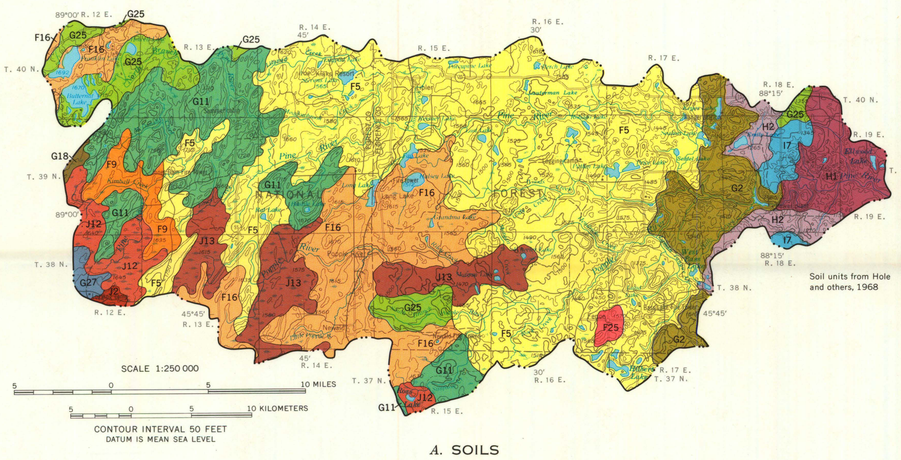
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH
THE UNIVERSITY OF WISCONSIN—EXTENSION
GEOLOGICAL AND NATURAL HISTORY SURVEY

WATER-SUPPLY PAPER 2006
PLATE 2



A. SOILS

EXPLANATION

Irrigation suitability code: 1. Good: The soil is level and permeable, and the water table lies at more than 4 ft in depth.
2. Good on level upland areas of limited areal extent.
3. Fair: The soils are clayey.
4. Good where artificial drainage has improved these wetlands.
5. Poor: Soil permeability is low, or terrain is irregular, or water table stands at a depth of less than 1 ft.
1 (5) Good soils mixed with many wetlands that have good irrigability where drained.
2 (5) Good to poor: Good on level areas that are mixed with few wetlands needing drainage.

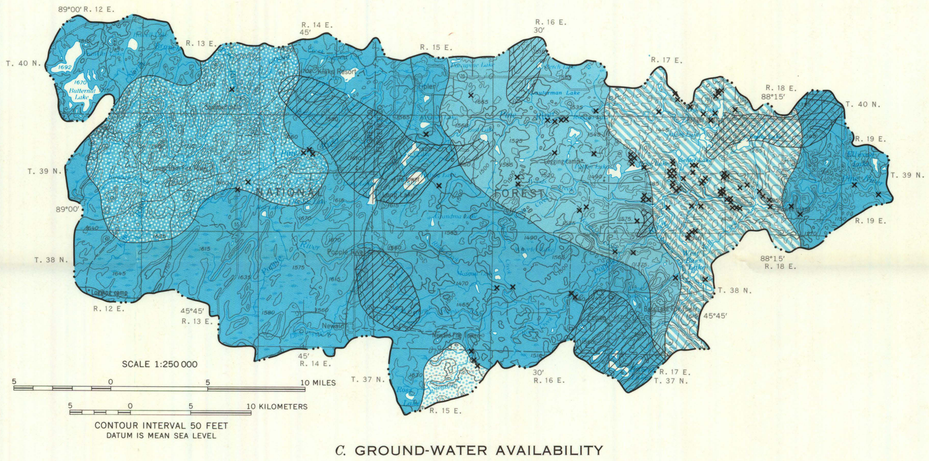
Use rating code: E, excellent; G, good; M, medium, P, poor; U, unsuitable. The ratings in parentheses are for isolated areas within a larger area.

