# CRW Carawa Land System

**Area:** 1,972.0 km$^2$

**Landscape:** Very gently undulating rises formed on calcretes of the Bridgewater Formation, very extensively overlain by calcareous silty sands of the Woorinen Formation.

**Annual rainfall:** 285 – 340 mm average

**Main soils:**

Magarey - **A1a** (Supravescent, Hypercalcic / Lithocalcic Calcarosol)
Highly calcareous (more than 40% $CaCO_3$) soft sandy loam to light sandy clay loam grading to very highly calcareous light sandy clay loam with variable rubble content.

Wookata - **A1b** (Supravescent, Hypercalcic / Lithocalcic Calcarosol)
Highly calcareous (more than 40% $CaCO_3$) soft loamy sand to sandy loam grading to very highly calcareous sandy loam with variable rubble content.

Wookata (shallow) - **A1/B1** (Supravescent, Petrocalcic, Hypercalcic / Lithocalcic Calcarosol)
Highly calcareous (more than 40% $CaCO_3$) soft loamy sand to sandy loam grading to very highly calcareous sandy loam with variable rubble content, over calcrete at about 40 cm.

**Minor soils:**

Chintumba - **B1** (Hypervescent, Petrocalcic, Lithocalcic Calcarosol)
Medium thickness highly calcareous sandy loam to sandy clay loam containing increasing amounts of rubble with depth, over sheet calcrete at less than 50 cm.

Moornaba (shallow) - **B8** (Petrocalcic, Leptic Tenosol)
Up to 50 cm siliceous sand over calcrete.

Cungena - **A1c** (Supravescent, Hypercalcic / Lithocalcic Calcarosol)
Thick to very thick highly calcareous loamy sand to sandy loam grading to Class III A, B or C carbonate in a sandy loam matrix.

Haslam - **H1** (Supravescent, Hypercalcic Calcarosol / Shelly Calcarosol)
Thick highly calcareous sand, becoming more calcareous with depth and continuing below 100 cm. These soils may consist of up to 90% fine shell fragments.

Moornaba - **H2** (Calcareous, Arenic, Red-Orthic / Yellow-Orthic Tenosol)
Very thick red to brown sand, becoming weakly calcareous and often grading to an orange clayey sand with depth, overlying variable carbonate (fine to rubbly, occasionally sheet).

Saline soil - **N2** (Salic / Hypersalic Hydrosol)
Miscellaneous wet saline soil influenced by rising saline groundwater tables.

**Summary:** Very gently undulating flats and rises with mainly highly calcareous sandy loams. Although arable, these soils are marginally fertile, prone to wind erosion and may have high subsoil boron and salt levels. In places, sheet or rubbly calcrete is near the surface, waterholding capacity is reduced, and cultivation is impeded to the point where some areas are non arable. There are minor areas of calcareous sands which are highly infertile and susceptible to wind erosion.

**Soil Landscape Unit summary:** 16 Soil Landscape Units (SLUs) mapped in the Carawa Land System:

| SLU | % of area | Component | Main soils | Prop# | Notes |
|---|---|---|---|---|---|
| QHA | 0.6 | Stony flats | Chintumba | D | Stony land where calcrete is at or near the surface. Land is semi arable at best due to lack of moisture holding capacity and workability difficulties. Minor magnesia patches. |
| QHB | 0.3 | Stony rises | Chintumba | D | |
| QSA | 0.3 | Stony flats | Chintumba | E | |
| | | Sandy loam flats | Wookata/ Magarey | E | |
| WM- | <0.1 | Mangrove swamps | - | - | Potential acid sulfate soils |
| YAL | 6.6 | Sandy loam flats | Wookata/ Magarey | D | Rises formed on Woorinen Formation deposits with mainly highly calcareous sandy loams. Main factors affecting productivity are wind erosion potential, marginal fertility and limited water holding capacity.<br><br>Main soils:<br>Wookata: Highly calcareous sandy loam with slightly limited water holding capacity, low fertility, subsoil boron and salt, and slight to moderate wind erosion potential.<br>Magarey: Marginal fertility highly calcareous sandy loam with high subsoil boron and salt. Slight wind erosion potential.<br>Shallow Wookata: As for Wookata, except that water holding capacity is reduced, and surface stone is increased to the point where it interferes with tillage.<br>Cungena: Highly calcareous loamy sand with low fertility, moderate wind erosion potential and elevated subsoil boron and salt.<br>Haslam : Highly calcareous sand with very low fertility and high wind erosion potential.<br>Shallow Moornaba: Moderately deep, low fertility sand with moderate to high wind erosion potential.<br>Moornaba: Deep sand with low fertility and prone to wind erosion and water repellence. |
| YBK | 0.3 | Sandy loam flats | Wookata/ Magarey (shallow) | V | |
| | | Low sandhills | Moornaba | L | |
| YEL | 23.8 | Sandy loam flats | Wookata/ Magarey | V | |
| | | Stony flats | Shallow Wookata | C | |
| YFL | 3.0 | Sandy loam flats | Wookata/ Magarey | V | |
| | | Stony flats | Shallow Wookata | L | |
| YIH | 0.6 | Moderate sand ridges | Haslam | E | |
| | | Sandy loam flats | Wookata/ Magarey | E | |
| YIK | 0.1 | Sand spreads | Haslam | E | |
| | | Sandy loam flats | Wookata/ Magarey | E | |
| YOL | 53.2 | Sandy loam flats | Magarey | E | |
| | | | Wookata | E | |
| YPp | 0.3 | Sandy loam rises | Cungena/ Wookata | V | |
| | | Stony rises | Shallow Wookata | C | |
| YaL | 5.4 | Sandy loam flats | Wookata/ Magarey | E | |
| | | Stony flats | Shallow Wookata | E | |
| YdL | 0.3 | Stony flats | Shallow Wookata | V | |
| | | Sandy loam flats | Wookata/ Magarey | C | |
| YeL | 5.2 | Stony flats | Shallow Wookata | E | |
| | | Sandy loam flats | Wookata/ Magarey | E | |
| ZB- | <0.1 | Samphire flats | Saline soil | D | No agricultural value |

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

- 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)

**Further information:** DEWNR Soil and Land Program