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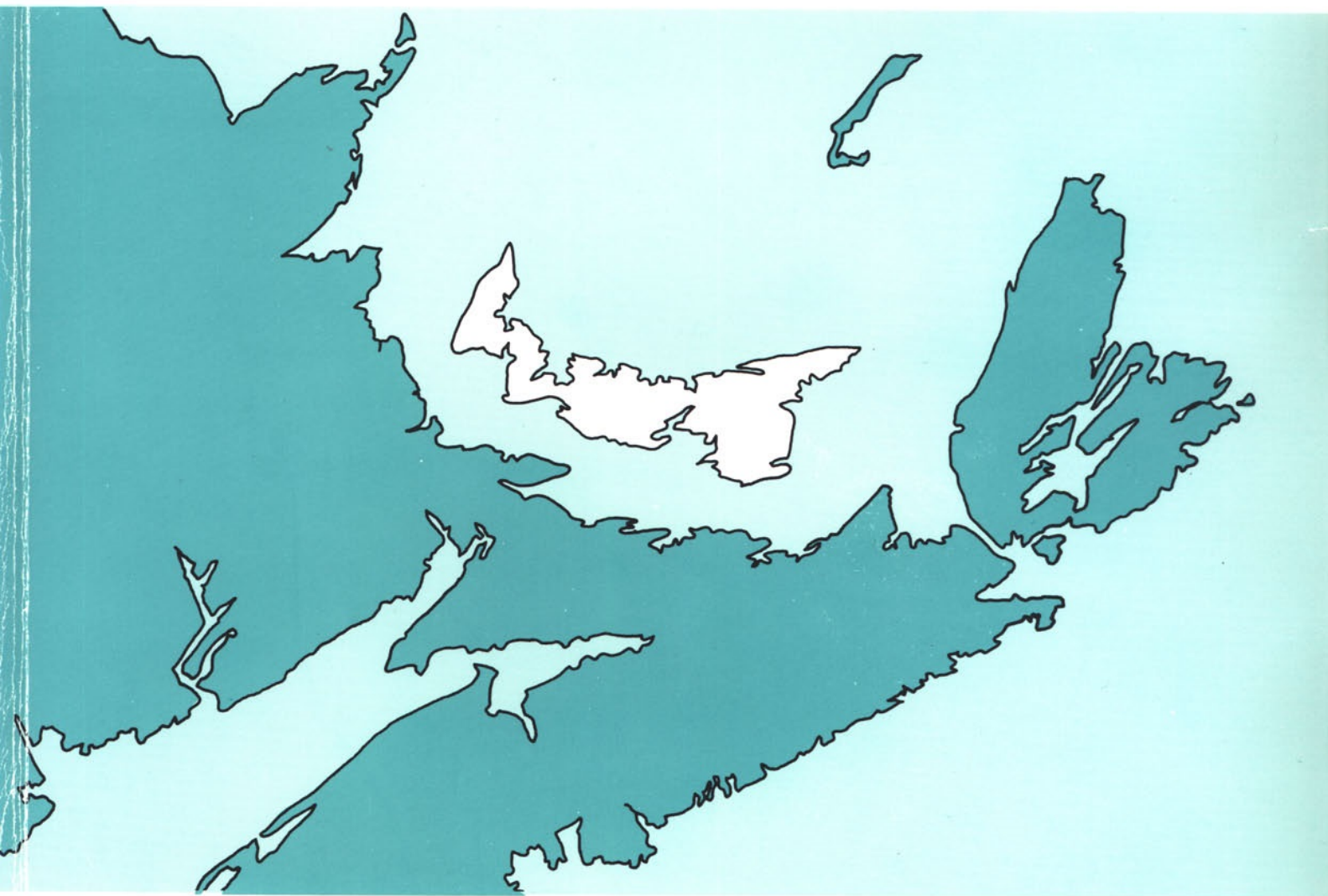
Link to download the complete report:

https://sis.agr.gc.ca/cansis/publications/surveys/pe/pe83-54/pe83-54_report.pdf

Soils of Prince Edward Island

Prince Edward Island Soil Survey

1988



Canada

Simple or pure map units are estimated to be about 80% pure. That means that the soil named and described at the soil series taxonomic level makes up 65% or more of the map unit and that most inclusions are similar or closely related soils. A second soil is named in delineations when it makes up 10-15% of the area and usually not more than 35-40%. A paralithic bedrock contact is common to many soils and is treated as a soil phase within map units.

