



Origin and Development of Soils in the South-western Manitoba

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Initiatives



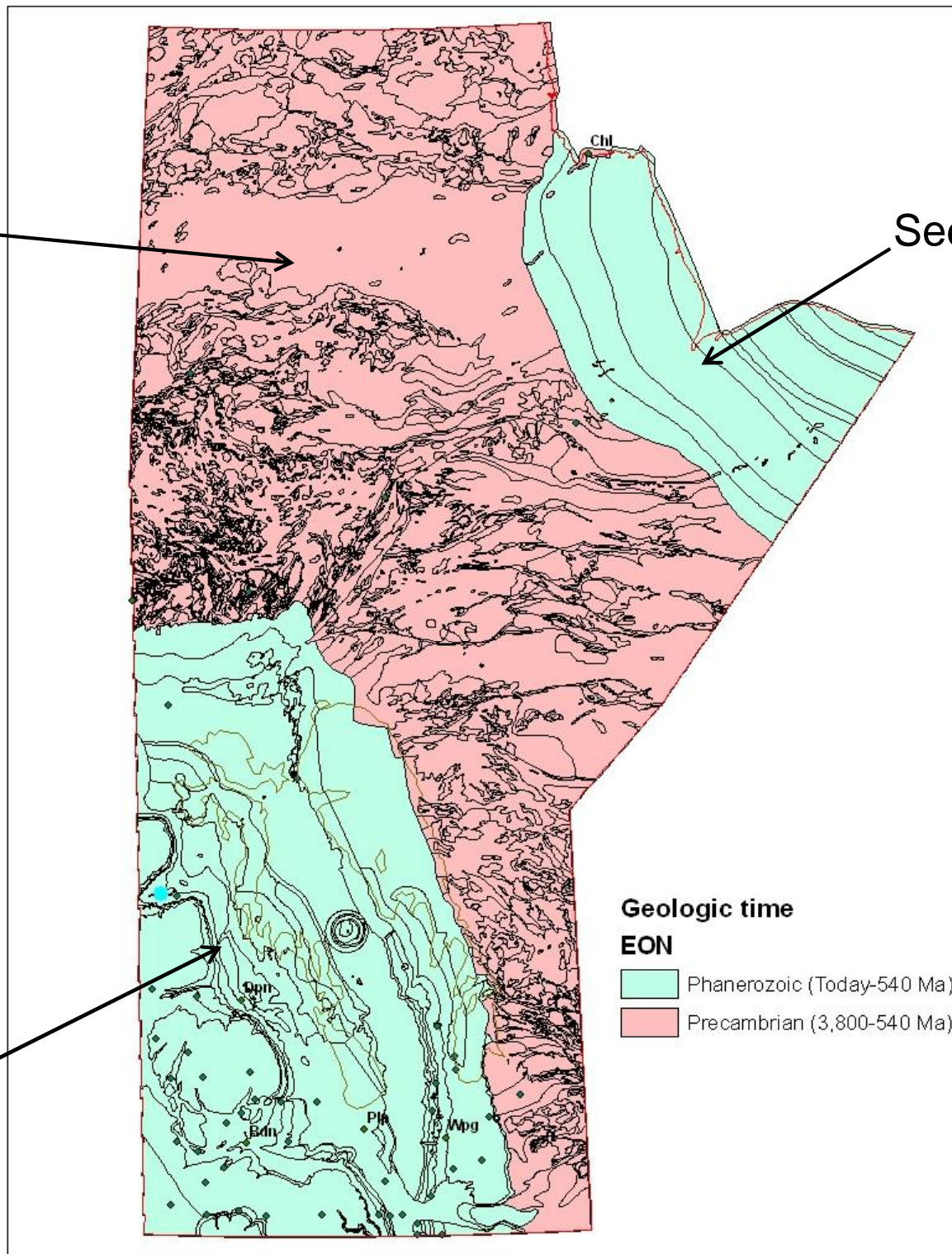
Soil forming factors

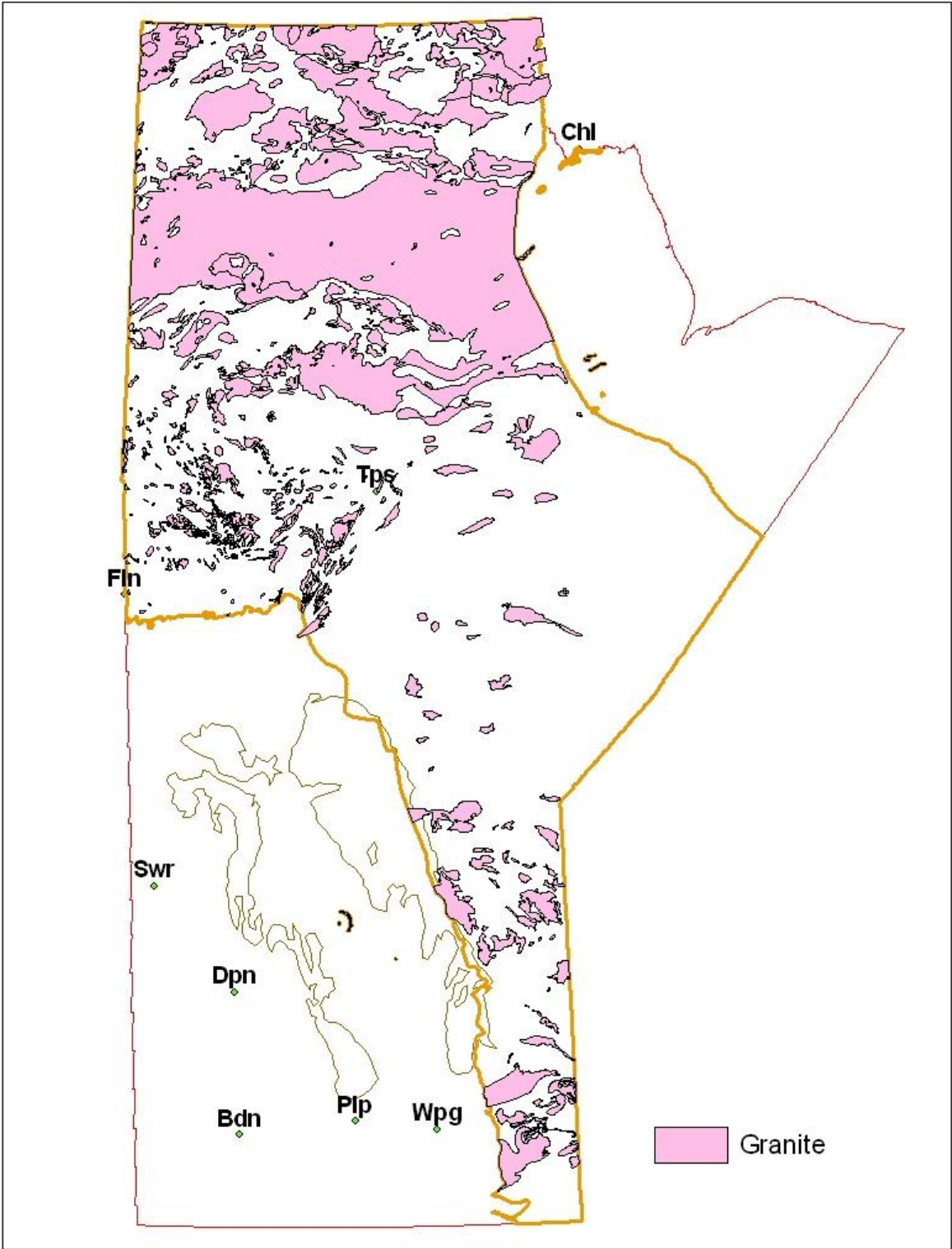
- Parent material
- Climate
- Biota
- Topography
- Time
- Human's activity

