



Detailed Soil Survey RM of Blanshard

Sheila Meyer

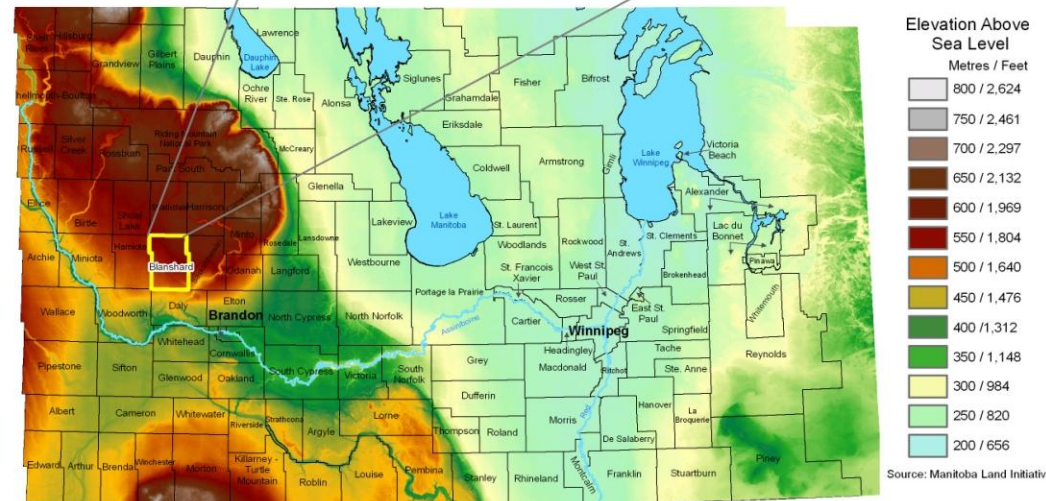
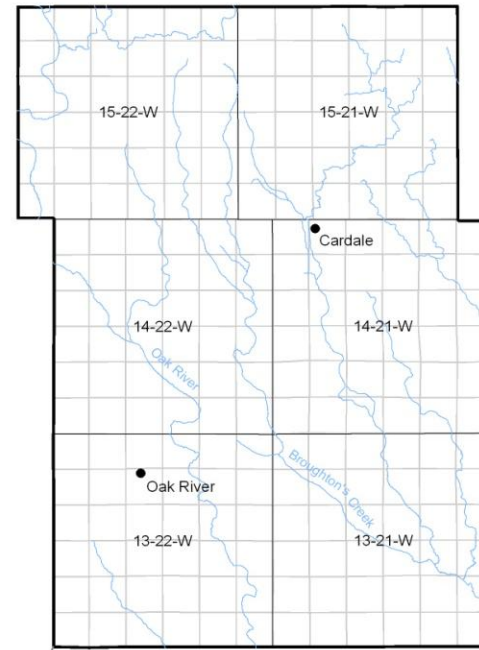
Agri-Environment Knowledge Centre
Manitoba Agriculture, Food and Rural Initiatives





