Slow	High	Moderate	Moderate	Easy	Same	1-B	
Chaseburg silt loam.....	Ct	2-6	Gray to brownish-gray silt loam	Yellowish-brown friable heavy silt loam subangular structure; some mottling.	Light brownish-gray to light yellowish-brown, mottled with gray, massive silt loam.	26-36	Moderate	Moderate	Medium	High	Moderate	Moderate	Easy	Same	2-G	
Chetek sandy loam: Nearly level.....	Ce	0-2	Brownish-gray to brown, strongly acid, rather loose sandy loam; weak crumb structure; becomes platy in lower part.	Dark yellowish-brown to reddish-brown, weak blocky, strongly acid loam; somewhat sticky in lower part.	Dark yellowish-brown to yellowish-red stratified mixtures of water-worn gravel and sand.	20-30	Rapid	Rapid	Very slow	Low	None	Low	Easy	Same	3-C	
Gently sloping.....	Cd	2-6	Same	Same	Same	20-30	Rapid	Rapid	Slow	Low	Slight	Low	Easy	Same	3-C	
Sloping.....	Ch	6-10	Same	Same	Same	20-30	Rapid	Rapid	Medium	Low	Slight	Low	Moderately difficult.	Same	3-B	
Undulating.....	Ck	0-6	Same	Same	Same	20-30	Rapid	Rapid	Slow	Low	Slight	Low	Moderately difficult.	Same	3-C	
Gently rolling.....	Cc	6-10	Same	Same	Same	20-30	Rapid	Rapid	Medium	Low	Slight	Low	Moderately difficult.	Same	3-B	
Chetek sandy loam, shallow: Nearly level.....	Cg	0-2	Grayish-brown to brown, strongly acid, loose, friable sandy loam; weak crumb structure.	Brown to reddish-brown, weak blocky, strongly acid loam.	Same	12-20	Rapid	Rapid	Very slow	Very low	None	Low	Easy	Oats, hay, pasture, and some corn.	3-C	
Gently sloping.....	Cf	2-6	Same	Same	Same	12-18	Rapid	Rapid	Slow	Very low	Slight	Low	Easy	Same	3-C	
Cloquet sandy loam: Undulating and gently rolling.....	Cs	2-10	Yellowish-brown to grayish-brown, strongly acid, loose, friable sandy loam; weak crumb structure.	Yellowish-brown to yellowish-red, weak very fine blocky, strongly acid sandy loam.	Dark reddish-brown massive glacial till composed of light sandy clay loam to gravelly loam.	18-30	Rapid	Rapid	Medium	Very low	Moderate	Low	Moderately difficult.	Same	3-B	
Rolling and hilly.....	Cm	10-20	Same	Same	Same	16-26	Rapid	Rapid	Very rapid	Very low	Great	Low	Difficult	Same	5-C	
Hilly.....	Cl	15-30	Same	Same	Same	16-26	Rapid	Rapid	Very rapid	Very low	Great	Low	Very difficult.	Pasture and forest	5-C	
Comstock silt loam.....	Cr	0-2	Grayish-brown to gray, mottled, medium platy, strongly acid silt loam.	Brown to light-brown, mottled, moderately developed medium blocky, strongly acid silty clay loam.	Light brownish-gray mottled silt loam that contains some very fine sand and silty clay; becomes stratified with depth and calcareous below 7 feet.	32-44	Moderate	Slow	Very slow	High	None	Moderate	Easy	Oats, hay, pasture, some corn	3-E	
Comstock loam.....	Co	0-2	Grayish-brown to gray, mottled, strongly acid loam; weak crumb structure; has been influenced by sandy overwash.	Same	Same	32-44	Moderate	Slow	Slow	High	Slight	Moderate	Easy	Same	3-E	
Crystal Lake silt loam.....	Cs	0-2	Grayish-brown to brown, strongly acid silt loam; platy structure; breaks into soft granules.	Brown to light-brown, mottled, weak blocky, strongly acid, friable silty clay loam.	Brown to yellowish-brown, mottled silty clay, very fine sand, and silt; becomes stratified in lower part and calcareous below 7 feet.	32-44	Moderate	Slow	Very slow	High	None	Moderate	Easy	Corn, oats, hay, and pasture	2-E	
