COA Coola Land System

Area: 117.7 km²

Landscape: Plain southwest of Mt. Gambier with very shallow soils containing rounded flint or

chert gravel over calcreted Miocene limestone.

Annual rainfall: 750 – 770 mm average

Geology: Eocene-Miocene Gambier Limestone; fossiliferous marine limestone.

Main soils: B7 (45%) Shallow sand over clay on calcrete (sandy Petrocalcic Sodosol-Chromosol)

Minor soils: G3 16%) Thick sand over clay (sandy Brown-Red Chromosol-Sodosol)

F1 (15%) Loam over brown or dark clay (Brown-Dark Chromosol-Sodosol)

RR (11%) Rock or exposed calcrete.

Other soils making up 10%, but only 2-3% each

F2 Sandy loam over poorly structured brown or dark clay (Brown-Dark Sodosol-

Chromosol)

B3 Shallow sandy loam on calcrete (Petrocalcic Red Tenosol-Kandosol-Rudosol)

B2 Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol)

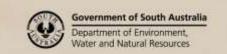
B5 Shallow dark clay loam on limestone (Petrocalcic Black-Grey Dermosol)

Summary: The flinty nature of the soils on this plain makes them effectively non-arable. The land

is used for grazing and forestry.

Soil Landscape Unit summary: Coola Land System (COA)

SLU	% of area	Component	Main soils	Prop#	Notes
m-AF	0.4	Plain	В3	D	Very shallow flinty loam on red-brown clay loam over
					calcrete capped Miocene limestone.
					Main soils: <u>Shallow sandy loam on calcrete</u> - B3 .
mTAF	78.2	Plain	В7	D	Plains with flinty loam over poorly structured brown clay
		Rise	В7	M	over Miocene limestone. Shallow flinty red/brown loamy soil
					on rises.
					Main soils:
					Plains and rises: Sand over friable brown clay on calcrete -
					B7.
mUA	1.8	Plain	В3	D	mUA Plain with very dark brown sandy loam on brown
mUBF	3.4	Plain	F2F1	E	sandy clay loam over Miocene limestone.
		Rise	F1	Е	mUBF Plains and rises as above.
mUEK	0.7	Depression	В3	D	mUEK As above depression with sinkholes/karst features.
					Main soils:
					Plains: Shallow sandy loam on calcrete - B3, Sandy loam
					over poorly structured brown or dark clay - F2 and Loam
					<u>over brown or dark clay</u> - F1 .
					Rises: Loam over brown or dark clay - F1.
					Depressions: Shallow sandy loam on calcrete - B3.
mWAF	5.7	Plain	RRF2	V	mWAF Plains with flinty loam over poorly structured brown
		Sand Rise	12H3	L	clay.
			G2		mWB Gently undulating plains with loam over poorly
mWB	0.4	Plain	B7F2	D	structured brown clay, <10% sand rises.
		Sand Rise	G3	М	mWBF as above with flinty soils.
mWBF	1.8	Plain	B7F2	D	Main soils:
		Sand Rise	G3	М	Plains: Rock or exposed calcrete – RR, Sandy loam over