Soil contact

Surface-water divide

Map symbol	Soil association and topography	Brief description of soil profile	Geologic setting	Hydrologic characteristics		Suitability for irrigation	General ratings for various uses								
				Normal depth to water table (ft)	Infiltration rate (in per hr)		Forestry		Agriculture		Wildlife			Recreation	
							Hard-woods	Coni-fers	Pasture	Crops	Deer: Summer	Deer: Winter	Grouse	Camp-site	Hiking terrain
F5	Goodman, Stambaugh, and associated soils, rolling to hilly	2.0–3.5 ft well-drained silt loam over stony loam till or gravelly outwash	Till upland (End moraine and ground moraine) and outwash	>8	0.8–2.5	2	E	E	M (E)	M (G)	M	P	M	G	E
F9	Clifford, Auburndale, and associated soils, nearly level to undulating	2.0–3.5 ft poorly drained silt loam over loam and sandy loam till	Till upland (Ground moraine)	1–2	0.2–0.8	5	M	M	M (G)	P (G)	G	G	G	U	P
F16	Stambaugh and associated soils, nearly level to undulating	2.0–3.5 ft of silt loam over sand and gravel	Outwash	>8	0.8–2.5	1	G	E	M (E)	G (E)	M	P	M	E	G
F25	Antigo and associated soils, nearly level to undulating	Moderately well drained deep silts and very fine sands	Outwash and glacial-lake deposits	>8 (very deep)	0.8–2.5	1	E	E	G (E)	G (E)	M	P	M	G	M
G2	Iron River, Pence, and associated soils, nearly level to hilly	1.5–2.0 ft well-drained sand or silt loam over till or sand and gravel	End and ground moraine with associated ice-contact deposits	>8	0.8–2.5	2	G	E	M (G)	M (G)	M	P	M	E	E
G11	Pence, Iron River, and associated soils, rolling to undulating	1.5–3.5 ft silty or sandy loam over sand and gravel	Ground moraine and outwash	>8	0.8–2.5	2 (5)	M	E	M (G)	M (G)	M	M	M	E	E
G18	Pence, Vilas, and associated soils, rolling to undulating	Deep sand or 1.5–2.0 ft sandy loam over sand and gravel; some peat	Outwash with peat	>8	0.8–2.5 (sand and gravel) 0.05–0.20 (peat)	2 (5)	P	M	P (M)	P (M)	G	M	G	E	E
G25	Pence and associated soils, undulating	Deep sand or 1.5–2.0 ft sandy loam over sand and gravel	Outwash	>8	0.8–2.5	2	M	E	M (G)	M (G)	M	M	M	E	G
G27	Pence and associated soils, nearly level; with peat	1.5–3.5 ft of well-drained silty or sandy loam over sand and gravel	Outwash with peat	>8	2.5–5.0 (sand and gravel) 0.05–0.20 (peat)	1 (5)	M	E	M (G)	M (G)	M	M	M	E	G
H1	Vilas and associated soils, hilly to rolling, with peat	Deep sand with some peat	Ice-contact deposits and pitted outwash; with peat	>8	5.0–10.0 (sand) 0.05–0.20 (peat)	5	P	M	U (P)	U (P)	G	M	G	E	G
H2	Vilas and associated soils, rolling, with peat	Deep sand with some peat	End moraine, ice-contact deposits and pitted outwash; with peat	>8	5.0–10.0 (sand) 0.05–0.20 (peat)	2	P	M	U (P)	U (P)	G	M	G	E	G
I7	Hibbing, Ubly, and associated soils, nearly level to rolling	0.5 ft well-drained silt or fine sandy loam over silty clay loam, level to rolling	Till upland (End moraine)	>8	0.2–0.8	3	G	G	G (E)	G (E)	M	P	M	G	G
J2	Wet alluvial soils, undifferentiated	Poorly drained loams	Till plain with some outwash (Ground moraine)	0.5–2.0	5.0–10.0	5	P	P	U (M)	U (P)	G	G	G	U	P
J12	Peat, muck, and associated soils, nearly level to gently sloping, with or without forest cover	Peat, mainly moss peat, poorly drained	Swamp	At surface	5.0–10.0	4	P	P	U	U	G	G	G	U	P
J13	Peat, muck, and associated soils, nearly level to gently sloping, with or without forest cover	Peat, mainly sedge peat, very poorly drained	Swamp	At surface	0.2–0.8	4	P	P	U	U	G	G	G	U	P

Table modified from Hole and others (1960, 1968)