Crystal Lake loam.....	Cr	0-2	Grayish-brown to dark reddish-brown, granular, strongly acid, very friable loam.	Same	Same	32-44	Moderate	Slow	Very slow	High	None	Moderate	Easy	Same	2-F	
Frecon silt loam: Nearly level.....	Fb	0-2	Very dark brown to brown, thin platy, strongly acid silt loam; contains some grit.	Brown to reddish-brown, mottled, medium blocky silty clay loam; slightly plastic and sticky.	Yellowish-red to reddish-brown glacial till.	16-28	Moderate	Slow	Very slow	High	None	Moderate	Easy	Same	2-E	
Gently sloping.....	Fa	2-6	Same	Same	Same	16-28	Moderate	Slow	Slow	High	Slight	Moderate	Easy	Same	2-G	
Sloping.....	Fc	6-10	Same	Same	Same	16-28	Moderate	Slow	Medium	High	Moderate	Moderate	Moderately difficult.	Same	2-H	
Freer silt loam: Nearly level.....	Fe	0-2	Very dark brown to grayish-brown, mottled, thin platy, strongly acid silt loam; may contain some grit.	Light brownish-gray, highly mottled, medium blocky silty clay loam; slightly plastic and sticky.	Same	16-28	Slow	Slow	Very slow	High	None	Moderate	Moderately difficult.	Same&gt		

<sup>1</sup> Soil depth refers to the depth of soil over sand, gravel, hardpan (glacial till), or bedrock.



SOILS OF BARRON COUNTY, WISCONSIN: SUMMARY OF IMPORTANT CHARACTERISTICS—Continued																
Soil	Map symbol	Range of slope	Surface soil	Subsoil	Parent material or substratum	Soil depth <sup>1</sup>	Drainage		Surface runoff	Water-holding capacity	Erosion hazard	Natural fertility	Workability	Present use	Management sub-group	
							Surface soil	Subsoil								
Hixton loam: Gently sloping.....	Hn	Percent 2-6	Grayish-brown to yellowish-brown, strongly acid loam; medium platy but breaks out into soft granules.	Brown to yellowish-brown, weak blocky, strongly acid loam to light sandy clay loam.	Yellowish-brown loose sand and partly decomposed sandstone.	Inches 20-28	Moderate....	Moderate....	Slow.....	Moderate....	Slight.....	Moderate....	Easy.....	Corn, oats, hay, and pasture....	2-A	
Sloping.....	Hl	6-10	Same.....	Same.....	Same.....	20-28	Moderate....	Moderate....	Medium....	Moderate....	Moderate....	Moderate....	Moderately difficult.	Same.....	2-B	
Strongly sloping.....	Hm	10-15	Same.....	Same.....	Same.....	20-28	Moderate....	Moderate....	Rapid....	Moderate....	Moderate....	Moderate....	Moderately difficult.	Same.....	3-A	
Eroded, strongly sloping.....	Hg	10-20	Brown to yellowish-brown, medium granular, strongly acid loam; low in organic matter.	Same.....	Same.....	16-24	Moderate....	Moderate....	Very rapid..	Low.....	Great.....	Low.....	Difficult....	Idle land, hay, and pasture.....	4-C	
Moderately steep.....	Hk	15-30	Grayish-brown to yellowish-brown, strongly acid loam; medium platy but breaks out into soft granules.	Same.....	Same.....	18-26	Moderate....	Moderate....	Very rapid..	Moderate....	Great.....	Moderate....	Difficult....	Oats, hay, and pasture.....	4-B	
Hixton fine sandy loam: Sloping.....	Hd	2-10	Grayish-brown to yellowish-red, weak thin platy, strongly acid, friable fine sandy loam.	Yellowish-brown to reddish-brown, weak blocky, strongly acid loam.	Same.....	20-28	Rapid.....	Moderate....	Slow.....	Moderate....	Slight.....	Moderate....	Moderately difficult.	Oats, hay, pasture, some corn....	2-B	
Strongly sloping.....	Hf	10-15	Same.....	Same.....	Same.....	20-28	Rapid.....	Moderate....	Medium....	Moderate....	Moderate....	Moderate....	Moderately difficult.	Same.....	3-A	
