

# MSQ Mosquito Plains Land System

- Area:** 60.9 km<sup>2</sup>
- Annual rainfall:** 570 – 595 mm average
- Geology:** The land system is formed on calcreted sediments of the Padthaway Formation, which includes clays and limestones or dolomites, deposited in coastal lagoons. Protruding through the Padthaway sediments are scattered calcarenites, probably islands in the old lagoons.
- Topography:** The Mosquito Plains Land System is a NNW-SSE trending inter-dune corridor that is bordered to the east by ancient coastal dune ranges. The corridor has an imperceptible fall to the west. There is a water table within a metre or two at some time of the year. There are occasional swamps. Low rises are scattered across the plains and these are lunettes from pre-European swamps.
- Elevation:** 50 m
- Relief:** Generally nil, but up to 1 m on rises
- Soils:**
- Shallow and/or stony soil*
- B2** Shallow calcareous loam on calcrete
  - B4** Shallow red loam on calcrete
  - B5** Shallow dark clay loam on limestone
  - B6** Shallow loam over red-brown clay on calcrete
- Other soils*
- M2** Deep friable gradational clay loam
  - N3** Wet soil (non to moderately saline)
- Main features:** The Mosquito Plains Land System is predominantly a plain with minor rises. The plains are reasonably to imperfectly drained and the swamps poorly drained. Soils typically have clay loamy/clayey surfaces and calcrete within 50 cm of the surface. Fertility is moderately low to high. The main limitations to productivity are waterlogging and rockiness in some areas. The rises are predominantly stony and loamy with moderately low to high fertility. Rockiness may be a limitation to productivity.



**Soil Landscape Unit summary:** 4 Soil Landscape Units (SLUs) mapped in the Mosquito Plains Land System:

SLU	% of area	Main features #
NIM	6.3	<p>Plains with 10-50% stony rises and 0-10% swamps</p> <p>Main soils: <u>shallow calcareous loam on calcrete</u> - <b>B2</b> (E), <u>shallow dark clay loam on limestone</u> - <b>B5</b> (E), <u>wet soil</u> - <b>N3</b> (M) and <u>deep friable gradational clay loam</u> - <b>M2</b> (M).            These soils are shallow, have high fertility and moderately low waterholding capacity. Drainage is imperfect and the soil is alkaline and calcareous throughout. The water table would be within a metre or two of the surface at some time during the year and there is the potential for flooding.            Stony rise soils: <u>shallow red loam on limestone</u> - <b>B4</b> (M), <b>B2</b> and <b>B5</b>.            These soils are semi-arable as the soils are very shallow, have moderate fertility, very low water holding capacity and are well drained. Surface rockiness will be a slight management problem.</p>
NxC NxM	35.3 57.2	<p>Flat plains that are formed on calcreted sediments of the Padthaway Formation. There is up to 40 % stony rises and up to 10% swamps.</p> <p><b>NxC</b> Plains with 0-10% swamps and 0-10% stony rises  <b>NxM</b> Plains with 10-50% stony rises and 0-10% swamps</p> <p>Main soils: <u>shallow calcareous loam on calcrete</u> - <b>B2</b> (V), <u>shallow dark clay loam on limestone</u> - <b>B5</b> (E), <u>wet soil</u> - <b>N3</b> (M) and <u>deep friable gradational clay loam</u> - <b>M2</b> (M).            These soils are shallow, have high fertility and moderately low water holding capacity. Drainage is imperfect and the soil is alkaline and calcareous throughout. The water table would be within a metre or two of the surface at some time during the year and there is the potential for flooding.            Stony rise soils: <u>shallow red loam on limestone</u> - <b>B4</b> (M), <b>B2</b> and <b>B5</b>.            These soils are semi-arable as the soils are very shallow, have moderate fertility, very low water holding capacity and are well drained. Surface rockiness will be a slight management problem.</p>
Xd-A	1.2	<p>Low lunettes that are found on the flat plains where old swamps may have existed.</p> <p>Main soils: <u>shallow red loam on limestone</u> - <b>B4</b> (E), <u>shallow loam over red-brown clay on calcrete</u> - <b>B6</b> (E) and <u>shallow calcareous loam on calcrete</u> - <b>B2</b> (C).            These soils are shallow, have moderate to high fertility, low waterholding capacity and are well drained. The soils are alkaline below the topsoil due to the presence of subsurface carbonates.</p>

## # PROPORTION codes assigned to soils within Soil Landscape Units (SLU):

- |  |                                       |
|--|---------------------------------------|
| (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:**

(In alphabetic order)

- B2** Shallow calcareous loam on calcrete (Hypocalcic, Petrocalcic Grey/Black Calcarosol)  
Thin to medium thickness calcareous clay loam becoming more calcareous, more clayey and greyer with depth, overlying calcreted lagoonal sediments at less than 50 cm.
- B5** Shallow dark clay loam on limestone (Melanic, Petrocalcic, Black Dermosol)  
Dark, well structured clay loam to light clay directly overlying calcreted sediments within 50 cm.
- B6** Shallow loam over red-brown clay on calcrete (Petrocalcic, Red Chromosol)  
Thin to medium thickness sandy loam overlying red or brownish friable clay on calcreted calcarenite within 50 cm.
- E1** Black cracking clay (Haplic, Supracalcic, Black Vertosol)  
Medium to thick thickness surfaced well structured black light-medium clay, which cracks when dry, grading to a structured black to brownish calcareous clay at depth.
- M2** Deep friable gradational clay loam (Mottled, Calcic, Black Dermosol)  
Thin to medium thickness black clay loamy surface grading to black structured clay grading to a mottled grey calcareous clay at depth.
- N3** Wet soil (non to moderately saline) (Calcareous Oxyaquic, Dermosolic Hydrosol)  
Darkened loamy surface overlying pale brown sand over yellowish brown sandy clay on calcrete.

(Grouped on landscape position)

*Shallow and/or stony soil*

- B2** Shallow calcareous loam on calcrete (Hypocalcic, Petrocalcic Grey/Black Calcarosol)  
Thin to medium thickness calcareous clay loam becoming more calcareous, more clayey and greyer with depth, overlying calcreted lagoonal sediments at less than 50 cm.
- B4** Red loam over calcrete (Petrocalcic, Red Dermosol)  
Medium thickness red loam grading to friable red clay loam over calcreted calcarenite within 50 cm.
- B5** Shallow dark clay loam on limestone (Melanic, Petrocalcic, Black Dermosol)  
Dark, well structured clay loam to light clay directly overlying calcreted sediments within 50 cm.
- B6** Shallow loam over red-brown clay on calcrete (Petrocalcic, Red Chromosol)  
Thin to medium thickness sandy loam overlying red or brownish friable clay on calcreted calcarenite within 50 cm.

*Other soils*

- M2** Deep friable gradational clay loam (Mottled, Calcic, Black Dermosol)  
Thin to medium thickness black clay loamy surface grading to black structured clay grading to a mottled grey calcareous clay at depth.
- N3** Wet soil (non to moderately saline) (Calcareous Oxyaquic, Dermosolic Hydrosol)  
Darkened loamy surface overlying pale brown sand over yellowish brown sandy clay on calcrete.

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