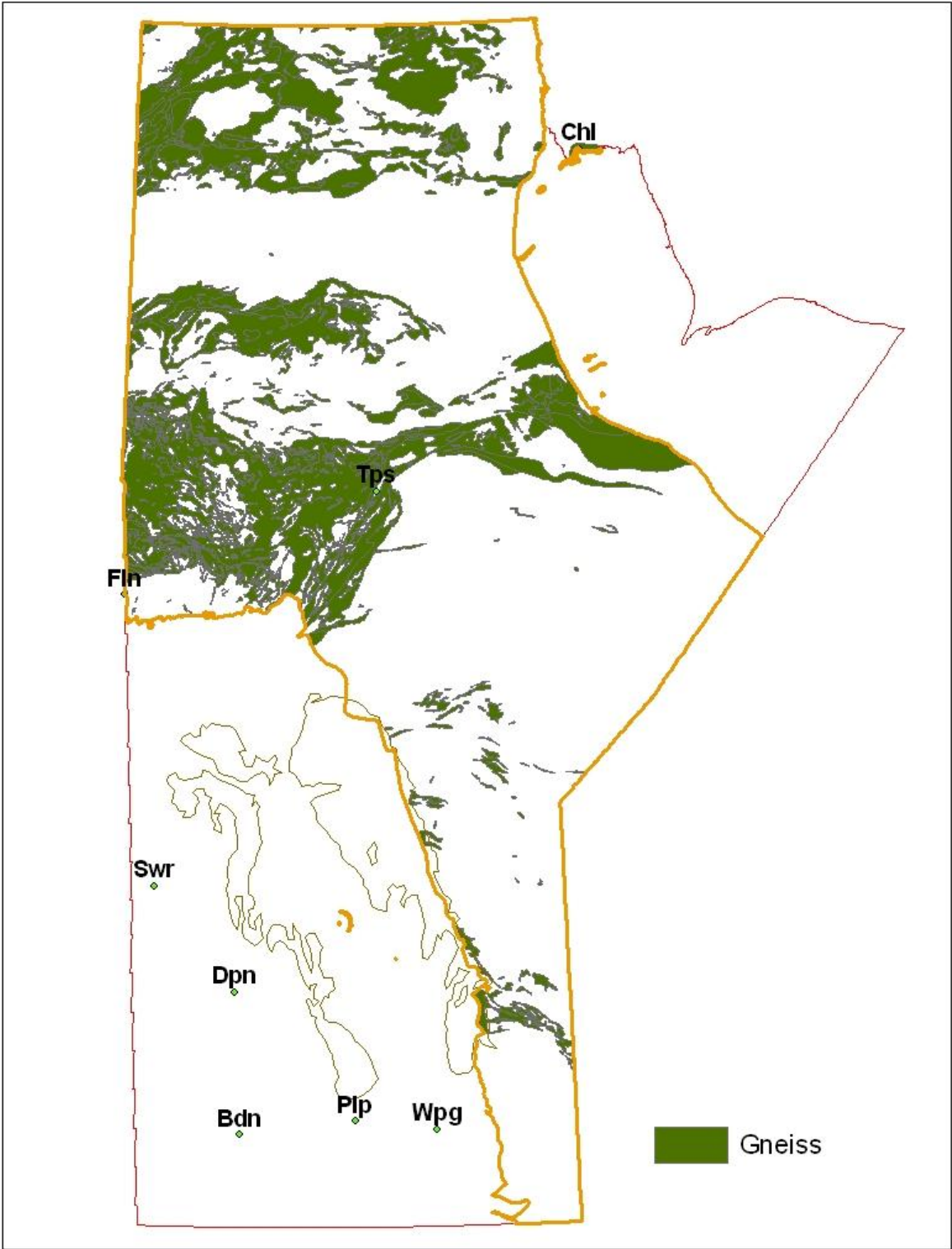
Igneous and metamorphic

Sedimentary

Sedimentary





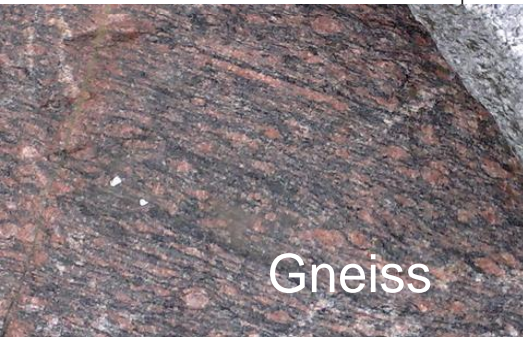