Eroded, strongly sloping.....	Ha	6-15	Yellowish-brown, medium granular, strongly acid fine sandy loam to loam; low in organic matter.	Same.....	Same.....	16-24	Moderate....	Moderate....	Rapid.....	Low.....	Great.....	Low.....	Difficult....	Idle land, hay, and pasture.....	5-B	
Moderately steep.....	Hc	15-20	Grayish-brown to yellowish-red, weak thin platy, strongly acid, friable fine sandy loam.	Same.....	Same.....	18-26	Rapid.....	Moderate....	Rapid.....	Moderate....	Moderate....	Moderate....	Difficult....	Hay and pasture.....	4-A	
Steep.....	He	20-30	Same.....	Same.....	Same.....	18-26	Rapid.....	Moderate....	Very rapid..	Moderate....	Great.....	Moderate....	Difficult....	Hay, pasture, and forest.....	5-A	
Eroded, steep.....	Ha	20-30	Same.....	Same.....	Same.....	16-24	Moderate....	Moderate....	Very rapid..	Low.....	Great.....	Low.....	Very difficult.	Idle land or forest.....	5-B	
Milaca silt loam: Gently sloping.....	Mk	2-6	Gray to pale-brown, well-developed platy, strongly acid loam; contains many roots.	Brown to reddish-brown, weak blocky, strongly acid light sandy clay loam.	Dark reddish-brown sandy clay loam glacial till; somewhat compact in place.	16-24	Moderate....	Moderate....	Slow.....	High.....	Slight.....	Moderate....	Easy.....	Corn, oats, hay, and pasture....	1-C	
Sloping.....	Mn	6-10	Same.....	Same.....	Same.....	16-24	Moderate....	Moderate....	Medium....	High.....	Moderate....	Moderate....	Moderately difficult.	Same.....	2-B	
Strongly sloping.....	Mp	10-20	Same.....	Same.....	Same.....	16-24	Moderate....	Moderate....	Rapid.....	High.....	Moderate....	Moderate....	Moderately difficult.	Oats, hay, and pasture.....	3-A	
Steep.....	Mo	20-35	Same.....	Same.....	Same.....	16-24	Moderate....	Moderate....	Very rapid..	Moderate....	Great.....	Moderate....	Difficult....	Hay and pasture.....	5-A	
Undulating.....	Mr	0-6	Same.....	Same.....	Same.....	16-24	Moderate....	Moderate....	Slow.....	High.....	Slight.....	Moderate....	Easy.....	Corn, oats, hay, and pasture....	2-G	
Gently rolling.....	Mh	6-10	Same.....	Same.....	Same.....	16-24	Moderate....	Moderate....	Medium....	High.....	Moderate....	Moderate....	Moderately difficult.	Same.....	2-H	
Rolling.....	Mm	10-15	Same.....	Same.....	Same.....	16-24	Moderate....	Moderate....	Rapid.....	High.....	Moderate....	Moderate....	Moderately difficult.	Hay and pasture.....	4-A	
Hilly.....	ML	15-30	Same.....	Same.....	Same.....	16-24	Moderate....	Moderate....	Very rapid..	High.....	Great.....	Moderate....	Very difficult.	Pasture and forest.....	5-A	
Milaca fine sandy loam: Gently sloping.....	Me	2-6	Light-gray to pale-brown, weak platy, strongly acid fine sandy loam.	Brown, blocky, strongly acid heavy loam to light sandy clay loam.	Dark reddish-brown loam to sandy clay loam glacial till; somewhat compact in place.	14-22	Rapid.....	Rapid.....	Very slow...	Moderate....	Slight.....	Low.....	Easy.....	Oats, hay, and pasture.....	2-A	
Sloping.....	Mf	6-10	Same.....	Same.....	Same.....	14-22	Rapid.....	Rapid.....	Slow.....	Moderate....	Slight.....	Low.....	Moderately difficult.	Oats, hay, and pasture.....	2-B	
Strongly sloping.....	Mg	10-20	Same.....	Same.....	Same.....	14-22	Rapid.....	Rapid.....	Medium....	Moderate....	Moderate....	Low.....	Moderately difficult.	Oats, hay, and pasture.....	3-A	