Map symbol coding on the detailed maps

Each delineation on the soil map is identified by letter symbol: two letters for the soil name and one letter for each phase described. Map units are listed in alphabetical order for ease of reference, except for the miscellaneous land types grouped at the end.

Example:

Soil series: Alberry

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|
|   |----- Soil phase:  Stony surface phase
|
Al  A   C  ----- Soil phase:  Consolidated bedrock
-----
C    C  CH  ----- Second series:  Charlottetown
|
|   Dominant surface texture:  Sandy loam

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Slope phase: 2 to 5%

The first two letters in the numerator of the map symbol refer to the soil series.

The third or fourth letter in the numerator refers to soil phase as follows:

- A- Stony surface phase
B- Moderately well drained phase (Class 3 drainage)
C- Consolidated bedrock phase (50 to 100 cm depth)
D- *Unconsolidated bedrock phase (50 to 100 cm depth)
E- Cobbly or stony subsoil phase
F- Peaty surface phase

*Denoted in lowercase in text, tables, and map legend.

- G- Ortstein phase
I- Coarse or moderately coarse texture (20 to 50 cm depth)
J- Medium to moderately fine texture (20 to 50 cm depth)
K- Complex, undifferentiated

The first letter in the denominator refers to the slope phase as follows:

- B- 0-2% slope
C- 2-5% slope
D- 5-9% slope
E- 9-15% slope

- F- 15-30% slope
- G- more than 30% slope
- I- 5-15% slope (DE complex)
- J- 9-30% slope (EF complex)

The second letter in the denominator refers to the dominant surface texture as follows:

- A- Sand or coarser
- B- Loamy sand or gravelly loamy sand
- C- Sandy loam (<8% clay)
- D- Fine sandy loam or very fine sandy loam
- E- Loam or silt loam
- F- Sandy clay loam or clay loam

If a second soil is shown for any delineation it is placed as the last two letters in the denominator of the symbol.

<u>Map unit</u> <u>symbol</u>	<u>Soil name</u>	<u>Map unit</u> <u>symbol</u>	<u>Soil name</u>
Ab	Abney Road	Hx	Hazelbrook
Al	Alberry	He	Hebron
Ar	Arlington	Ki	Kildare
Bp	Baptist Point	Ve	Lake Verde
Br	Brackley	Lr	Locke Road
Bu	Bunbury	Ma	Malpeque
Ca	Canavoy	Mg	Margate
Cp	Carey Point	Mp	Mossy Point
Ch	Charlottetown	Mr	Munn Road
Cr	Crapaud	Ne	Newton
Cu	Culloden	Ol	O'Leary
Db	Dunblane	Or	Orwell
Df	Dunstaffnage	Pi	Pisquid
Du	Duvar	Po	Pownal
Eg	Egmont	Rp	Rocky Point
Em	Emyvale	Sp	Salt Grass Point
En	Enmore	Ti	Tignish
Fp	Fifteen Point	Ui	Uigg
Fr	Frenchfort	Wp	West Point
Go	Gowanbrae	Wn	Winsloe
Ha	Haliburton	Wf	Wolfe Inlet
Hab	Haliburton Brook	Wi	Wood Island

Miscellaneous land type

<u>Map unit symbol</u>	<u>Soil name</u>		<u>Special features on 1:10 000 scale soil map set</u>
Cb	Coastal Beach		Scarps or steep land
Ds	Dune sand		
Sm	Salt Marsh		Wet spots
Sc	Stream Complex		
Pg	Gravel Pit		Erosion gully
Pb	Borrow Pit or other		
Ai	Airport		Stream
Ce	Cemetery Land		
St	Steep Land		Ditch (open)

In Table 6 a soil key is presented. The soils are placed in groups based on similar parent materials. Within each of the five categories of mineral materials one can key out related soils differing in degrees of wetness (drainage). Within the sixth category, organic materials, differentiation is based on plant nutritional level of organic material and associated waters.