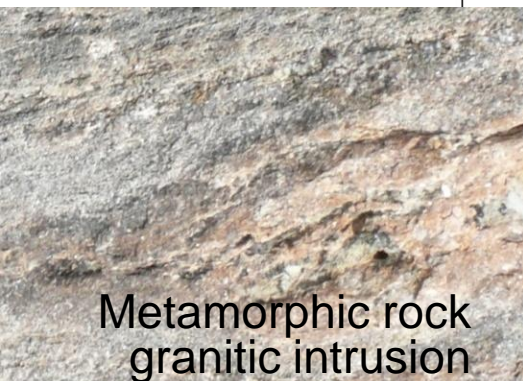
Tonalite



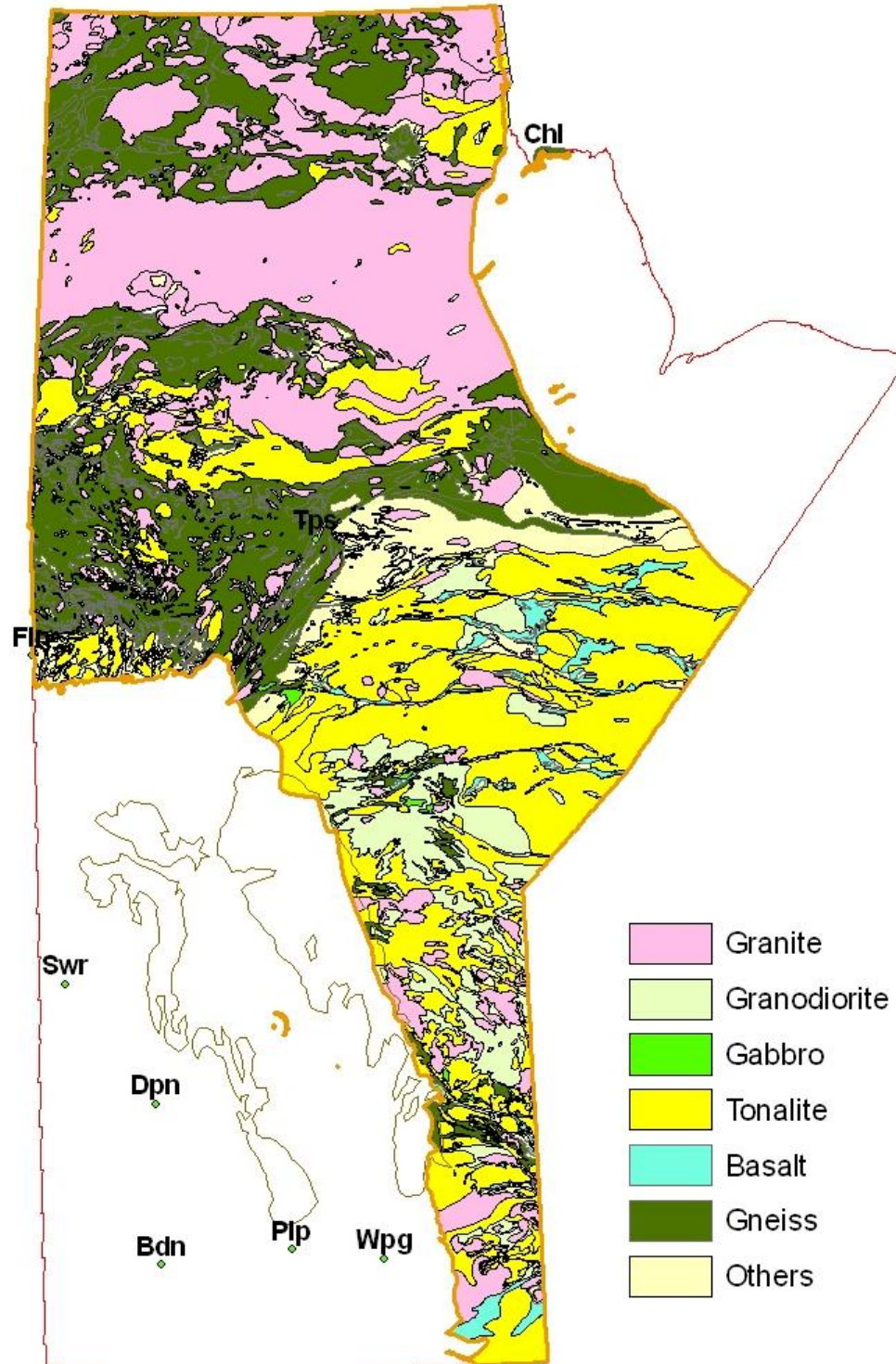
Basalt



Gneiss



Metamorphic rock
granitic intrusion