Milaca-Cloquet-Peat complex: Undulating.....	MD	2-6	In parts of the morainic uplands small areas of Milaca, Cloquet, and Peat soils are so closely associated that they could not be separated on the scale of map used in the field. See description of each soil for details of soil characteristics.			12-30	Variable....	Variable....	Slow.....	Variable....	Slight.....	Low.....	Difficult....	Pasture and some oats and hay....	4-E	
Gently rolling.....	MA	6-10	Same.....			12-30	Variable....	Variable....	Medium....	Variable....	Moderate....	Low.....	Difficult....	Pasture and forest.....	4-E	
Rolling.....	Mc	10-15	Same.....			12-30	Variable....	Variable....	Rapid.....	Variable....	Moderate....	Low.....	Very difficult.	Pasture and forest.....	5-A	
Hilly.....	Mb	15-30	Same.....			12-30	Variable....	Variable....	Very rapid..	Variable....	Great.....	Low.....	Very difficult.	Pasture and forest.....	5-A	
Omega loamy sand: Nearly level.....	OE	0-2	Very dark brown to brown, weakly granular, strongly acid loamy sand.	Brown to yellowish-brown strongly acid sand to loamy sand.	Yellow and yellowish-red, loose, slightly acid stratified sand.	14-20	Rapid.....	Rapid.....	Very slow...	Very low...	Moderate wind erosion.	Very low...	Easy.....	Idle land, truck crops, corn, hay, oats, and pasture.	3-D	
Gently sloping.....	OA	2-6	Same.....	Same.....	Same.....	14-20	Rapid.....	Rapid.....	Very slow...	Very low...	Moderate wind erosion.	Very low...	Easy.....	Same.....	3-D	
Sloping.....	Of	6-10	Same.....	Same.....	Same.....	14-20	Rapid.....	Rapid.....	Slow.....	Very low...	Moderate wind erosion.	Very low...	Easy.....	Same.....	3-D	
Strongly sloping.....	OG	10-20	Same.....	Same.....	Same.....	14-20	Rapid.....	Rapid.....	Slow.....	Very low...	Moderate wind erosion.	Very low...	Moderately difficult.	Oats, hay, pasture, and forest...	5-C	
Omega loamy sand, gravelly sub-soil: Nearly level.....	OC	0-2	Same.....	Same.....	Yellowish-red and yellow loose stratified sand and gravel.	12-18	Rapid.....	Rapid.....	Very slow...	Very low...	Moderate wind erosion.	Very low...	Easy.....	Idle land, oats, hay, and pasture.	3-D	
Gently sloping.....	Ob	2-6	Same.....	Same.....	Same.....	12-18	Rapid.....	Rapid.....	Very slow...	Very low...	Moderate wind erosion.	Very low...	Easy.....	Same.....	3-D	
Sloping and strongly sloping.....	Od	6-15	Same.....	Same.....	Same.....	12-18	Rapid.....	Rapid.....	Slow.....	Very low...	Moderate wind erosion.	Very low...	Easy.....	Same.....	5-C	
Onamia loam: Nearly level.....	OL	0-2	Light-gray to pale-brown strongly acid loam; thin platy structure that breaks into soft granules.	Very pale brown to yellowish-red strongly acid silty clay loam; contains a few pebbles and small stones.	Yellowish-red, stratified, cobbly sand and gravel composed of waterworn, noncalcareous, crystalline rocks.	24-30	Moderate....	Moderate....	Very slow...	Moderate....	None.....	Moderate....	Easy.....	Corn, oats, hay, and pasture....	1-C	
Gently sloping.....	Ok	2-6	Same.....	Same.....	Same.....	24-30	Rapid.....	Moderate....	Slow.....	Moderate....	Slight.....	Moderate....	Easy.....	Same.....	1-C	
Gently rolling.....	Oh	6-10	Same.....	Same.....	Same.....	24-30	Rapid.....	Moderate....	Medium....	Moderate....	Moderate....	Moderate....	Moderately difficult.	Same.....	2-B	