					poorly structured brown or dark clay - F2 and <u>Sand over</u>
					friable brown clay on calcrete - B7.
					Sandy rises: Wet highly leached sand - 12, Thick sand over
					<u>clay</u> - G3 , <u>Bleached sand over sandy clay loam</u> - G2 and
) TD 4		51 .			Bleached siliceous sand - H3.
NBA	0.3	Plain	B2	D	Plain with shallow mostly calcareous cracking clay on
					calcrete.
277.4			55.7		Main soils: <u>Shallow calcareous loam on calcrete</u> - B2 .
NJA	0.3	Plain	B5A7	D	Inter-dune corridor plain with deep dark clay soils on
		Swamp	N3N1	M	calcreted marl or limestone often calcareous throughout.
					Main soils:
					Plains: Shallow dark clay loam on limestone - B5,
					<u>Calcareous clay loam on marl</u> - A7.
					Swamps: Wet clay loam - N3 and Peaty soil - N1.
NKM	4.4	Plain	B2	V	Inter-dune corridor plains with deeper, dark, mostly
		Stony rise	B5B2	С	calcareous clay soils over marl or calcareous clayey
					sediments. 20-30% shallow clays over calcrete on rises.
					Main soils:
					Plains: Shallow calcareous loam on calcrete - B2.
					Stony rises: Shallow dark clay loam on limestone - B5 and
					Shallow calcareous loam on calcrete - B2.
NnF	0.8	Plain	C5	V	Plain with shallow, dark clays over calcrete. Sand over
			M2	_	poorly structured clay occurs on rises which occupy 20-30%
		Sandy rise	G3	С	of the area. 10% swamps.
			G4		Main soils:
		Swamp	N3N1	M	Plains: Gradational dark clay loam – C5 and Deep friable
1					gradational clay loam - M2.
					Sandy rises: Thick sand over clay - G3 and Sand over yellow
					and brown clay - G4.
NIXE	0.0	Dist	1.40	_	Swamps: Wet clay loam - N3 and Peaty soil - N1.
NYE	0.2	Plain	M2	D	NYE Swampy plain with shallow dark cracking clay soils on
NYEF	0.5	Plain	M2	V	calcreted marl or limestone. 0-10% rises.
		Rise	В7	L	NYEF as above, with flinty soils. 10-20% rises.
					Main soils:
					Plains: Deep friable gradational clay loam - M2.
NT. C	1.0	•	D. E. V. I.O.		Rises: Sand over friable brown clay on calcrete - B7.
Xtf	1.0	Swamp	B5N3	V	Peaty swamps with stony rises or shallow over calcrete.
		Rise	B2B3	С	Main soils:
					Swamps: Shallow dark clay loam on limestone - B5 and Wet
					clay loam - N3.
					Rises: Shallow calcareous loam on calcrete - B2 and Shallow sandy loam on calcrete - B3.
			1	1	I Shallow sanal/ loam on calcrote - K <

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)

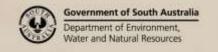
Detailed soil profile descriptions:

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.

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.
- 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.
- 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.
- C5 <u>Gradational dark clay loam (Calcic-Hypercalcic Brown-Grey-Black Dermosol-Calcarosol)</u>
 Dark clay loam over abundant 'soft lime'. >10% carbonate is the cut off between this and M2 soils.
- F1 Loam over brown or dark clay (Brown-Dark Chromosol-Sodosol)

 Topsoil >30 cm over a poorly structured subsoil, or else, subsoil structure is good. Loamy to clay loamy texture contrast soil with brown clayey subsoil. Loamy, reasonable depth A, and OK structured clay subsoil.
- Sandy loam over poorly structured brown or dark clay (Brown-Dark Sodosol-Chromosol)

 Topsoil <30 cm over a poorly structured subsoil. Loamy, often sandy loam, to clay loamy texture contrast soil with a sodic/dispersive/poorly structured brown clayey subsoil. Often sandy loam, usually with a bleached horizon, and thin topsoil over a poorly structured B.
- G2 <u>Bleached sand over sandy clay loam (sandy Brown-Red Chromosol)</u>
 Sandy texture contrast soil with a bleached A2 and a friable brown-red sandy clay loam to sandy loam subsoil.
- 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.
- Sand over poorly structured clay (Sandy Brown-Red Sodosol-Chromosol)

 Topsoil <30 cm over a poorly structured subsoil. Thin sandy texture contrast soil with a sodic /dispersive /poorly structured brown or red clayey subsoil. Can have some ironstone.
- 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.
- Wet highly leached sand (Fragic, Humic, Aquic 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)
- N1 <u>Peat (Organosol)</u>

Peaty soil

N3 Seasonally waterlogged, non to marginally saline equivalents of soils listed above, viz.:

N3c Wet G3 N3d Wet B5 N3e Wet B7

RR Bare rock

Further information: DEWNR Soil and Land Program