C. GROUND-WATER AVAILABILITY

EXPLANATION

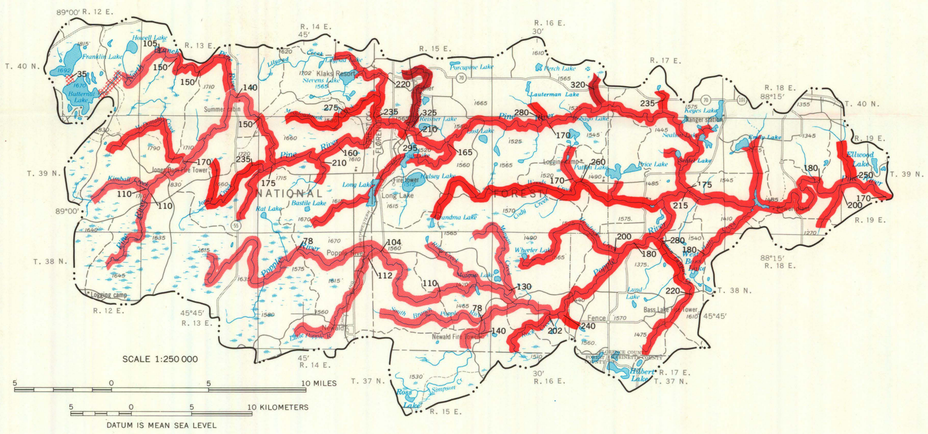
Geologic area	Ground-water potential
Outwash (includes some ground moraine)	Good potential for large-scale ground-water development. Where saturated thickness of outwash is >50 ft, 500 gpm may be obtained from large-diameter wells. Where saturated thickness of outwash is 0–50 ft, up to 200 gpm may be obtained
Ground moraine (includes some outwash)	Fair potential: Limited to outwash, ice-contact deposits, and buried outwash of limited areal extent. Drift is thin and water levels deeper in these areas. Probable yields are <100 gpm. Higher yields are possible where saturated thickness of drift exceeds 50 ft
Ground moraine with associated ice-contact deposits	
End moraine with associated ice-contact deposits	
Ground moraine	Poor potential: Drift is thin with low permeability. Ground-water availability limited to zones of buried sand and gravel. Probable yields are <50 gpm

Area of saturated drift thickness greater than 50 feet

Bedrock outcrop

Geologic area boundary

Surface-water divide



D. SPECIFIC CONDUCTANCE OF STREAMS DURING LOW-FLOW CONDITIONS AUGUST 17-20, 1967

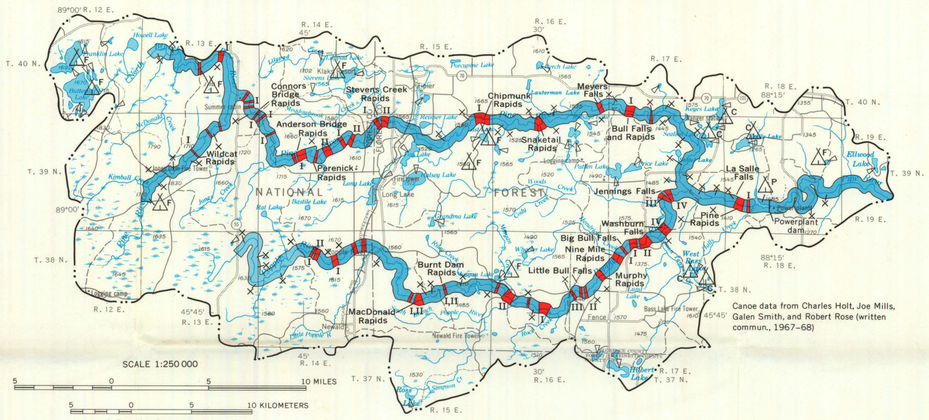
EXPLANATION

Specific conductance, in micromhos per centimeter at 25°C

- >300
- 225–299
- 150–224
- 75–149
- <75

202—value determined in field at point of sampling. Reaches of streams with no readings were estimated on the basis of other readings on the stream and 1966 readings

Surface-water divide



E. RECREATION

EXPLANATION

General canoeing

Intermittent canoeing

Relative difficulty of white-water passage

White-water falls or rapids (described in table 7)

I
Easy (for novice canoeists)

II
Requires care (for experienced canoeists)

III
Difficult (difficult for experienced canoeists)