Otterholt silt loam: Nearly level.....	ON	0-2	Dark-brown to grayish-brown, thin platy, strongly acid, friable silt loam; contains many roots and worm casts.	Reddish-brown, weak blocky, strongly acid silty clay loam; gray coatings often found on structural faces.	Reddish-brown massive glacial till; where silt is deeper than 30 inches, it has a horizon of friable silt between the subsoil and glacial till.	30-42	Moderate....	Moderate....	Very slow...	High.....	None.....	Moderate....	Easy.....	Corn, oats, hay, and pasture....	1-A	
Gently sloping.....	Om	2-6	Same.....	Same.....	Same.....	30-42	Moderate....	Moderate....	Slow.....	High.....	Slight.....	Moderate....	Easy.....	Same.....	1-B	
Sloping.....	OO	6-10	Same.....	Same.....	Same.....	30-42	Moderate....	Moderate....	Medium....	High.....	Moderate....	Moderate....	Moderately difficult.	Same.....	2-C	
Strongly sloping.....	Or	10-15	Same.....	Same.....	Same.....	30-42	Moderate....	Moderate....	Rapid.....	High.....	Moderate....	Moderate....	Moderately difficult.	Oats, hay, and pasture.....	2-D	
Peat and muck.....	PA		Dark-brown to black peat or muck; contains many sedges, mosses, and tamarack remains in various stages of decomposition.	Brown, partly decomposed plant remains.	Glacial till, lacustrine clay, or alluvium, usually gray; saturated with water.	16-40+	Slow.....	Very slow...	Very slow...	High.....	None.....	Low.....	Very difficult.	Hay, pasture, and forest.....	5-D	
Pitted outwash: Rolling.....	Pc	10-15	Small intermixed areas of Chetek and Onamia soils, too small to separate on the scale of map used in the field, occurring in parts of highly pitted outwash plains. See description of the individual types for details of their characteristics.			6-18	Rapid.....	Rapid.....	Very rapid..	Very low...	Great.....	Very low...	Very difficult.	Forest and some pasture.....	4-A	
Hilly.....	Pb	10-20	Same.....			6-18	Rapid.....	Rapid.....	Very rapid..	Very low...	Great.....	Very low...	Very difficult.	Forest and some pasture.....	5-C	
Poskin silt loam.....	Pd	0-2	Dark-gray to grayish-brown, weak thin platy, strongly acid, friable silt loam.	Highly mottled, pale-brown, brownish-gray, and yellowish-red, fine blocky, strongly acid silty clay loam.	Mixtures of yellowish-brown and yellowish-red stratified sands and gravel.	30-42	Very slow...	Very slow...	Very slow...	High.....	None.....	Moderate....	Moderately difficult.	Corn, oats, hay, and pasture....	3-E	
Riverwash.....	RA		A recent deposit of mixed sand, gravel, and some fine materials in streambeds or near streams.....			6-24+	Rapid.....	Rapid.....	Very slow...	Very low...	Frequent overflow.	Very low...	Very difficult.	Idle land and forest.....	5-D	
Santiago silt loam: Nearly level.....	Sd	0-2	Dark-brown to grayish-brown, thin platy, strongly acid, friable silt loam; contains roots and worm casts.	Reddish-brown, weak blocky, strongly acid, somewhat gritty silty clay loam.	Reddish-brown to dark reddish-brown massive glacial till.	18-28	Moderate....	Moderate....	Very slow...	High.....	None.....	Moderate....	Easy.....	Corn, oats, hay, and pasture....	1-A	
Gently sloping.....	Sb	2-6	Same.....	Same.....	Same.....	18-28	Moderate....	Moderate....	Slow.....	High.....	Low.....	Moderate....	Easy.....	Same.....	1-B	
Sloping.....	Se	6-10	Same.....	Same.....	Same.....	18-28	Moderate....	Moderate....	Medium....	High.....	Moderate....	Moderate....	Moderately difficult.	Same.....	2-C	
