

CRP Craigie Plains Land System

Flats, depressions and gypsum rises in the Craigie Plains area

Area: 36.1 km²

Annual rainfall: 255 – 265 mm average

Geology: The System is underlain by sediments deposited under alluvial and lacustrine conditions. They are silty to clayey. Gypsum is common in the lacustrine clays. Substantial reworking of lake floor gypsum has resulted in accumulation of flour gypsum adjacent to the old lakes. There are also small areas of remnant calcretes.

Topography: The Craigie Plains Land System is an internally draining depression comprising a very gently inclined pediment in the north grading to a series of old lake beds in the south. One of these is highly gypseous and is extensively quarried. On the eastern edges of the old lakes are gypsum lunettes up to 20 m high with irregular hummocky surfaces. Minor low stony rises formed on calcrete occur around the northern fringes of the old lake floors.

Elevation: 70 m in the north to 52 m at the lowest point of the lake floor

Relief: 20 m (gypsum rises)

Soils: The soils are almost all medium textured and calcareous. They are either deep over alluvium or gypsum deposits, or shallow over calcrete. Red loams are minor overall.

Main soils

- A6** Calcareous loam - flats
- A8** Calcareous loam over gypsum - gypseous rises
- A3** Calcareous silty loam - flats
- B2** Calcareous loam over sheet rock - stony rises

Minor soils

- A4** Rubbly calcareous loam - rises and flats
- C3** Gradational loam - flats

Main features: The Craigie Plains Land System includes a mixture of deep calcareous loamy soils on flats and calcareous gypseous soils on rises. The soils on the flats are potentially productive, but low rainfall limits yields. The gypseous rises have low fertility and are prone to wind erosion, so have little agricultural value.



Soil Landscape Unit summary: 5 Soil Landscape Units (SLUs) mapped in the Craigie Plains Land System:

SLU	% of area	Main features #
KOA	32.7	Flats with slopes of less than 1% formed on clayey alluvium. Main soils are <u>calcareous loam - A6</u> (V), with <u>rubbly calcareous loam - A4</u> (L) and <u>gradational loam - C3</u> (M). These soils are deep, well structured and moderately fertile, although alkaline throughout, and extremely alkaline with depth. Low rainfall is the major limitation to productivity.
QIB	13.8	Low stony rises formed on sheet and rubbly calcrete. There is up to 20% surface calcrete stone. Main soils are: <u>calcareous loam over sheet rock - B2</u> (V) and <u>rubbly calcareous loam - A4</u> (C). These soils are shallow with limited water holding capacity. They have low productive potential and most of the land is under native vegetation.
VZ-	21.2	Flat surfaced closed depressions (old lake floors) formed on silty sediments. Main soils are <u>calcareous silty loam - A3</u> (V), with <u>calcareous loam - A6</u> (C) and <u>gradational loam - C3</u> (L). These soils are deep, well structured and moderately fertile. Productivity is limited by low rainfall and variable soil salinity.
ZL-	24.2	Low rises and lunettes formed on gypseous deposits. The rises are up to 20 m high with slopes of 2-5%. Main soil is <u>calcareous loam over gypsum - A8</u> . These soils are deep and well drained but have moderately high salinity (due to the gypsum) and low fertility. They are susceptible to wind erosion.
ZY-	8.1	Old lake bed formed on highly gypseous sediments. No soils data. Extensively quarried for gypsum.

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:

A3 Calcareous silty loam (Regolithic, Calcic Calcarosol)

Calcareous well structured silty loam to silty clay loam becoming more calcareous and compact with depth, over alluvial sediments.

A4 Rubbly calcareous loam (Regolithic, Supracalcic / Lithocalcic Calcarosol)

10 - 20 cm calcareous sandy loam to loam over a rubbly Class III B or III C carbonate layer, over a very highly calcareous light brown sandy clay loam grading to reddish clay alluvium (within 100 cm in 50% of profiles and deeper than 100 cm in 50%). Rises and flats.

A6 Calcareous loam (Regolithic / Pedal, Hypercalcic Calcarosol)

10 - 20 cm calcareous loam to clay loam becoming more clayey and calcareous with depth with abundant soft carbonate from 30 cm grading to a reddish clay (older alluvium) from 60 cm. Flats.

A8 Calcareous loam over gypsum (Gypsic Calcarosol)

10 - 15 cm calcareous clay loam grading to a highly calcareous clay loam to light clay over highly gypseous light clay at 60 cm. Gypseous rises.

B2 Calcareous loam over sheet rock (Petrocalcic Calcarosol)

10 - 20 cm calcareous sandy loam to loam grading to rubbly sandy loam to sandy clay loam abruptly overlying sheet calcrete at 30 cm. Stony rises.

C3 Gradational loam (Calcic, Red Dermosol)

10 - 20 cm loam to clay loam grading to a well structured red clay, calcareous from 30 cm, grading to a reddish alluvial clay from 60 cm. Surface soil may be calcareous from carbonate dusting. Flats.

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

