

MGB Mingbool Land System

Area: 59.3 km²

Landscape: Named from the Hundred of Mingbool, County Grey; the land system is mostly a low lying, poorly drained plain with a chain of wet swamps, which includes the Dismal Swamp. Low dunes occupy 12% of the area. It is parallel to the Young Land System, which is similar but has fewer swamps and more rises. Both land systems are confined between the ridges of the Forest Ridge Land System.

Annual rainfall: 725 – 750 mm average

Geology: Pleistocene Padthaway Formation lacustrine mudstones, calcareous clays and quartz sands. Pleistocene-Holocene Molineaux Sands overlie the Padthaway Formation. Isolated Bridgewater Formation calcarenite beach ridge deposits also occur.

Main soils:

I2	Wet highly leached sand	(Aquic or Semi-Aquic Podsol) (26%)
N3	Wet soil (non to moderately saline)	(Sodosolic-Calcarosolic-Dermosolic Hydrosol (22%))
G3	Thick sand over clay	(sandy Brown-Red Chromosol-Sodosol) (20%)

Minor soils:

N1	Peaty soil	(Organosol) (13%)
G5	Sand over acidic clay	(sandy Brown Kurosol (5%))
WW	Water in permanent swamps	(2%)

Summary: Waterlogging and soil acidity are the main limitations to land use in this land system. Additionally, fertility and wind erosion risk are factors requiring management.

Soil Landscape Unit summary: Mingbool Landsystem (MGB)

SLU	% of area	Component	Main soils	Prop#	Notes
OFD	3.3	Low dune	I1I2	D	OFD Deep leached acid siliceous sands on low, broad linear dunes, often poorly drained with coffee rock at depth. OFq As above low dunes with 30-60% wet sands and sand over clay in swales. Main soils: Low dunes: <u>Highly leached sand - I1</u> ; <u>Wet highly leached sand - I2</u> . Wet swales: <u>Wet highly leached sand - I2</u> and <u>Wet clay loam - N3</u> .
OFq	0.3	Low dune Wet swale	I1I2 I2N3	V E	
OKD	8.8	Dune	I1I2	D	Low dunes with deep acid sand soils with brown clay at depth. Well drained on crests, moderate to poorly drained lower slopes. Main soils: <u>Highly leached sand - I1</u> ; <u>Wet highly leached sand - I2</u> .
PEB	13.9	Plain Swamp	I2G5 N1N3	V L	Gently undulating poorly drained plains and rises with deep siliceous acid sands with coffee rock or slowly permeable clays in the subsoils. 10-20% swamps, peaty and non-peaty. Some loam over poorly structured clay in some flats. Main soils: Plains: <u>Wet highly leached sand - I2</u> ; <u>Sand over acidic clay - G5</u> . Swamps: <u>Peaty soil - N1</u> and <u>Wet clay loam - N3</u> .
PPb	0.9	Plain	I2G3	V	PPb Gently undulating sand plain with deep bleached wet sand