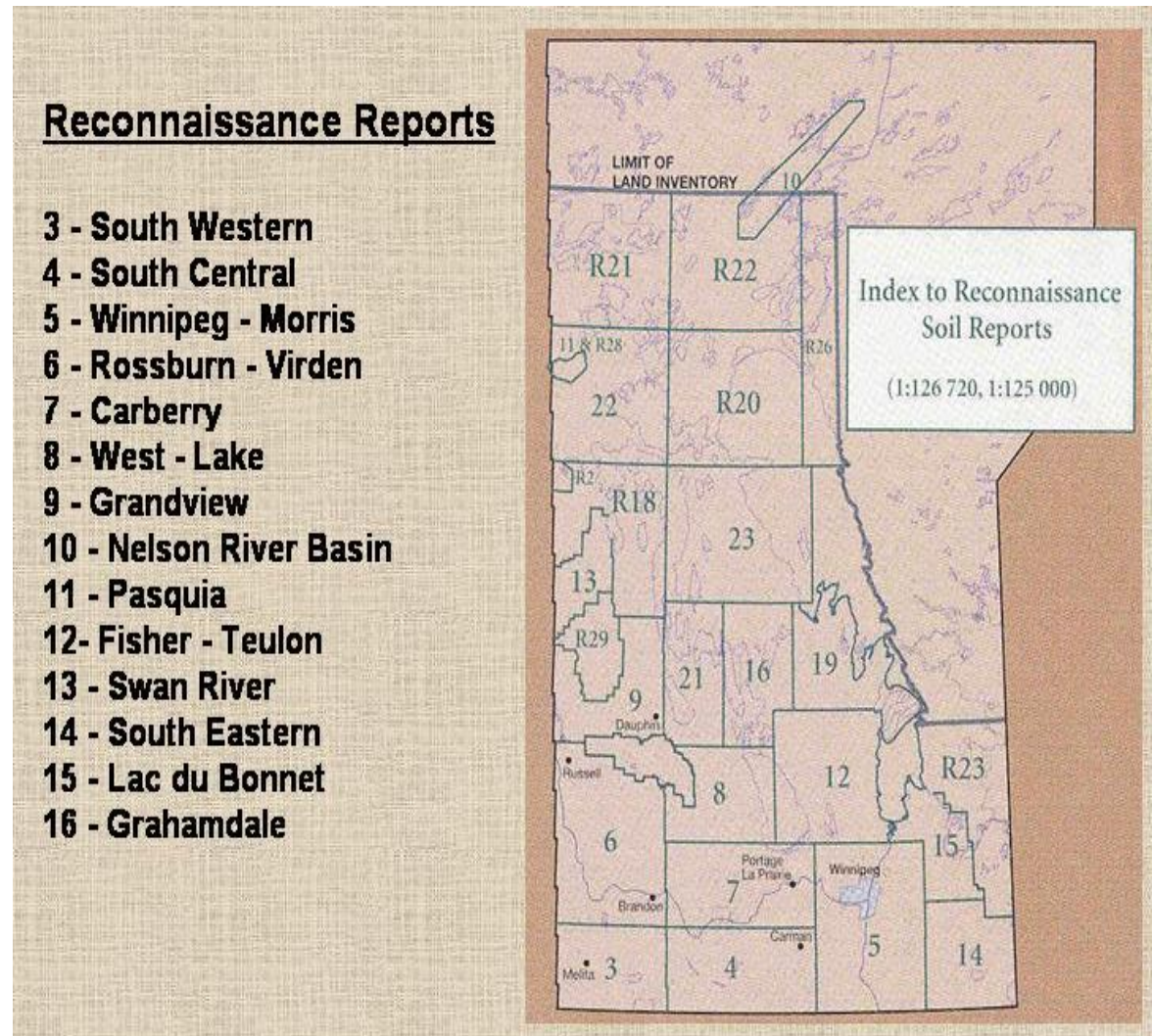
Location and Scale

- West of Minnedosa
- Northwest of Brandon
- Townships 13, 14 and 15 of Range 21W and 22W
 - 58,050 hectares
 - 143,433 acres
- Surveyed and mapped at 1:50,000



Reports

- Previously mapped
 - Reconnaissance Report No. 6
 - 1956
 - 1:126,720
- Why a new survey?



Soil Development

- Riding Mountain shale formation
- Glaciers moved rock fragments from east and north
 - Included sandstone, shale, limestone and granite
- Resulted in mixed material - glacial till
- Glacial parent material determines relief, surface texture, and natural fertility of the soils



Soils

- Uniform parent material over study area
- Leads to uniform soil type

Parent material (0 to 100cm)	% of RM
Glacial till	91.1
Lacustrine over glacial till	3.58
Alluvium	2.8
Lacustrine over fluvial over till	0.5
Fluvial	0.2
Lacustrine	0.12
Marsh, water, eroded slope, and unclassified urban area	1.74
Total	100

Glacial Till Soils

- 91.1% of study area



Well Drained

Imperfectly Drained

Poorly Drained

Soil Series developed on Glacial till	% of RM
Newdale	48.8
Rufford	10.8
Cordova	1.0
Varcoe	18.5
Angusville	3.6
Moore Park	0.2
Drokan	7.4
Hamiota	0.8
Penrith	0.03
Total	91.1

