LIM Limerock Land System

Very gently undulating stony flats south east of Dublin

Area: 53.8 km^2

Annual rainfall: 370 – 385 mm average

Geology: The Land System is formed on sheet and rubbly calcretes of the Ripon/Bakara Formations. These calcretes overlie Hindmarsh Clay at depths of 100 cm or more, but generally the calcrete is impenetrable by hand tools. Solution of the calcrete has resulted in a mosaic of sinkholes in the surface - these are particularly striking in the western parts of the System.

Topography: The Limerock Land System is a very gently undulating plain with an overall gradient to the south west of less than 0.25%. Subdued micro relief is due to partial dissolution of the calcrete. In the south west where the land adjoins low lying flats and swamps, there is a marked jumpup to the calcreted surface of 2 - 3 m.

Elevation: 30 m in the east to 5 m in the south west

Relief: Less than 3 m

Soils: The soils are characteristically shallow sandy loams on calcrete, associated with deeper calcareous loams. The main soils are:

B2 Shallow calcareous sandy loam - Very extensive throughout
A5 Rubbly calcareous sandy loam - Extensive throughout
A6 Calcareous loam - Limited in depressions
N2 Saline soil - Limited in depressions

Main features: The Limerock Land System is characterized by shallow stony alkaline soils and moderately low rainfall, all of which combine to restrict cropping opportunities - much of the land is used only for grazing of volunteer grasses or native shrubs. In the west, below the 10 m contour, saline sinkholes are a feature of the calcreted land surface.

Soil Landscape Unit summary: 2 Soil Landscape Units (SLUs) mapped in the Limerock Land System:

SLU	% of area	Main features #
QMA QMP	73.4 26.6	Very gently undulating stony flats formed on sheet or rubbly calcrete. **QMA** Very gently undulating flats. **QMP** Very gently undulating flats and low rises with 20-30% saline depressions and minor sand spreads. Main soils: shallow calcareous sandy loam - **B2** (V) with rubbly calcareous sandy loam - **A5** (C) and calcareous loam - **A6** (L) in depressions. Saline soil - **N2** (L) occurs in wetter depressions. These soils are shallow to very shallow and stony, alkaline throughout (and saline in QMP). These limitations, together with the low rainfall, substantially restrict productive potential, so much of this land is only semi arable, and in the west particularly is only used for low intensity grazing. In QMP, the elevation falls below 10 m ASL, and saline water tables are near the surface. The surface is a mosaic of small circular depressions (sink holes) with samphire and other halophytic vegetation. Some depressions are saline swamps.

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:

B2 Shallow calcareous sandy loam (Petrocalcic Calcarosol)
15 - 35 cm calcareous and variably rubbly sandy loam abruptly overlying sheet calcrete. Very extensive throughout.

A5 Rubbly calcareous sandy loam (Regolithic, Supracalcic / Lithocalcic Calcarosol)
10 - 20 cm calcareous sandy loam overlying Class III B or III C rubble, grading to a less rubbly very highly calcareous sandy clay loam to sandy light clay over Hindmarsh Clay as shallow as 80 cm. Extensive throughout.

A6 Calcareous loam (Hypercalcic Calcarosol)
10 - 20 cm calcareous loam to clay loam grading to a brown very highly calcareous clay loam over soft clayey carbonate, grading to Hindmarsh Clay as shallow as 75 cm. Limited in depressions.

N2 Saline soil (Calcarosolic, Salic Hydrosol)
Grey very highly calcareous loam grading to a pale grey clay loam over a white very highly calcareous silty clay loam by about 30 cm, with a water table within 100 cm.

Further information: DEWNR Soil and Land Program