

FLR Florieton Land System

The Florieton Land System originates in the Northern Agricultural Districts and extends through the North East Pastoral Districts into the Murraylands area. Only the Murraylands section is described here.

Dissected calcrete plain north of the River Murray around Morgan

Area: 47.6 km²

Annual rainfall: 205 – 245 mm average

Geology: The landscape is dominated by calcrete, which forms a more or less continuous sheet over Tertiary age sandy limestones including the highly fossiliferous Norwest Bend Formation. The older sediments are only exposed in the banks of water courses which have dissected the calcrete. There are minor deposits of coarse to medium grained calcareous sediments in watercourses.

Topography: The landscape is very gently undulating. Broad flat plains grade to very low gentle rises, and there are sporadic shallow depressions, which appear to be solution features. Occasional ephemeral water courses have created a weak pattern of depressions in places. Across the Murray River from Cadell, one of these streams has gouged a channel up to 20 m deep into the calcrete as it flowed into the river.

Elevation: 50 m in the west to 10 m in the beds of the water courses.

Relief: Up to 20 m

Soils: The vast majority of soils are shallow sandy loams over sheet calcrete. Minor soils include more clayey surfaced soils in shallow depressions and deep coarse to medium textured alluvial soils.

Main soils

Soils of calcrete plains, rises and depressions

- B2a** Shallow calcareous sandy loam on sheet calcrete
- B2b** Shallow calcareous sandy loam on rubbly calcrete
- B2c** Calcareous clay loam on calcrete

Minor soils

Soils of drainage depressions

- A4** Deep calcareous sandy loam

Main features: The Florieton Land System is characterized by a very gently undulating calcrete plain with shallow to moderately shallow calcareous sandy loams to clay loams. The shallowness of the soils and the low rainfall prevent cropping or improved pastures, and most of the land is used for sparse grazing of bluebush. There is some potential for irrigation provided that enough sufficiently deep soils are available.



Soil Landscape Unit summary: 3 Soil Landscape Units (SLUs) mapped in the Florieton Land System:

SLU	% of area	Main features #
QHA QHH	93.7 5.0	<p>Very gently undulating calcrete plain, dissected in places by ephemeral water courses. There is 20-50% surface calcrete gravel and stone, except in depressions, where surface stone is minor.</p> <p>QHA Very gently undulating plains, low rises and broad shallow depressions. QHH Banks of ephemeral water courses. They are 10-20 m high, with variable slopes of 5-20%, and eroded in places.</p> <p>Soils: moderately shallow to shallow over sheet or boulder calcrete. Main soils: <u>shallow calcareous sandy loam on sheet calcrete - B2a</u> (V), with <u>shallow calcareous sandy loam on rubbly calcrete - B2b</u> (C) and <u>calcareous clay loam on calcrete - B2c</u> (L) in depressions. These soils are too shallow and stony, and the climate too dry for cropping or improved pastures. Although there is limited scope for irrigated horticulture, finding extensive areas of sufficiently deep soils is a problem. Most of the land is used for extensive grazing of chenopod shrubs, particularly pearl bluebush.</p>
XUW	1.3	<p>Well defined beds of ephemeral watercourses which have cut through the calcrete plain (QHA). The soils are deep, coarse to medium textured and calcareous.</p> <p>Main soil: <u>deep calcareous sandy loam - A4</u> (D). Although deep, productive potential of these soils is limited by low rainfall. They have irrigation potential.</p>

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

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| (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:

Soils of calcrete plains and low rises

- B2a** Shallow calcareous sandy loam on sheet calcrete (Petrocalcic, Lithocalcic Calcarosol)
Thin highly calcareous reddish brown sandy loam over a very highly calcareous sandy loam with more than 20% and usually more than 50% calcrete rubble, sharply overlying sheet calcrete at depths between 20 cm and 35 cm.
- B2b** Shallow calcareous sandy loam on rubbly calcrete (Petrocalcic, Lithocalcic Calcarosol)
Thin to medium thickness highly calcareous reddish brown sandy loam over a very highly calcareous sandy loam with more than 20% and usually more than 50% calcrete rubble, overlying boulder calcrete at about 30 cm, grading to very highly calcareous light brown sandy loam to sandy clay loam.
- B2c** Calcareous clay loam on calcrete (Petrocalcic, Supracalcic Calcarosol)
Medium thickness reddish brown calcareous clay loam over a very highly calcareous fine sandy clay loam with 20 - 50% calcrete rubble, with sheet or rubbly calcrete at about 40 cm.

Soils of drainage depression

- A4** Deep calcareous sandy loam (Supracalcic / Calcic Calcarosol)
Medium thickness highly calcareous red to brown loamy sand to sandy loam over a very highly calcareous loamy sand to light sandy clay loam with up to 50% rubbly calcrete fragments, grading to orange loamy sand.

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