Newdale Association, developed on glacial till



Well or moderately well drained

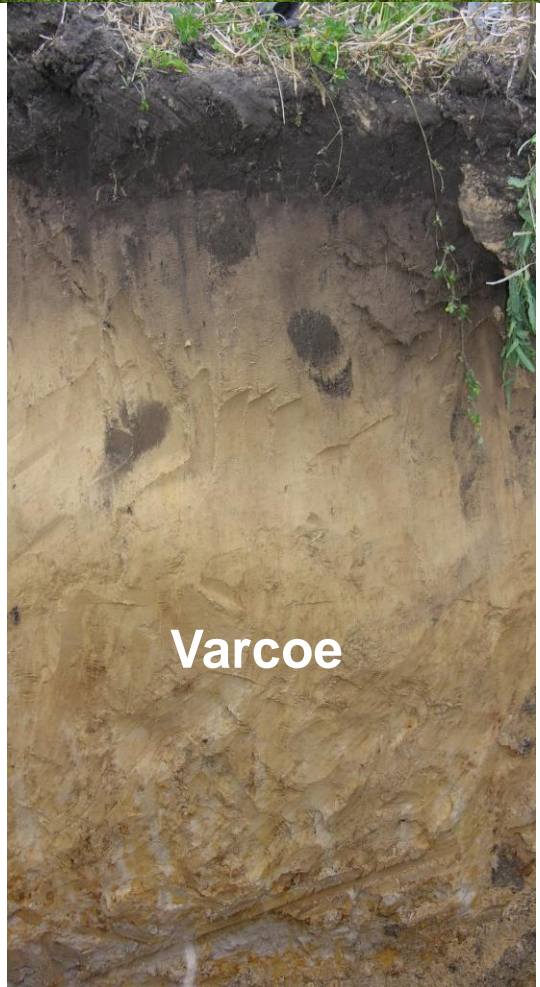
Imperfectly or poorly drained



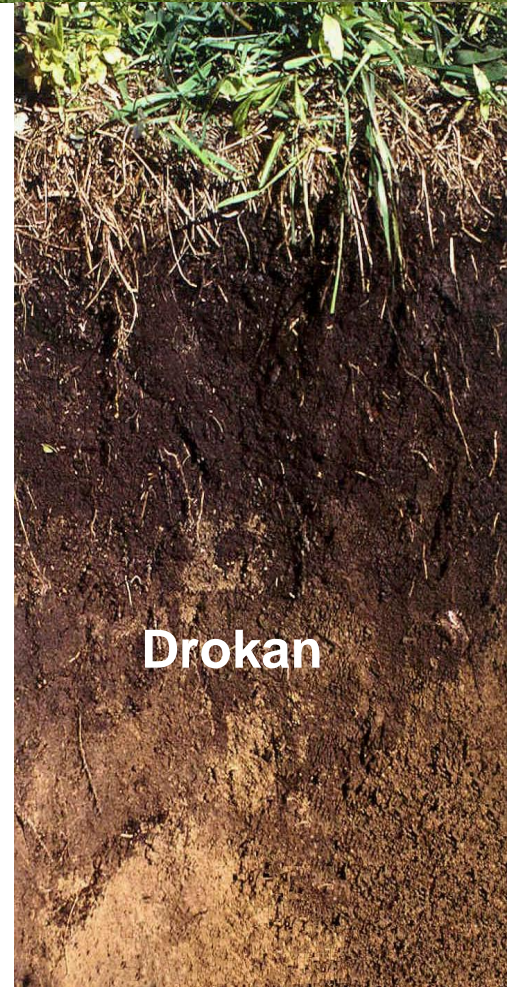
Rufford



Newdale



Varcoe



Drokan

Newdale Soil Series

- Manitoba's Provincial Soil
- Orthic Black Chernozem
 - MW to W drained
 - Ah
 - Bm
 - BC(k)
 - Ck
- 48% of study area