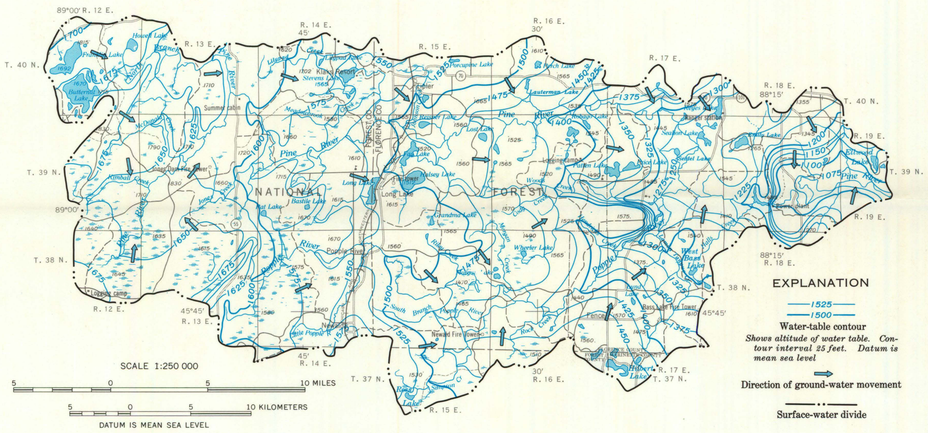
IV
Very difficult (for expert canoeists only)

× Primitive or potential campsite adjacent to stream

F Improved campsite (F, Federally owned; C, county owned; P, privately owned)

Public access to lake. Note: access to streams may be obtained at all road crossings

Surface-water divide



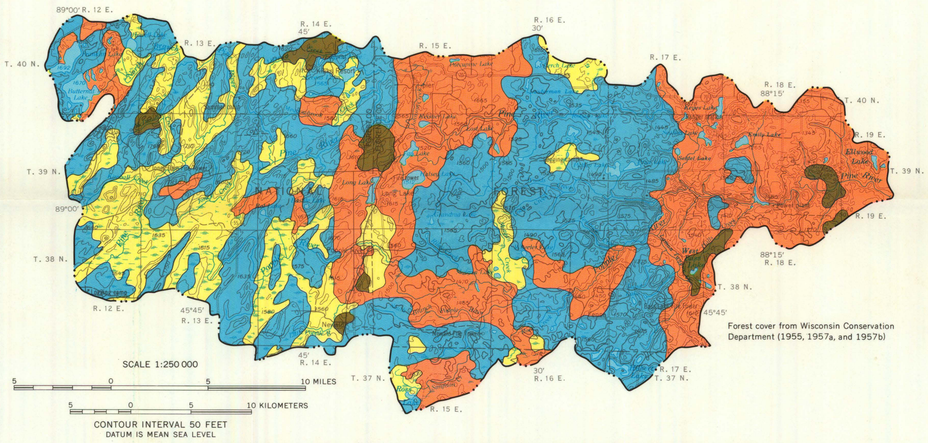
EXPLANATION

1525 Water-table contour
Shows altitude of water table. Contour interval 25 feet. Datum is mean sea level

Direction of ground-water movement

Surface-water divide

B. WATER TABLE AND GROUND-WATER MOVEMENT



F. GENERALIZED RELATIONSHIP OF FOREST COVER TO GROUND WATER

EXPLANATION

Forest cover area	Trees: Deciduous	Trees: Coniferous	Depth to water table (ft)	Soils	Soil-moisture retention
Northern hardwoods and conifers	Sugar maple, red oak, white ash, baswood, white birch, yellow birch, American elm, ironwood, and beech	Hemlock, white spruce, balsam fir, and white pine	Greater than 3	Silty loams developed on till	High
Swamp conifers and bottom-land hardwoods	Black ash and yellow birch	Black spruce and white cedar	Less than 1	Peat, muck, or alluvial soils	Low to medium
Pine		Red pine, white pine, and jack pine	Greater than 3	Sand, sandy loam developed on outwash	Low
Aspen	Quaking aspen		Greater than 1	Sandy to silty loam developed on outwash and sandy till	Low

Boundary between forest-cover areas

Surface-water divide

Base from U.S. Geological Survey
Iron Mountain 1:250,000, 1964

GEOHYDROLOGIC MAPS OF THE PINE-POPPLE RIVER BASIN, NORTHEASTERN WISCONSIN

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—1973—W71245