KON Kongorong Land System

Area: 207.9 km²

Landscape: Stranded beach ridge land system extending north-west from near Kongorong to west of

Millicent.

Annual rainfall: 735 – 780 mm average

Geology: Calcreted calcarenite of the Pleistocene Bridgewater Formation on ridges, with Pleistocene

lagoonal deposits of the Padthaway Formation on flats on the landward edge.

Main soils: B3 (28%) Shallow sandy loam on calcrete (Petrocalcic Red Tenosol-Kandosol-Rudosol)

B6 (26%) Shallow loam over red-brown clay on calcrete (Petrocalcic Red Chromosol-

Kandosol)

Minor soils: RR (13%) Rock or exposed calcrete.

G3 (8%) Thick sand over clay (sandy Brown-Red Chromosol-Sodosol)

I1 (7%) Highly leached sand (Aeric Podosol)

B1 (5%) Shallow highly calcareous sandy loam on calcrete (Supravescent-Shelly Petrocalcic

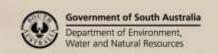
Calcarosol-Rudosol)

Summary: Shallow soils are mostly well drained and can be ripped to provide deeper root-zone depth

for deep-rooted species. Much of the land is used for grazing or forestry.

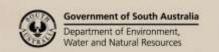
Soil Landscape Unit summary: Kongorong Land System (KON)

SLU	% of area	Component	Main soils	Prop#	Notes
MAB	0.8	Rise	B3RR	D	Calcreted former beach ridges with stony, very shallow red
MAC	0.2	Rise	B3RR	D	and brown loam, occasionally over red clay, on calcrete.
					>50% bare calcrete.
					MAB Gently undulating ridges.
					MAC Undulating ridges.
					Main soils: Shallow sandy loam on calcrete - B3 and Rock or
					exposed calcrete – RR .
M-B	0.7	Stony rise	B3RR	V	As above but <50% bare calcrete.
		Swale	B7B6	L	M-B Gently undulating rises
M-C	4.4	Rise	RRB3	D	M-C Undulating rises.
M-D	32.5	Rise	B3RR	V	M-D Rolling rises or low hills
		Swale	В6	L	
					Main soils:
					Rises: Shallow sandy loam on calcrete - B3 and Rock or
					exposed calcrete – RR .
					Swales: Sand over friable brown clay on calcrete - B7 and
					Shallow sandy loam over red-brown clay on calcrete - B6 .
MCA	5.0	Plain	B6B3B8	D	Plain with shallow red sandy loam, often on sandy clay loam
					or bleached sand on calcreted calcarenite.



