

BCP Burra Creek Plain Land System

The Burra Creek Plain 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.

Flood plain of the Burra Creek

Area: 59.0 km²

Annual rainfall: 225 – 240 mm average

Geology: The landscape is a calcrete plain, dissected by the braided channels of Burra Creek between the eastern slopes of the North Mount Lofty Ranges and the Murray River, four km north east of Morgan. The calcrete forms a sheet over Blanchetown Clay, Bungunnia Limestone and Norwest Bend Formation. The older sediments are exposed in the banks of deeper dissection channels, especially immediately prior to dropping into the Murray River. Deposits of coarse to medium grained calcareous sediments are characteristic of stream beds.

Topography: The landscape is very gently undulating. The broad flat plains are weakly dissected by numerous and often ill defined channels of the Burra Creek, which flows intermittently, and rarely reaches the Murray. Nevertheless, there has been sufficient flow for the creek to have gouged a channel up to 20 m deep into the calcrete adjacent to the Murray cliffs.

Elevation: 50 m in the west to 10 m in the beds of the watercourses

Relief: Up to 20 m

Soils: The majority of soils are shallow sandy loams over sheet calcrete. Less common 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

Soils of drainage depressions

A4 Deep calcareous sandy loam

Main features: The Burra Creek Plain Land System is 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 Burra Creek Plain Land System:

SLU	% of area	Main features #
QHA QHH	20.5 66.2	<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%, 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</u> - B2a (V), with <u>shallow calcareous sandy loam on rubbly calcrete</u> - B2b (C) and <u>calcareous clay loam on calcrete</u> - B2c (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	13.3	<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. Main soil: <u>deep calcareous sandy loam</u> - A4 (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):

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

Detailed soil profile descriptions:

Soils of calcrete plains and low rise

- 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, over sheet or rubbly calcrete at about 40 cm.

Soils of drainage depressions

- 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](#)