Granite



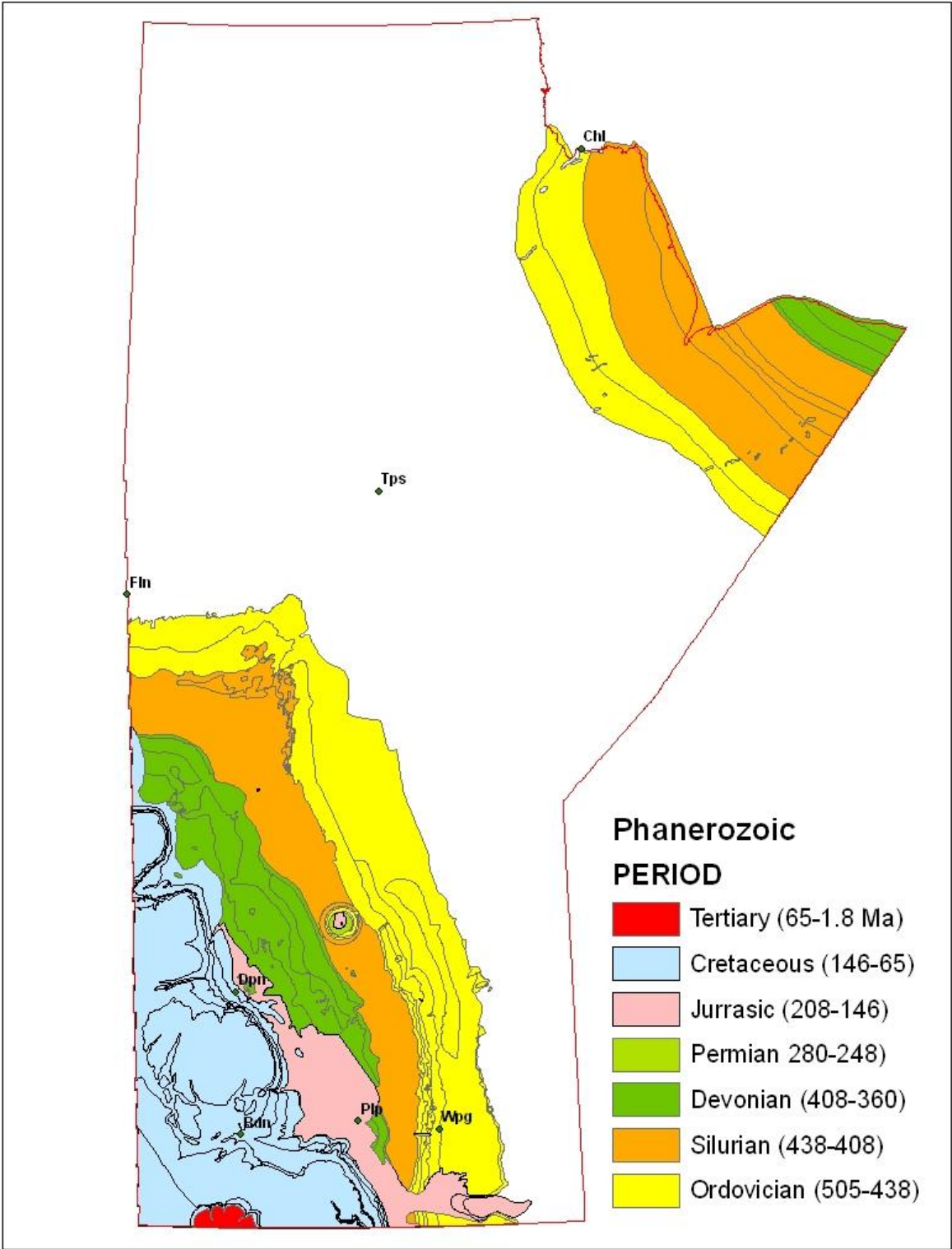
Granodiorite

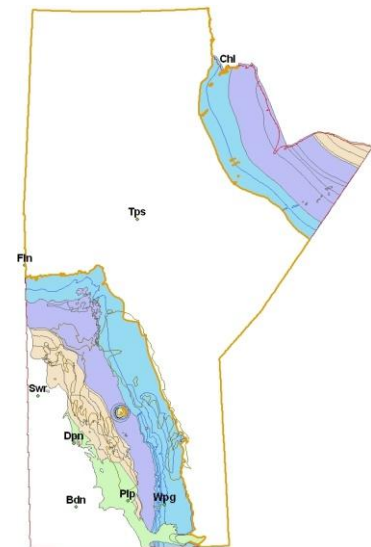
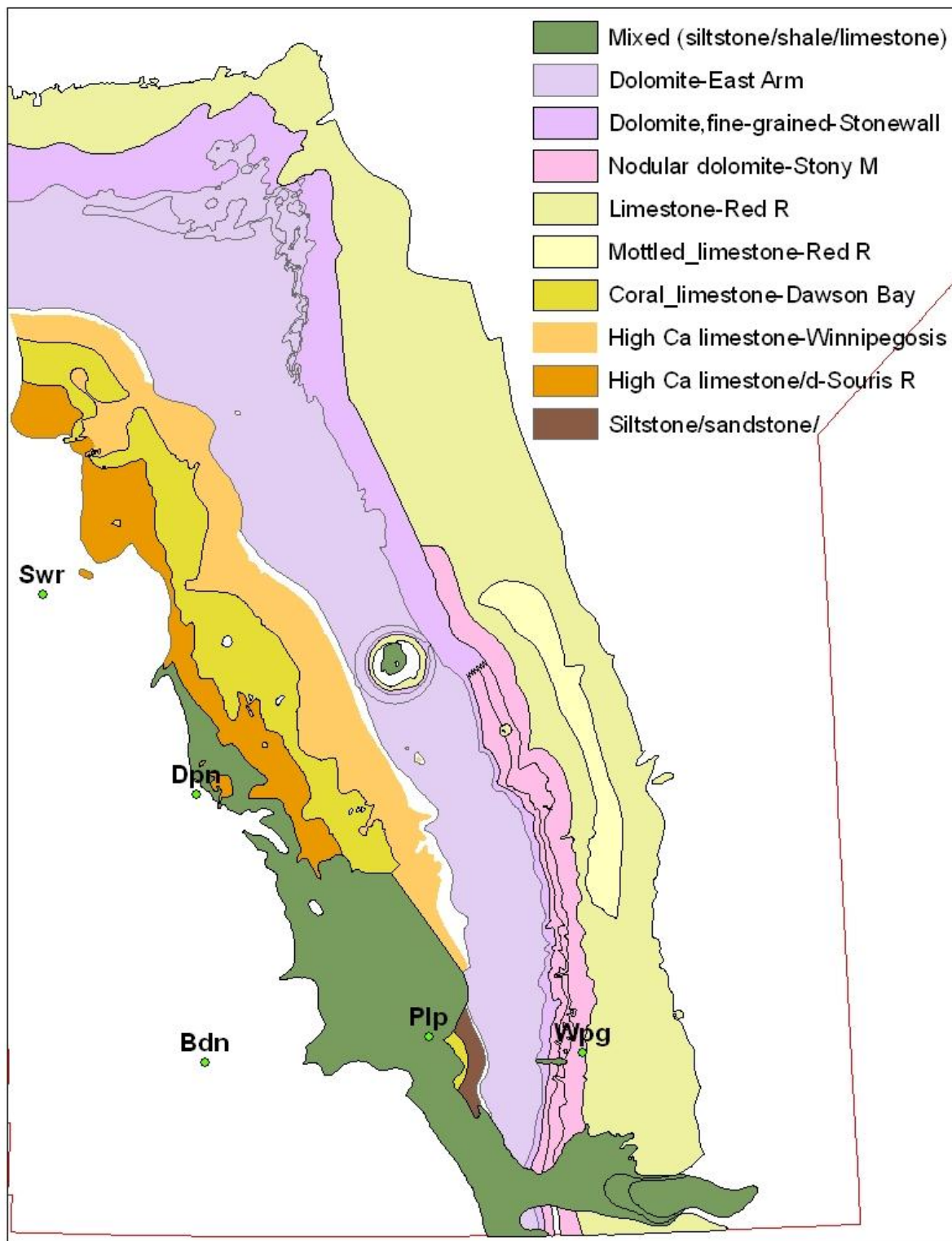