Table 6. Key to the soils of Prince Edward Island and their extent

<u>Soil materials, drainage (classification)</u>	<u>Map symbol</u>	<u>Hectares</u>
1. Soils developed on moderately fine textured acid glacial till or residual materials		
(a) Moderately well drained		
Fifteen Point (Brunisolic Gray Luvisol)	Fp	802
(b) Imperfectly drained		
Wolfe Inlet (Gleyed Gray Luvisol)	Wf	592
(c) Poorly drained		
Egmont (Orthic Luvic Gleysol)	Eg	965
2. Soils developed on medium textured acid glacial till or residual materials		
(a) Well drained		
Tignish (Podzolic Gray Luvisol)	Ti	13 698
(b) Moderately well drained		
O'Leary (Brunisolic Gray Luvisol)	Ol	11 300
(c) Imperfectly drained		
Duvar (Gleyed Gray Luvisol)	Du	8 273
(d) Poorly drained		
Margate (Orthic Luvic Gleysol)	Mg	24 590

Table 6. Key to the soils of Prince Edward Island and their extent (continued)

3. Soils developed on moderately coarse to medium textured acid glacial till or residual materials			
(a) Well drained			
Charlottetown (Orthic Humo-Ferric Podzol)	Ch	166	381
Charlottetown (paralithic bedrock phase)	Chd	21	880
Alberry (Orthic Humo-Ferric Podzol)	Al	85	337
Alberry (paralithic bedrock phase)	Ald	13	974
Emyvale (Orthic Dystric Brunisol, shallow lithic phase)	Em		298
(b) Imperfectly drained			
Malpeque (Gleyed Eluviated Dystric Brunisol)	Ma	17	770
Crapaud (Gleyed Eluviated Eutric Brunisol)	Cr	4	051
(c) Poorly drained			
Winsloe (Orthic Gleysol)	Wn	11	379
4. Soils developed on variable textured acid to weakly alkaline marine deposits or noncompact glacial till			
(a) Well drained			
Kildare (Orthic Humo-Ferric Podzol)	Ki	6	807
Haliburton (Orthic Humo-Ferric Podzol)	Ha	7	187
(b) Moderately well drained			
Haliburton Brook (Eluviated Eutric Brunisol)	Hab	1	812
Dunblane (Eluviated Eutric Brunisol)	Db	1	703
(c) Imperfectly drained			
Carey Point (Gleyed Eluviated Dystric Brunisol)	Cp	1	475
Salt Grass Point (Gleyed Eluviated Eutric Brunisol)	Sp	8	699
West Point (Gleyed Eluviated Eutric Brunisol)	Wp	4	525
Munn Road (Gleyed Eluviated Eutric Brunisol)	Mr		569
(d) Poorly drained			
Rocky Point (Orthic Gleysol)	Rp	8	987
Mossy Point (Orthic Gleysol)	Mp	14	519
Baptist Point (Orthic Gleysol)	Bp	11	625
Locke Road (Orthic Gleysol)	Lr		49
5. Soils developed on strongly acid coarse to medium textured glaciofluvial or ablation-residual materials			
(a) Well or rapidly drained			
Dunstaffnage (Orthic Humo-Ferric Podzol)	Df	2	714
Culloden (Orthic Humo-Ferric Podzol)	Cu	51	595
Culloden (paralithic bedrock phase)	Cud	6	220
Bunbury (Ortstein Humo-Ferric Podzol)	Bu		201
Newton (Orthic Humo-Ferric Podzol)	Ne		176
Gowanbrae (Orthic Humo-Ferric Podzol)	Go	3	415
(b) Imperfectly drained			
Uigg (Gleyed Eluviated Dystric Brunisol)	Ui	6	879
Brackley (Gleyed Eluviated Dystric Brunisol)	Br	1	176
Hebron (Gleyed Eluviated Dystric Brunisol)	He		97
(c) Poorly drained			
Wood Island (Ortstein Humic Podzol)	Wi	2	081
Orwell (Orthic Gleysol)	Or	7	794