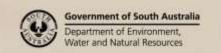


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					Main soils: Shallow sandy loam over red-brown clay on
					<u>calcrete</u> - B6 , <u>Shallow sandy loam on calcrete</u> - B3 and
					Shallow sand on calcrete - B8 .
MEA	1.1	Plain	B3	D	Calcreted former beach ridges, dunes and plains with shallow
MEAA	12.4	Plain	B3	V	sand on calcrete soils. 10-20% dunes with deep, water
		Stony rise	B3	L	repellent, acid bleached siliceous sands.
		Dune	I1H3	М	
MEB	2.4	Rise	B6B3	V	MEA Plain with shallow red sandy loam over red sandy clay
		Plain	B6B7	С	loam on calcreted calcarenite
					MEAA As above with low stony rises and <10% low sand
					dunes.
					MEB Gently undulating calcreted former beach ridge with
					shallow sandy loam over red or brown clay soils.
					Main soils:
					Plains: Shallow sandy loam on calcrete - B3, Shallow sandy loam over red-brown clay on calcrete - B6 and Sand over
					friable brown clay on calcrete - B6 and <u>sand over</u>
					Rises: Shallow sandy loam on calcrete - B3 and Shallow
					sandy loam over red-brown clay on calcrete - B6 .
					Dunes: Highly leached sand - II, Bleached siliceous sand -
					H3.
					Depressions: Shallow sandy loam over red-brown clay on
					<u>calcrete</u> - B6 and <u>Shallow sandy loam on calcrete</u> - B3 .
MGK	0.9	Plain	RRB3B6	V	Calcreted former beach ridges with < 50% bare calcrete
WOIL	0.5	Swale	B6B7	C	Mainly Hydrosols & shallow Tenosols in low parts of
MGL	0.1	Rise	RRB3B6	V	calcreted landscapes with Brown and grey Sodosols.
MOL	0.1	Swale	B6B7	C	MGK Poorly drained plain with 20-30% wet
MGX	0.1	Plain	B3B2	V	swale/depressions. Soils are shallow loam or loam over
1/10/1	0.1	Swamp	N3	C	poorly structured clay.
		Swamp	143		MGL As above, gently undulating topography.
					MGX Depression with 20-30% swamps with loam over
					poorly structured clay.
					Main soils:
					Plains and rises: Shallow sandy loam over red-brown clay
					on calcrete - B6 , Shallow sandy loam on calcrete - B3 ,
					Shallow calcareous loam on calcrete - B2 and Rock or
					<u>exposed calcrete</u> – RR .
					Swales: Shallow sandy loam over red-brown clay on calcrete
					- B6 and <u>Sand over friable brown clay on calcrete</u> - B7 .
					Swamps: Wet clay loam - N3.
MOB	11.6	Rise	B6H2	V	Gently undulating calcreted former beach ridge with shallow
		Plain	G3H3I2	L	sandy loam over red or brown clay soils.
					Main soils:
					Rises: Shallow sandy loam over red-brown clay on calcrete -
					B6 and Deep brown sand - H2.
					Plains: Thick sand over clay - G3, Bleached siliceous sand -
MDD	1 2	Dies	Canc	1/	H3 and Wet highly leached sand - I2.
MRB	1.2	Rise	G3B6	V	Rises with texture contrast and gradational, moderately
		Swale	G3B6B7	L	shallow to very shallow, reddish sandy loam to clay loam,
) (D) C		Swamp	N3I2	M	mostly over friable, well structured red-brown clay, on
MRC	17.8	Rise	G3B6I1	D	calcreted calcarenite.
		Swale	I2H3B7	М	MDD Conthermal plating colorested formers have being sides. The
					MRB Gently undulating calcreted former beach ridge with
					shallow sand and loam over red-brown clay soils. 10-20%





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					swales, as above soils, often with poorly structured clay subsoils. Slopes are 1-3%, relief is less than 30m. MRC As above undulating topography, < 10% deep leached sand or sand/clay rises. Relief: less than 30m, slopes: 3-10%. Main soils: Rises: Thick sand over clay - G3, Shallow sandy loam over red-brown clay on calcrete - B6 and Highly leached sand - I1. Swales: Thick sand over clay - G3, Shallow sandy loam over red-brown clay on calcrete - B6, Sand over friable brown clay on calcrete - B7, Bleached siliceous sand - H3 and Wet highly
					leached sand - 12.
					Swamps: Wet clay loam - N3, Wet highly leached sand - I2.
MUA	0.6	Plain	B3B7	V	Mainly shallow calcareous Rudosols, Calcarosols and
		Stony rise	B3RR	L	Tenosols on calcreted, aeolianite with shallow calcareous
MULA	3.9	Rise	B3B1	D	Rudosols and dark brown Tenosols. Less than 50% bare
		Swamp	N3N1B3	М	calcrete. Typically shallow, dark brown sandy loam over calcrete, often with thin dark brown clay loam subsoil; and deep shelly calcareous sands.
					MUA Plain with shallow, dark brown sandy loam over calcreted calcarenite, often with brown clay loam subsoil. MULA As above, gently undulating with low dune forms with 10% swampy swales.
					Main soils:
					Plains: Shallow sandy loam on calcrete - B3 and Sand over
					<u>friable brown clay on calcrete</u> - B7 .
					Stony rises: Shallow sandy loam on calcrete - B3 and Rock or
					exposed calcrete – RR.
					Rises: Shallow sandy loam on calcrete - B3 and Shallow
					highly calcareous sandy loam on calcrete – B1 .
					Swamps: Wet clay loam - N3, Peaty soil - N1 and Shallow sandy loam on calcrete - B3.
MXV	1.2	Rise	RRB3	V	Undulating rises with 20-30% swampy depressions. Bare
1,111	٠.۷	Swamp	N3N1	C	calcrete and shallow sandy loam over red clay loam on rises
					and peaty soils in wet swales.
					Main seile
					Main soils: **Rises: Shallow sandy loam on calcrete - B3 and Rock or
					exposed calcrete – RR.
					Swamps: Wet clay loam - N3 and Peaty soil – N1.
mUA	0.2	Plain	В3	D	Rises and plains associated with calcreted Miocene limestone
mUEK	0.0	Depression	B3	D	materials.Calcreted Gambier Limestone (Tmg). Usually old
					marine plain, uniquely in the southeast. Less than 50% bare
					calcrete. Soils are mainly shallow calcareous Rudosols,
					Calcarosols and Tenosols on calcreted, aeolianite with
					shallow calcareous Rudosols and dark brown Tenosols.
					\mathbf{mUA} Plain with very dark brown sandy loam on brown sandy
					clay loam over Miocene limestone.
					mUEK As above depression with sinkholes/karst features.
					Main soils: <u>Shallow sandy loam on calcrete</u> - B3 .
NJA	0.1	Plain	B5B2A7	D	Plains and gentle slopes of inter-dune corridors (on lagoonal
NIIE		Swamp	N3N1B2	M	sediments/marl/marine clay/sediments) e.g. Padthaway
NJF	0.1	Plain	C5	V	Formation. Mainly Dermosols· Deep (>50cm) grey or dark