Gabbro

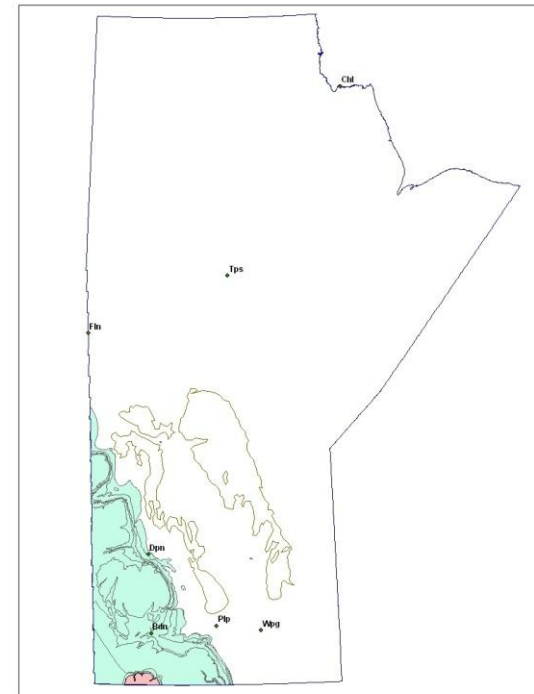
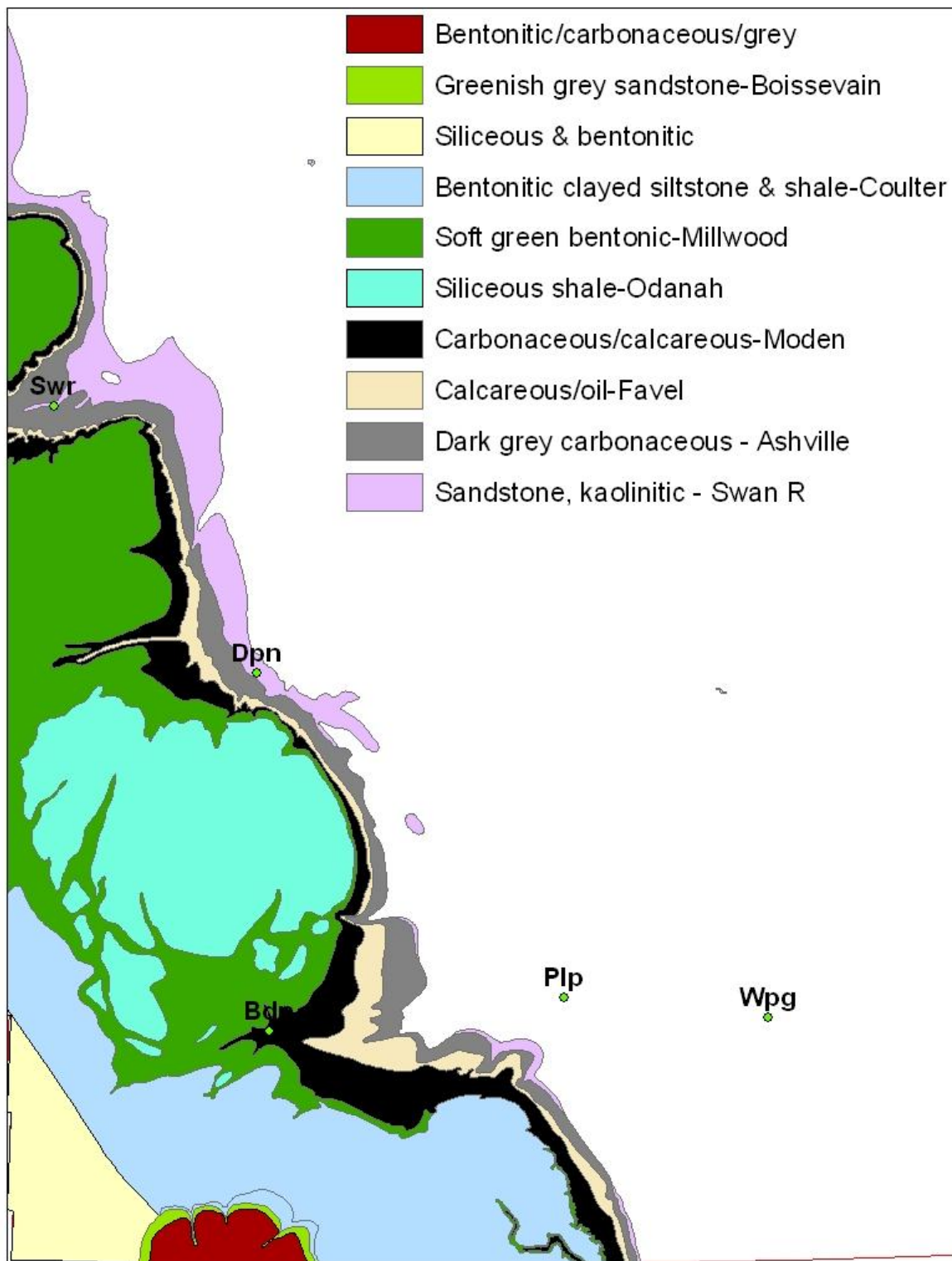