Table 6. Key to the soils of Prince Edward Island and their extent (concluded)

6. Soils formed on poorly drained organic materials (associations on landform units)		
(a) Low nutrient content, strongly acid organic terrain formed from (1) dominantly undecomposed sphagnum moss peat on raised bog landform; (2) moderately decomposed sphagnum moss peat on flat bog landform; (3) moderately decomposed sphagnum and woody peat on bowl bog landform		
(1) Arlington association	Ar	972
(2) Pownal association	Po	2 959
(3) Pisquid association	Pi	420
(b) Low to moderate nutrient content, acid organic terrain formed from		
(1) moderately decomposed sedge peat on salt marsh landform; (2) moderately decomposed woody and sphagnum peat on horizontal fen landform		
(1) Frenchfort association	Fr	378
(2) Lake Verde association	Ve	669
(c) Moderate to high nutrient content, mainly acid organic terrain formed from (1) strongly decomposed woody and sedge peat material in stream swamp landform; (2) moderately to strongly decomposed material on basin swamp landform		
(1) Abney Road association	Ab	576
Hazelbrook association	Hx	150
(2) Canavoy association	Ca	117
Enmore association	En	96
7. Miscellaneous land types		
(1) Airport	Ai	711
(2) Cemetery	Ce	68
(3) Dune Sand	Ds	2 338
(4) Pits (borrow; gravel)	Pb; Pg	1 707
(5) Coastal Beach	Cb	9 466
(6) Stream Complex	Sc	12 971
(7) Steep	St	145
(8) Salt Marsh	Sm	8 187
Total land area		573 525 ha

Table 28. Soil limitations for septic filter fields

Map unit and soil phase ¹ ; numerator part of map symbol	Degree of limitation ² with indicated slope classes					Major soil property ³ other than slope influencing limitations and use
	B, C, D	E, I	F, J	G		
	0-9%	9-15%	15-30%	over 30%		
Abney Road	Ab	U				organic soil
Alberry	Al	S1-M	M	S	U	shallow till depth and
	Ald	M-S	M-S	S	U	erratic permeabilities in bedrock materials
Arlington	Ar	U				organic soil
Baptist Point	Bp	U				permanently wet
Brackley	Br	S	S			permeability, seasonal wetness
Bunbury	Bu	S1-M	M	S	U	permeability, (ortstein horizon)
Canavoy	Ca	U				organic soil
Carey Point	Cp	S				seasonal groundwater table
Charlottetown	Ch	M-S	M-S	S	U	permeability usually
	Chd	M-S	M-S	S	U	less than 0.5 cm/h, erratic in bedrock materials
Crapaud	Cr	S	S			seasonal water table
Culloden	Cu	S1	M	S	U	
	Cud	M-S	M-S	S	U	erratic permeability
Dunblane	Db	S				permeability less than 0.5 cm/h
Dunstaffnage	Df	S1-S	M-S	S	U	erratic permeability, pollution hazard possible
Duvar	Du	S	S			seasonal water table, permeability
Egmont	Eg	S-U				seasonal water table, permeability
Emyvale	Em	M-S	M-S	S	U	bedrock, pollution hazard possible
Enmore	En	U				organic soil
Fifteen Point	Fp	S	S			permeability less than 0.5 cm/h
Frenchfort	Fr	U				organic soil
Gowanbrae	Go	S1-S	M-S	S		permeability
Haliburton	Ha	S1	M	S	U	
Haliburton Brook	Hab	M				seasonal water table
Hazelbrook	Hx	U				organic soil
Hebron	He	S	S			permeability, seasonal water table
Kildare	Ki	S1	M	S	U	
Lake Verde	Ve	U				organic soil
Locke Road	Lr	U				permeability, wetness
Malpeque	Ma	S	S	S		permeability, seasonal water table
Margate	Mg	S-U				permeability, seasonal water table
Mossy Point	Mp	U				permeability, wetness
Munn Road	Mr	S				permeability
Newton	Ne	S	S			permeability
O'Leary	Ol	S	S	S		permeability
Orwell	Or	U				permanently wet
Pisquid	Pi	U				organic soil
Pownal	Po	U				organic soil