		Sand rise	I1I2	L	over clay or coffee rock, with 10-20% well drained siliceous sand on rises. Very wet swales.
PPi	5.6	Plain	G3I2	V	
		Swamp	N3	C	PPi Plain as above, with 20-30% non-peaty acid swamps.
PPj	6.2	Plain/Rise	G3I2	V	
		Swamp	N3	C	PPj Gently undulating, as above with 20-30% non-peaty acid swamps. Main soils: Plains: <u>Wet highly leached sand - I2</u> and <u>Thick sand over clay - G3</u> . Sandy rises: <u>Highly leached sand - I1</u> and <u>Wet highly leached sand - I2</u> . Swamps: <u>Wet clay loam - N3</u> .
PQi	18.8	Plain	G3	V	
		Swamp	N3I2	L	Sand plain with mostly deep moderately well drained sand over brown clay on low rises which also have 10-30% deep siliceous sand. 10-20% swamps with wet sandy soils and occasionally dark clay soils. Main soils: Plains: <u>Thick sand over clay - G3</u> . Swamps: <u>Wet clay loam - N3</u> and <u>Wet highly leached sand - I2</u> .
PRA	1.5	Plain	G3	D	
PRB	2.3	Plain	G3I2	D	Sand plains with poorly drained deep sand over poorly structured brown clay and poorly drained bleached sands with coffee rock at depth and shallow watertables. Main soils: <u>Thick sand over clay - G3</u> .
Xd-	0.8	Lunette	F1E3 M2	D	Gently undulating, sand plains as above, and rises with well-drained sands. Main soils: <u>Thick sand over clay - G3</u> and <u>Wet highly leached sand - I2</u> .
Xl-	1.5	Lake	WW	D	Lunettes adjacent to swamp with loam over brown clay, grey clay soils. Main soils: <u>Loam over brown or dark clay - F1</u> , <u>Brown or grey cracking clay - E3</u> and <u>Deep friable gradational clay loam - M2</u> .
XqC	3.2	Swamp	N3M2 G3	D	Water filled lakes or swamps.
XuC	6.9	Swamp	N3	D	Swamps with non-peaty dark clay soils and sandy rises with deep sand over brown clay soils. <u>Wet clay loam - N3</u> and <u>Deep friable gradational clay loam - M2</u> and <u>Thick sand over clay - G3</u> .
Xud	19.4	Swamp	N3N1	V	XuC Swamps with non-peaty wet soils Xud Non-peaty swamps with 20-30% sandy rises with deep sand over brown clay soils. Main soils: Swamps: <u>Wet clay loam - N3</u> and <u>Peaty soil - N1</u> . Sandy rises: <u>Wet highly leached sand - I2</u> .
		Sandy rise	I2	C	
Xxa	3.5	Swamp	N1N3	D	Xxa Swampy plain with mostly deep acid peats with 20-30% sandy rises, fringes & inter-swamp areas have mostly deep sand over mottled brown clay soils. XxC Mostly deep acid peat swamps. Main soils: Swamps: <u>Peaty soil - N1</u> and <u>Wet clay loam - N3</u> .
XxC	3.1	Swamp	N1N3	D	

PROPORTION codes assigned to Soil Landscape Unit (SLU) components:

D	Dominant in extent (>90% of SLU)	C	Common in extent (20–30% of SLU)
V	Very extensive in extent (60–90% of SLU)	L	Limited in extent (10–20% of SLU)
E	Extensive in extent (30–60% of SLU)	M	Minor in extent (<10% of SLU)



Detailed soil profile descriptions:

- E3** Brown or grey cracking clay (Brown-Grey Vertosol)
- F1** Loam over brown or dark clay (Brown-Dark Chromosol-Sodosol)
Topsoil >30 cm over a poorly structured subsoil, or else, subsoil structure is good. Loamy to clay loamy texture contrast soil with brown clayey subsoil. Loamy, reasonable depth A, and OK structured clay subsoil.
- G3** Thick sand over clay (Hypercalcic, Brown Sodosol/ Chromosol)
Thick bleached sand with an organically darkened surface abruptly overlying a massive to coarsely structured brown to reddish yellow sandy clay to clay, calcareous with depth - rises.
- G5** Sand over acidic clay (Sandy Brown Kurosol)
Sandy texture contrast soil with a friable brown strongly acidic clayey to clay loamy subsoil. Very acidic soil; incipient Bh horizons; moderate depth topsoils. Some with ironstone.
- I1** Highly leached sand (Fragic, Pipey, Aeric Podosol)
Grey sand with a very thick bleached A2 layer, over dark brown and yellow massive soft to semi-hard clayey sand (coffee rock), grading to softer yellow and brown sand to sandy clay loam from about 80 cm.
- I2** Wet highly leached sand (Fragic, Humic, Aquic Podosol)
Grey sand with a thick bleached A2 horizon, overlying a thin to thick layer of coffee rock, grading to pale brown sand sharply overlying a grey, brown and yellow mottled sandy clay loam to light clay.
- M2** Deep friable gradational clay loam (Red-Brown-Grey- Black Dermosol)
Deep well structured red clay loamy soil.
- N1** Peat (Organosol)
Peaty soil.
- N3** Seasonally waterlogged, non to marginally saline equivalents of soils listed above, viz.:
- | | |
|------------|---------------|
| N3c | Wet G3 |
| N3d | Wet B5 |
| N3e | Wet B7 |

Further information: [DEWNR Soil and Land Program](#)