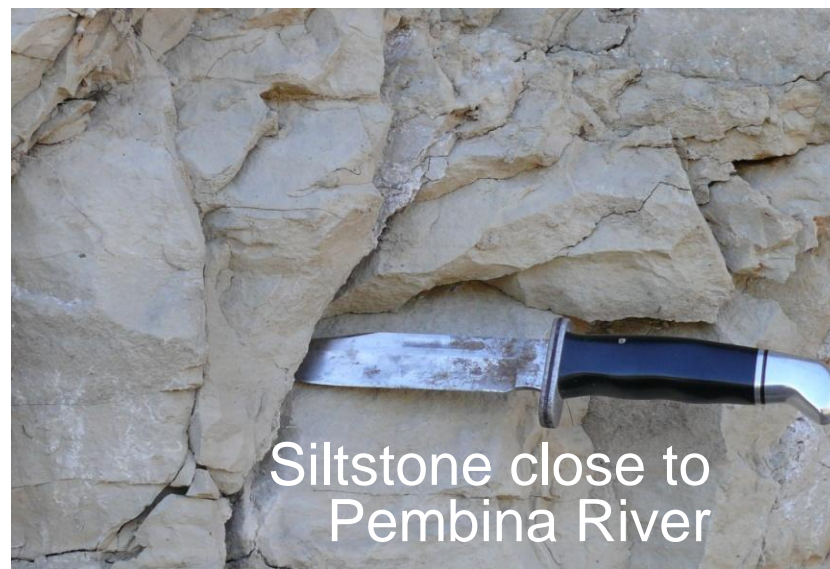
Metamorphic rock
granitic intrusion

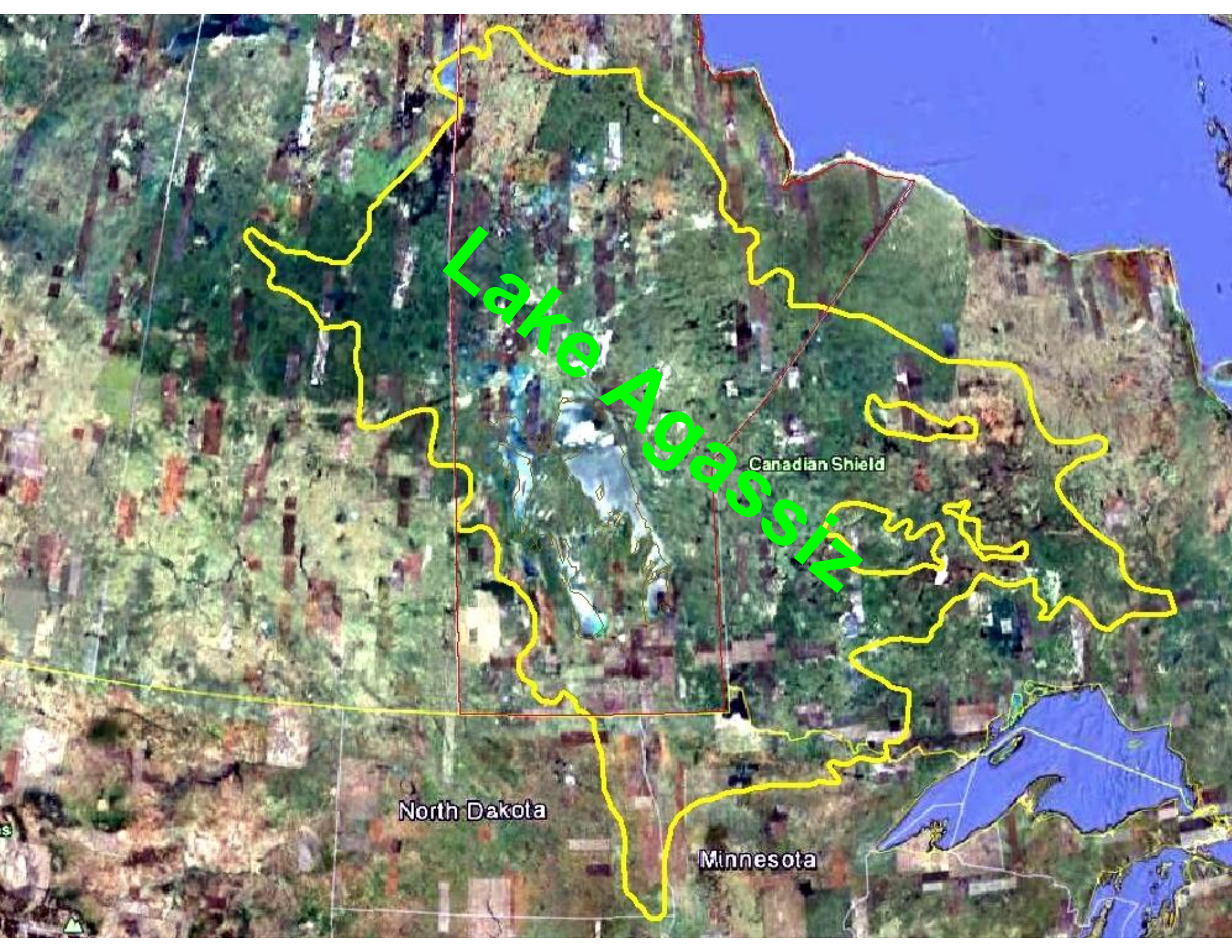










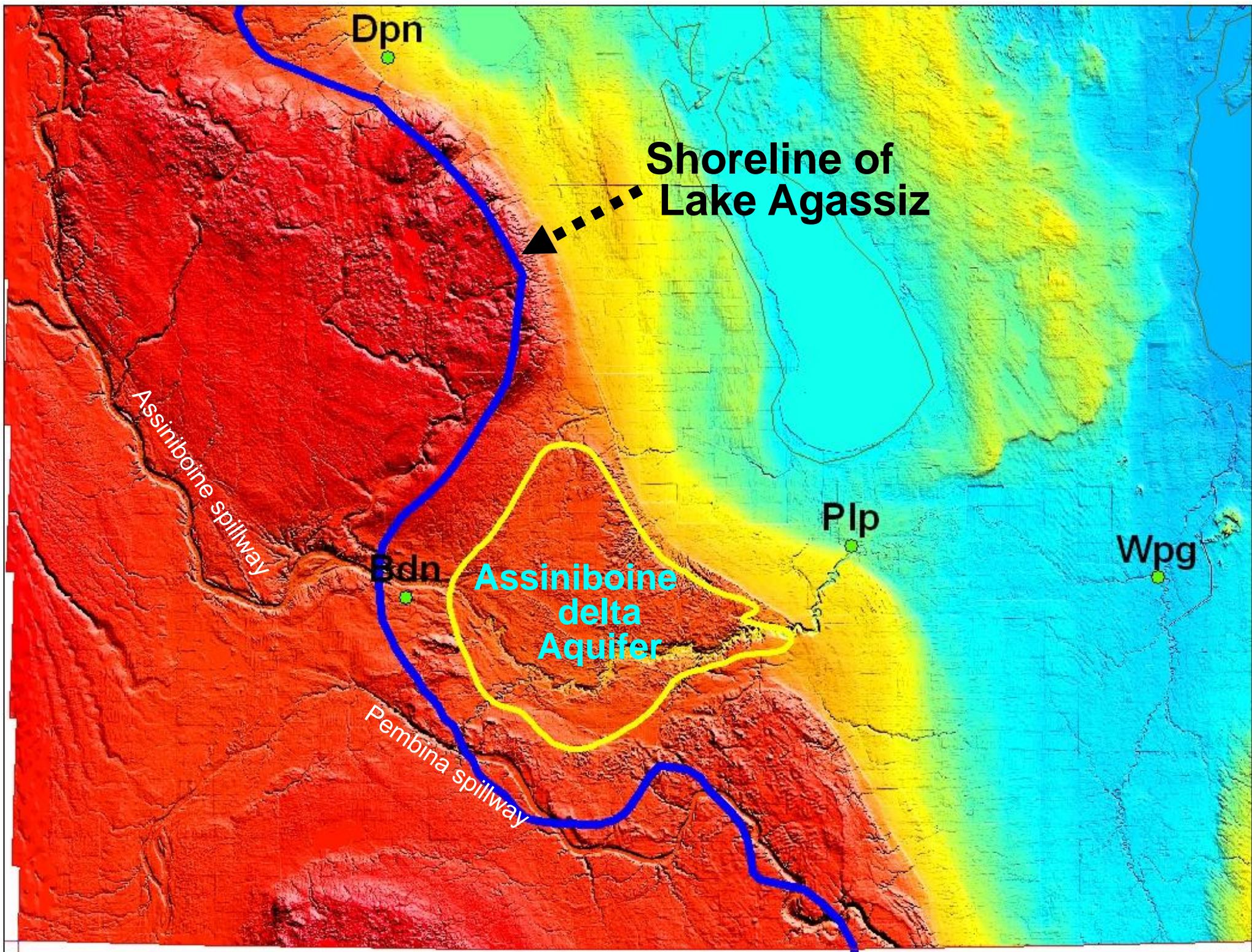


Lake Agassiz

Canadian Shield

North Dakota

Minnesota



Dpn

Shoreline of
Lake Agassiz

Assiniboine spillway

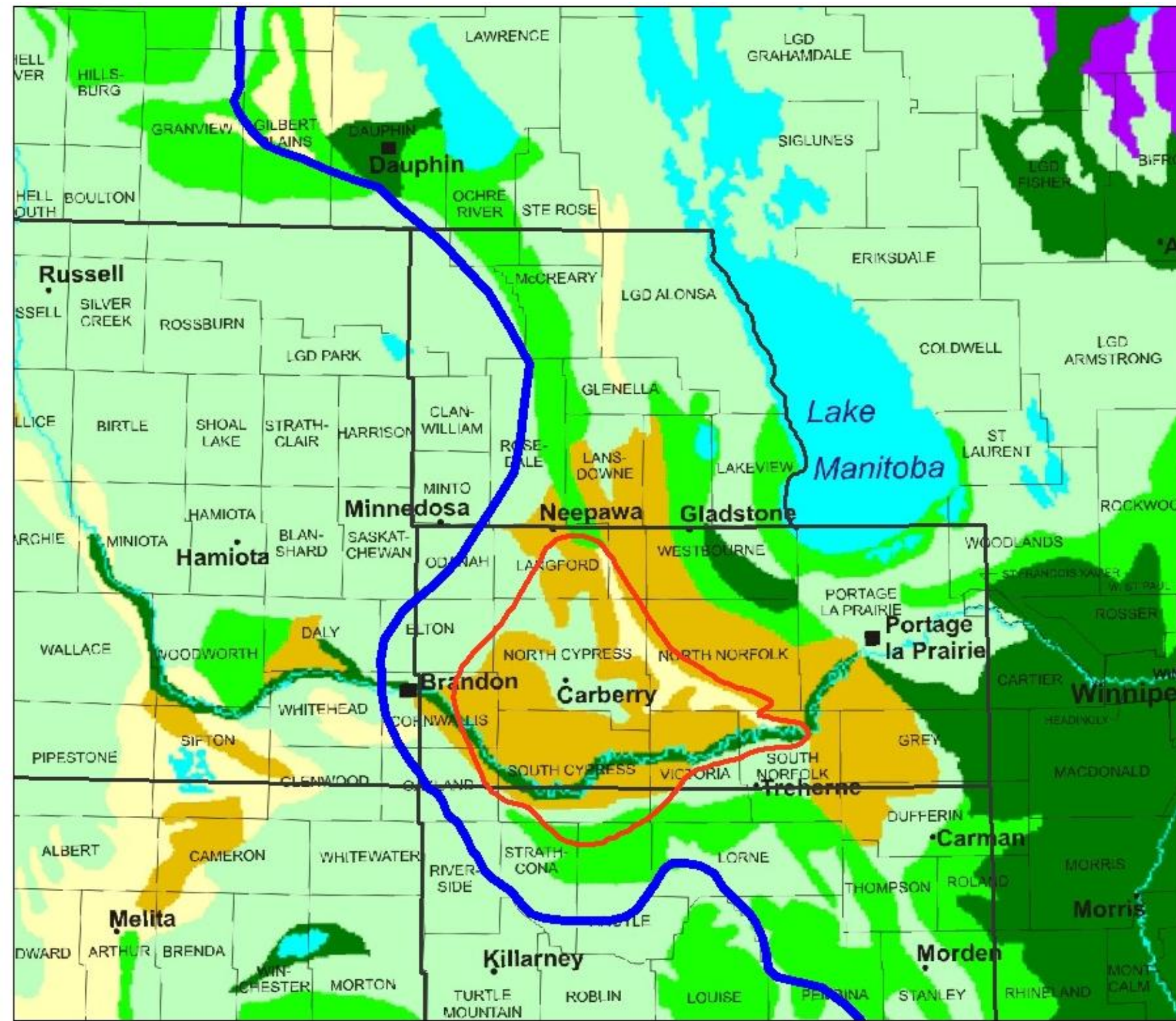
Assiniboine
delta
Aquifer

Bdn

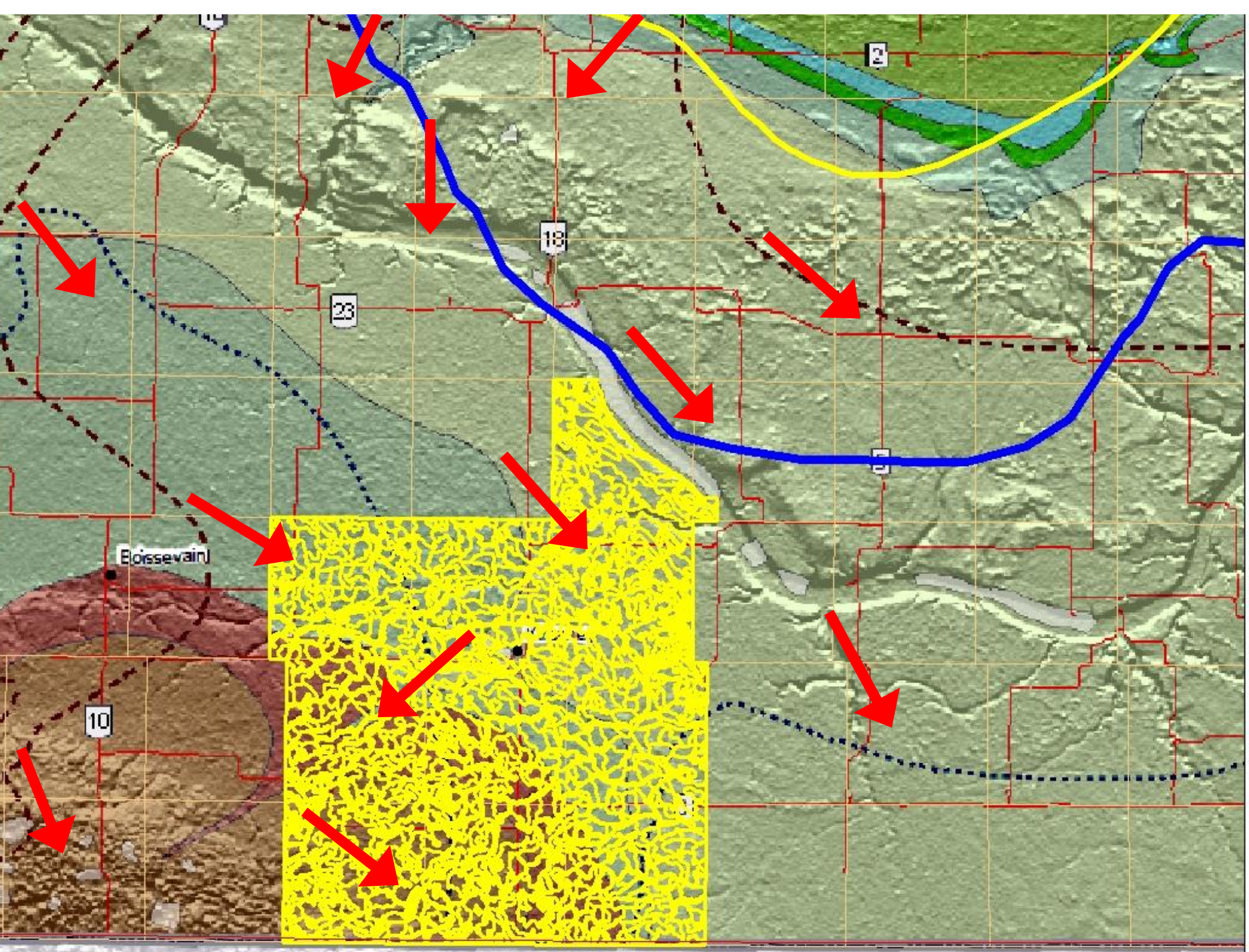
Plp

Wpg

Pembina spillway



GROUP	TEXTURE CLASS
Coarse	gravelly sand
	fine sand
	sand
	loamy sand
	loamy fine sand
Moderately Coarse	sandy loam
	fine sandy loam
Medium	very fine sandy loam
	loam
