

BLY Blyth Land System

Very gently inclined outwash fans in the Blyth area

Area: 78.9 km²

Annual rainfall 395 – 455 mm average

Geology: Clayey sediments derived from erosion of the hills to the east. The sediments include coarsely structured red heavy clays similar to Hindmarsh Clay, and less strongly structured gritty yellowish red clays associated with more recent alluvial activity. The deposits are all mantled by windblown carbonate, most of which is soft. On very low mounds and rises, rubbly carbonates are more common. In the south of the land system are some minor isolated low sand dunes.

Topography: The Land System is a very gently inclined outwash fan with slopes of 1-2%. A mosaic of almost imperceptibly low mounds (associated with rubbly carbonate) provides the only relief over most of the area. Four major watercourses cross the System, flowing westwards. These are deeply incised in places and actively eroding. In some places the channels have been artificially enlarged to contain floodwaters. Flooding and siltation adjacent to the watercourses is not uncommon. The only other topographic features are several isolated low sand dunes.

Elevation: 220 m at the highest point in the east, to 120 m at the lowest point

Relief: The sand rises are 5 - 10 m high, and some sections of eroded watercourse are 5 - 8 m deep. Elsewhere relief is less than 2 m

Soils: Deep calcareous and non calcareous loams are the most common soils, with cracking clays and loamy texture contrast soils.

Main soils

- A6** Calcareous clay loam- throughout
- C3** Gradational loam - throughout
- D3** Hard sandy loam over dispersive red clay - near old or current watercourses
- A4** Rubbly calcareous loam - very low mounds, rises and lower sand dunes

Minor soils

- E2** Red cracking - throughout
- H2** Deep sand - sand hills and rises

Main features: The Blyth Land System is a gently sloping outwash fan characterized by well structured, fertile loamy to clayey soils. Apart from some minor sand hills and some eroded water courses, the land is fully arable and potentially productive. The main limitations are high subsoil boron levels and some limited areas of poorly structured soils. Flooding and erosion of water courses from the hills to the east is an on going problem.



Soil Landscape Unit summary: 6 Soil Landscape Units (SLUs) mapped in the Blyth Land System:

SLU	% of area	Main features #
KBA KBE KBF KBJ	65.4 11.2 20.5 1.1	<p>Fans formed on clayey alluvium. The land surface is slightly uneven due to an almost imperceptible mosaic of mounds and hollows.</p> <p>KBA Very gently inclined fans of 1-2% slope and poorly defined water courses.</p> <p>KBE Creek flat with a stable watercourse.</p> <p>KBF Very gently inclined fans of 1-2% slope with several deeply incised and eroding watercourses.</p> <p>KBJ Fan with a deep eroding watercourse.</p> <p>Main soils: <u>calcareous clay loam</u> - A6 (E) and <u>gradational loam</u> - C3 (E), with <u>hard sandy loam over dispersive red clay</u> - D3 (L), <u>rubbly calcareous loam</u> - A4 (L) and <u>red cracking clay</u> - E2 (L). The land is generally highly productive; most soils are naturally fertile, deep and well structured. High levels of boron and sodium within potential root zones, slight salinity and some localized waterlogging are the only limitations. 15% of soils are poorly structured with hard setting surfaces and dispersive subsoils. These are difficult to work and are prone to patchy seedling establishment, waterlogging and runoff. Four major watercourses cross the unit. These and the adjacent land are subject to flooding, siltation and erosion from time to time.</p>
SbA	0.5	<p>Low rises with slopes of less than 2% and up to 20% surface calcrete stone.</p> <p>Main soil: <u>rubbly calcareous loam</u> - A4. Principal limitations are reduced water holding capacity, moderate fertility (limitation due to high carbonate content), and stoniness.</p>
U-D	1.3	<p>Low north-south trending sand rises with mainly <u>deep sand</u> - H2 (V), with some <u>rubbly calcareous loam</u> - A4 (C) and <u>calcareous clay loam</u> - A6 (L). The deep, low fertility sands occur on exposed rises which are susceptible to wind erosion. Both the sands and the shallow calcareous soils have low water holding capacities.</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:

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

Calcareous loam to clay loam, more clayey in the subsurface, overlying rubbly Class III B or III C carbonate at moderately shallow depth.

A6 Calcareous clay loam (Pedal, Hypercalcic Calcarosol)

Calcareous clay loam to clay grading to a very highly calcareous clayey subsoil with abundant soft Class I carbonate, overlying red coarsely structured clay or clayey alluvium.

C3 Gradational loam (Hypercalcic, Red Dermosol)

Loam to clay loam grading to a well structured red clay with soft Class I carbonate from about 50 cm, overlying substrate clay.

D3 Hard sandy loam over dispersive red clay (Calcic, Red Sodosol)

Hard setting fine sandy loam sharply overlying a dispersive red clay subsoil with soft Class I carbonate at depth, grading to clayey alluvium.

E2 Red cracking clay (Self-mulching, Red Vertosol)

Well structured, seasonally cracking clayey surface, more clayey and calcareous with depth, overlying heavy clay sediments.

H2 Deep sand (Regolithic, Hypocalcic Calcarosol)

Very thick loose calcareous sand grading to highly calcareous clayey sand at depth.

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