Strongly sloping.....	Sf	10-15	Same.....	Same.....	Same.....	18-28	Moderate....	Moderate....	Rapid.....	High.....	Great.....	Moderate....	Moderately difficult.	Same.....	2-D	
Moderately steep.....	Sc	10-30	Same.....	Same.....	Same.....	16-26	Moderate....	Moderate....	Very rapid..	High.....	Great.....	Moderate....	Difficult....	Oats, hay, and pasture.....	4-B	
Eroded, sloping.....	SA	6-15	Grayish-brown, strongly acid, friable silt loam; low in organic matter.	Same.....	Same.....	14-26	Slow.....	Moderate....	Rapid.....	Moderate....	Great.....	Low.....	Difficult....	Idle land, oats, hay, and pasture.	2-C	
Santiago stony silt loam: Sloping.....	Sg	6-10	Nearly black to dark-brown, thin platy, strongly acid, friable stony silt loam; contains many roots and worm casts.	Reddish-brown, weak blocky, strongly acid, somewhat gritty stony silty clay loam.	Same.....	16-26	Moderate....	Moderate....	Medium....	High.....	Slight.....	Moderate....	Very difficult.	Pasture and forest.....	4-D	
Strongly sloping.....	Sk	10-20	Same.....	Same.....	Same.....	16-26	Moderate....	Moderate....	Very rapid..	High.....	Moderate....	Moderate....	Very difficult.	Pasture and forest.....	4-D	
Steep.....	Sh	20-30	Same.....	Same.....	Same.....	16-26	Moderate....	Moderate....	Very rapid..	High.....	High.....	Low.....	Very difficult.	Forest.....	5-A	
Scott Lake sandy loam.....	SL	0-2	Dark grayish-brown to yellowish-red, weak platy, strongly acid, friable sandy loam; contains many roots.	Reddish-brown, mottled with yellowish-red, medium blocky, strongly acid sandy clay loam.	Yellowish-red single-grained sand to loamy sand; stratified below 36 inches.	26-32	Moderate....	Slow.....	Very slow...	Moderate....	None.....	Moderate....	Moderately difficult.	Corn, oats, hay, and pasture....	2-F	
Spencer silt loam: Nearly level.....	Sn	0-2	Dark-gray to brown, strongly acid, friable, granular silt loam; thin platy structure in place.	Pale-brown to brown, mottled, strongly acid, silty clay loam; medium blocky structure; gray coating on structural faces.	Dark reddish-brown massive glacial till; where silt is deeper than 30 inches a horizon of friable silt lies between subsoil and glacial till.	30-42	Moderate....	Slow.....	Very slow...	High.....	None.....	Moderate....	Easy.....	Same.....	2-E	
Gently sloping.....	Sm	2-6	Same.....	Same.....	Same.....	30-42	Moderate....	Slow.....	Slow.....	High.....	Slight.....	Moderate....	Easy.....	Same.....	2-G	
Sloping.....	So	6-10	Same.....	Same.....	Same.....	30-42	Moderate....	Slow.....	Medium....	High.....	Moderate....	Moderate....	Moderately difficult.	Same.....	2-H	
Stony steep land.....	Sr	20-45	Rough stony areas of rock outcrops, talus slopes, or many loose stones with some finer soil material; deposits of soil may be rather deep between stones and in cracks in the bedrock.			4-12	Moderate....	Moderate....	Rapid.....	Low.....	Low.....	Low.....	Very difficult.	Forest.....	5-A	
Terrace escarpment: Strongly sloping.....	Tb	10-20	Brownish-gray, acid, loose sandy loam to gravelly sandy loam; low in organic matter; weak crumb structure.	The B horizon is usually absent....	Stratified, yellowish-brown, loose sand and gravel.	6-12	Rapid.....	Rapid.....	Very rapid..	Very low...	Great.....	Very low...	Very difficult.	Forest, idle land		

<sup>1</sup> Soil depth refers to the depth of soil over sand, gravel, hardpan (glacial till), or bedrock.