	silt loam
Moderately Fine	clay loam
Fine	clay
	organic
	bedrock outcrop
	water



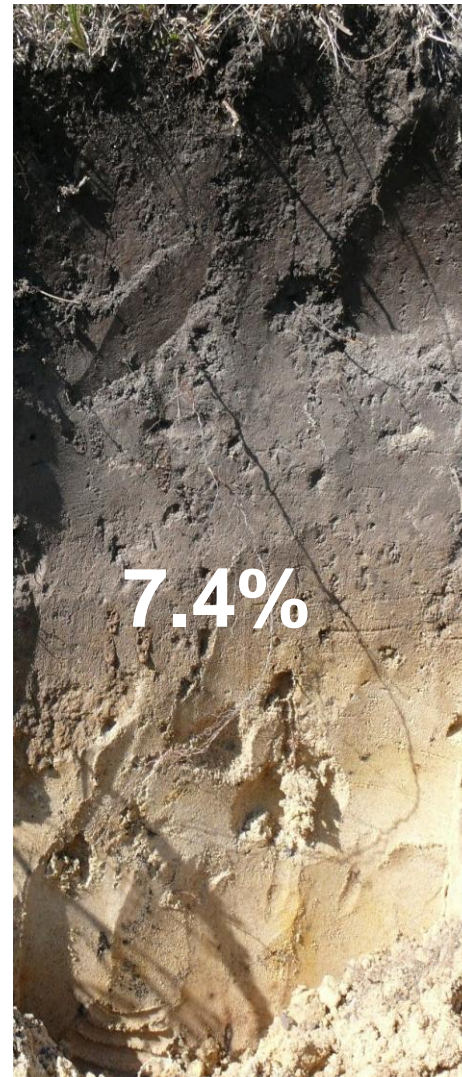
Parent materials in the KTM



Lacustrine over till



Glacial till

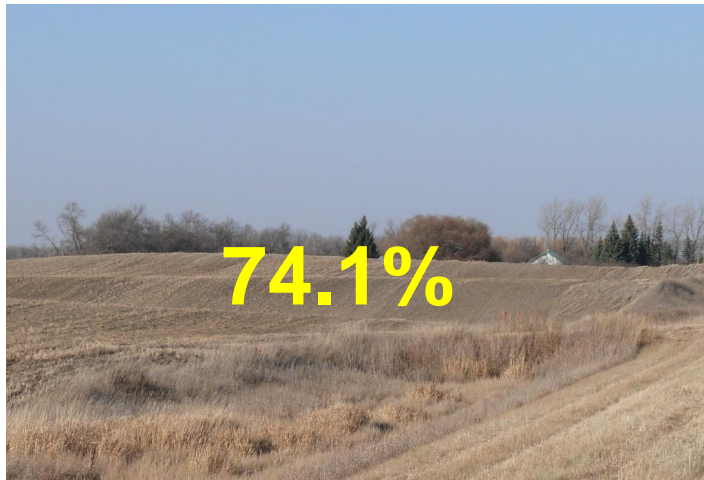


Deep lacustrine



Fluvial/alluvium

Major landforms in the KTM



74.1%

Undulating



19.5%

Level



4.9%

Hummocky



1.5%

Rolling








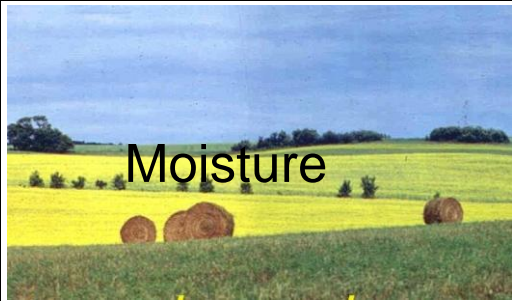



70 soil series in 20 soil associations

Deposit	Association	(%) Parent material	(%) of total
Lac/till	Waskada	75.1	34.9
Till	Ryerson	95.3	30.4
Lacustrine	Elva	50.2	3.69
Alluvium	Melita	64.9	3.65
Fluvial	Newstead	43.3	2.79

75.4%

Whole RM = 94,400 ha or 233,300 ac.

Ag capability (% of the KTM)

Class %		Three major limitations		
2	70.9	 <p>Topography</p>	 <p>Excess water</p>	 <p>Cumulative minor</p>
3	13.2	 <p>Topography <i>gently sloping (5 - 9%)</i></p>	 <p>Inundation</p>	 <p>Moisture</p>
5	10.5	 <p>Excess water</p>	 <p>Inundation</p>	 <p>Moisture</p>

Class 1, 4, 6, 7 and unclassified are 2.4 0.9, 0.7, 0.4 and 1.0 %, respectively.

Acknowledgement

Soil Survey crew:

Yi, Sheila, Steve, Eric, Gerwin and Jim

Lab technicians

Greg, Nancy and Nodas