		Swamp	N3N1	L	clayey Dermosols on calcreted marl or limestone with moderately deep clayey Calcarosols with moderately deep Vertosols, Hydrosols and Organosols (swamps) & Dark finesandy to clay loamy over dark clay Sodosols. NJA plain with deep dark clay soils on calcreted marl or limestone often calcareous throughout. NJF As above, 10-20% swamps. Main soils: Plains: Shallow dark clay loam on limestone - B5, Shallow calcareous loam on calcrete - B2, Gradational dark clay loam - C5 and Calcareous clay loam on marl - A7. Swamps: Wet clay loam - N3 and Peaty soil - N1.
NxI	1.8	Plain	B5B2	V	Inter-dune corridor plain on lagoonal sediments/marl/marine
IVAI	1.0	Swamp	N3N1M2	С	clay/sediments) e.g. Padthaway Formation. Soils are mainly Calcarosols with shallow Dermosols & Organosols.
					Main soils: Plains: Shallow dark clay loam on limestone - B5 and Shallow calcareous loam on calcrete - B2. Swamps: Wet clay loam - N3, Peaty soil - N1 and Deep friable gradational clay loam - M2.
NYF	0.1	Plain	C5	V	Inter-dune corridor plain on lagoonal sediments. Soils are
		Swamp	N1C5	С	mainly Dermosols shallow (<50cm) grey or black Dermosols/Vertosols with shallow Dermosols, Organosols and Calcarosols with dermosolic and calcarosolic Hydrosols. Plain with shallow dark cracking clay soils on calcreted marl or limestone. 20-30% swamps. Main soils: Plains: Gradational dark clay loam – C5.
					Swamps: Peaty soil – N1 and Gradational dark clay loam –
		_			C5.
XtC	0.5	Swamp	N1	D	Alkaline peaty swamps with Organosols (especially coastal).
Xtf	0.2	Swamp	B5N3	V	VtC Alkalina nasty swamps. Used for intensive swamping
		Rise	B2B3	С	XtC Alkaline peaty swamps. Used for intensive cropping when drained. Peat depth varies. Xtf Swamps with stony rises or shallow over calcrete.
					Main soils: Swamps: Peaty soil – N1, Wet clay loam - N3 and Shallow dark clay loam on limestone - B5. Rises: Shallow calcareous loam on calcrete - B2 and Shallow loam on calcrete - B3.
Xuf	0.1	Swamp	N3N1	D	Non-peaty swamps with stony rises or shallow over calcrete.
		Stony rise	B3	M	Main soils: Swamps: Wet clay loam - N3 and Peaty soil - N1. Stony rises: Shallow loam on calcrete - B3.