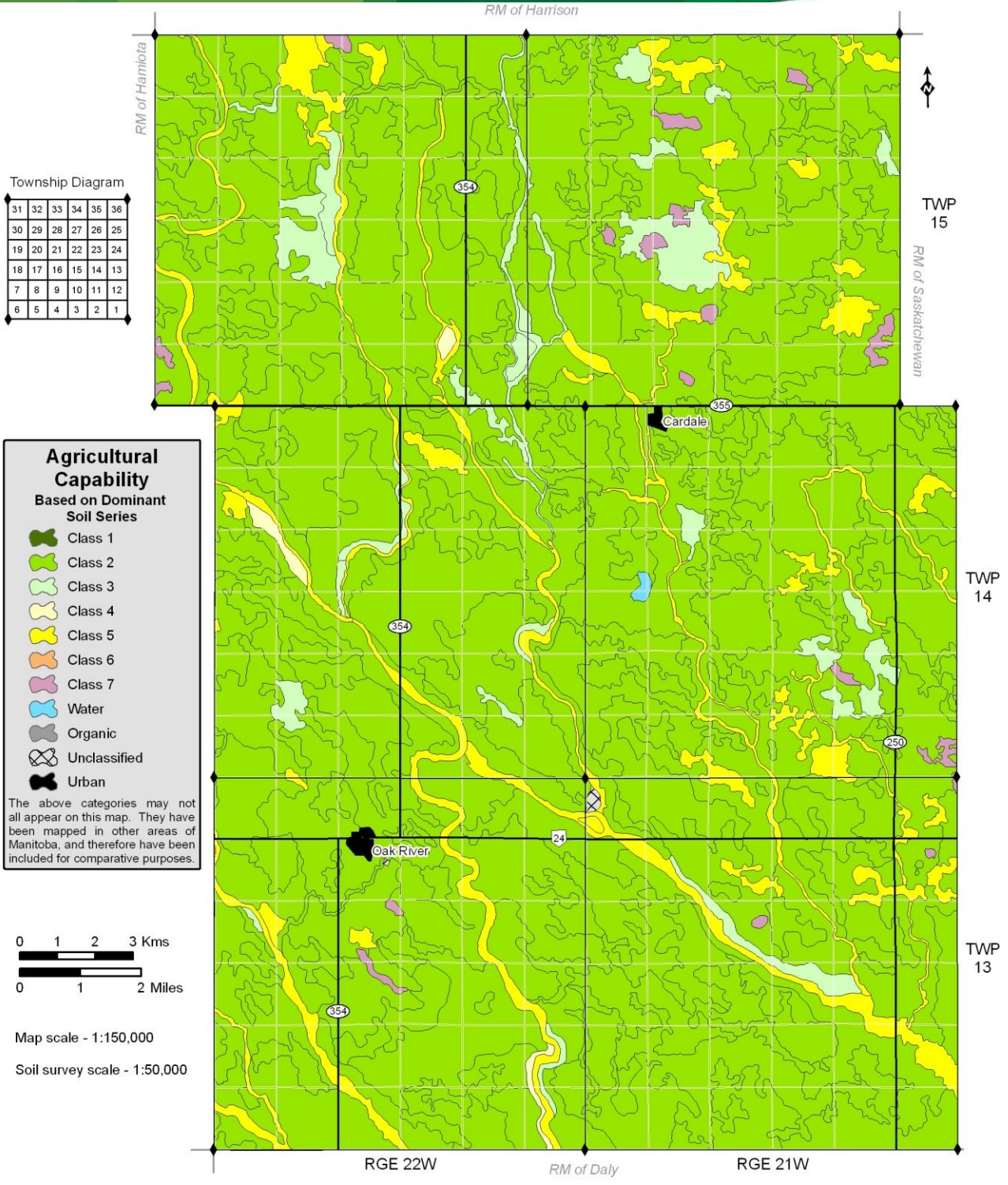
Soil Interpretations



Agriculture Capability

Agricultural Capability Class	% of RM
1	0.00
2	79.60
3	5.95
4	0.18
5	12.59
6	0.00
7	1.46
Water/urban/ unclassified	0.21

- Class 2 dominant
 - 56% 2T
 - 18% 2W
 - 2MT, 2WT, 2TE, 2X
- Class 5
 - 10% 5W
 - 2% 5IW
 - 5M, 5ME, 5TE
- Class 3
 - 3% 3T
 - 2% 3N
 - 3I, 3M, 3TE
- Class 4
 - 4M, 4T, 4TE
- Class 7 - W



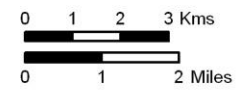
Township Diagram

31	32	33	34	35	36
30	29	28	27	26	25
19	20	21	22	23	24
18	17	16	15	14	13
7	8	9	10	11	12
6	5	4	3	2	1

Agricultural Capability
Based on Dominant Soil Series

- Class 1
- Class 2
- Class 3
- Class 4
- Class 5
- Class 6
- Class 7
- Water
- Organic
- Unclassified
- Urban

The above categories may not all appear on this map. They have been mapped in other areas of Manitoba, and therefore have been included for comparative purposes.