Table 28. Soil limitations for septic filter fields (concluded)

Map unit and soil phase ¹ ; numerator part of map symbol	Degree of limitation ² with indicated slope classes				Major soil property ³ other than slope influencing limitations and use
	B, C, D 0-9%	E, I 9-15%	F, J 15-30%	G over 30%	
Rocky Point Rp	U				permanently wet
Salt Grass Sp	S				seasonal water table
Point					
Tignish Ti	S				permeability
Uigg Ui	S				seasonal water table
West Point Wp	S				seasonal water table, permeability
Winsloe Wn	S-U				seasonal water table, permeability
Wolfe Inlet Wf	S				permeability, seasonal water table
Wood Island Wi	S-U				seasonal water table
Land Types			Not classified		

¹Unlisted phases are included with the modal soil; they may affect interpretations.

²Degree of limitation; S1-slight; M-moderate; S-severe; U-unsuitable.

³Nature of limitation is from Table 27.

Blocky - faces rectangular and flattened, vertices sharply angular.
 Subangular faces subrectangular, vertices mostly oblique, or subrounded.

Columnar - vertical edges near top of columns not sharp (columns may be flat-topped, round-topped, or irregular).

Granular - spheroidal, characterized by rounded vertices.

Platy - horizontal planes more or less developed.

Soil consistence comprise the attributes of soil materials that are expressed by the degree and kind of cohesion and adhesion or by the resistance to deformation and rupture. It deals with the strength and nature of the forces of attraction within a soil mass. The following terms are used in describing soils in this report:

Loose - noncoherent.

Friable (specific friable when moist) - soil material crushes easily under gently to moderate pressure between thumb and forefinger, and coheres when pressed together.

Firm (specifies firm when moist) - soil material crushes under moderate pressure between thumb and forefinger but resistance is distinctly noticeable.

Hard (specifies hard when dry) - moderately resistant to pressure, can be broken in the hands without difficulty but rarely breakable between thumb and forefinger.

Compact - term denotes a combination of firm resistance and a close packing or arrangement of particles.

Plastic (specifies plastic when wet) - wire formable by rolling the soil between the thumb and forefinger and moderate pressure required for deformation of the soil mass.

Sticky (specific sticky when wet) - soil adheres to both the thumb and forefinger and tends to stretch somewhat and pulls apart rather than pulling free from either digit.

Soil moisture classes

Soil moisture classes are defined in terms of (a) the actual moisture content in excess of field moisture capacity, and (b) the extent of the period during which such excess water is present in the plant root zone.

- (1) Rapidly drained - soil moisture content seldom exceeds field capacity in any horizon except immediately after water additions.
- (2) Well-drained - soil moisture content does not normally exceed field capacity in any horizon except possibly the C horizon, for a significant part of the year.
- (3) Moderately well drained - soil moisture in excess of field capacity remains for a small but significant period of the year.
- (4) Imperfectly drained - soil moisture in excess of field capacity remains in subsurface horizons for moderately long periods during the year.
- (5) Poorly drained - soil moisture in excess of field capacity remains in all horizons for a large part of the year.
- (6) Very poorly drained - free water remains at or within 30 cm of the surface most of the year.