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

D Dominant in extent (>90% of SLU)

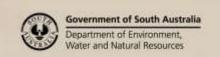
V Very extensive in extent (60–90% of SLU)

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)





Detailed soil profile descriptions:

A7 <u>Calcareous clay loam on marl (Marly Calcarosol)</u>

Dark calcareous clay with a marly subsoil (often saline in Upper SE). Often with shells and a peaty surface.

- Shallow highly calcareous sandy loam on calcrete (Supravescent-Shelly Petrocalcic Calcarosol-Rudosol)
 Shallow, carbonate dominant sandy to loamy soil on calcrete. Carbonate dominates the soil profile as a whole, however, the surface soil may not be carbonate dominant, but needs to contain at least 30% carbonate.
- **B2** <u>Shallow calcareous sandy loam on calcrete (Petrocalcic Calcarosol)</u>

Up to 40 cm calcareous loamy sand to sandy loam with variable calcrete rubble overlying calcreted calcarenite - rises.

B3 Shallow sandy loam on calcrete (Petrocalcic Rudosol)

Medium thickness non calcareous sandy loam, often having a slight clay increase with depth, over calcreted calcarenite shallower than 50 cm - rises.

B5 Shallow dark clay loam on limestone (Petrocalcic, Black Dermosol)

Black clay loam to light clay over calcreted limestone at shallow depth, grading to highly calcareous clay - flats.

B6 Shallow sandy loam over red-brown clay on calcrete (Petrocalcic, Red Kandosol)

Medium thickness sandy loam with slight ironstone gravel overlying a weakly structured reddish brown sandy clay on calcarenite within 50 cm - rises.

B7 Shallow sand over sandy clay on calcrete (Petrocalcic, Brown Chromosol)

Medium thickness sand overlying brown friable sandy clay to clay on limestone or calcreted sandy clay within 50 cm - flats.

B8 Shallow sand on calcrete (Petrocalcic, Bleached-Leptic Tenosol)

Thick bleached sand over calcreted calcarenite within 50 cm - rises.

C5 Gradational dark clay loam (Calcic-Hypercalcic Brown-Grey-Black Dermosol-Calcarosol)

Dark clay loam over abundant 'soft lime'. >10% carbonate is the cut off between this and M2 soils.

G3 Thick sand over clay (Hypercalcic, Brown Sodosol/ Chromosol)

Thick bleached sand with an organically darkened surface abruptly overlying a massive to coarsely structured brown to reddish yellow sandy clay to clay, calcareous with depth - rises.

H2 <u>Siliceous sand (Sandy Calcarosol-Tenosol)</u>

Deep to moderate depth calcareous siliceous sand. Often with non-calcareous topsoil; can be non calcareous throughout. Sometimes the subsoil is a light sandy loam.

H3 Deep bleached sand (Basic, Arenic, Bleached-Orthic Tenosol)

Grey sand over a very thick bleached sand grading to yellow sand continuing below 100 cm.

II Highly leached sand (Fragic, Pipey, Aeric Podosol)

Grey sand with a very thick bleached A2 layer, over dark brown and yellow massive soft to semi-hard clayey sand (coffee rock), grading to softer yellow and brown sand to sandy clay loam from about 80 cm.

I2 Wet highly leached sand (Fragic, Humic, Aguic Podosol)

Grey sand with a thick bleached A2 horizon, overlying a thin to thick layer of coffee rock, grading to pale brown sand sharply overlying a grey, brown and yellow mottled sandy clay loam to light clay.

M2 Deep friable gradational clay loam (Red-Brown-Grey- Black Dermosol)

Deep well structured red clay loamy soil.

N1 Peat (Organosol)

Peaty soil.

N3 <u>Seasonally waterlogged, non-to-marginally saline equivalents of associated soils listed above</u>, viz.:

N3c Wet G3

N3d Wet B5

N3e Wet B7

RR Bare rock

Further information: <u>DEWNR Soil and Land Program</u>