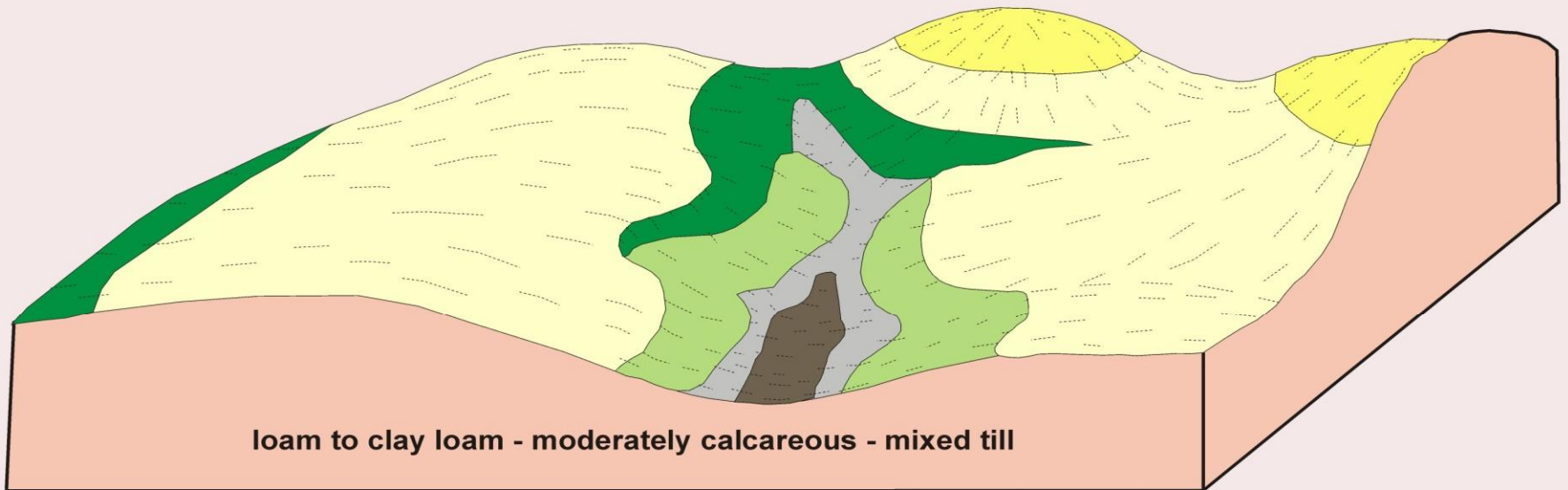


Map scale - 1:150,000
Soil survey scale - 1:50,000



Interpretations

Soil Series	Soil Classification	Drainage
 Rufford	Rego Black Chernozem	Well
 Newdale	Orthic Black Chernozem	Well to Moderately Well
 Angusville	Gleyed Eluviated Black Chernozem	Imperfect
 Varcoe	Gleyed Rego Black Chernozem	Imperfect
 Penrith	Humic Luvic Gleysol	Poor
 Drokan	Rego Humic Gleysol	Poor



**Soils of the Newdale Association
and their
Position in the Landscape**

1
0
7
4
0
0
1

Interpretations

Degree of Stoniness	% of RM
Non-stony	94.92
Slightly stony	4.88
Moderately stony	0
Very stony	0
Exceedingly stony	0
Excessively stony	0
Water/urban/unclassified	0.21

Class of Salinity	% of RM
Non-saline	95.58
Weakly saline	4.22
Moderately saline	0
Strongly saline	0
Water/urban/unclassified land	0.21

Observed Erosion Class	% of RM
Non-eroded or minimal	86.9
Slightly	12.04
Moderately	0.86
Severely	0
Overblown or overwash	0
Water/urban/unclassified	0.21

Management of Soils in the RM of Blanshard



- Operation of equipment around wetlands
- ALUS project
 - Pay producers for environmental benefit

Management of Soils in the RM of Blanshard

- Excess water in low areas
 - Recharge vs. Discharge
- Can result in surface salinity
 - Draw salts to surface
 - Symptoms
 - Improvement?



Management of Soils in the RM of Blanshard



- Risk of soil erosion
 - Hilltops
 - Water
 - Wind
 - Tillage
 - Zero/Reduced tillage



Questions or Comments?

