

PEW Peweena Land System

Area:	45.1 km ²
Landscape:	Flat to gently undulating, poorly drained sand plains north of Mt. Gambier, on the south western edge of the Forest Range land system.
Annual rainfall:	740 – 755 mm average
Geology:	Pleistocene Padthaway Formation lacustrine calcareous clays
Main soils:	I2 Wet highly leached sand (Aquic or Semi-Aquic Podosol) (35%) G3 Thick sand over clay (sandy Brown-Red Chromosol-Sodosol) (31%)
Minor soils:	I1 Highly leached sand (Aeric Podosol) (13%) G2 Bleached sand over sandy clay (sandy Brown-Red Chromosol-Sodosol) (9%) N3 Wet soil (non to moderately saline) (Sodosolic-Calcarosolic-Dermosolic Hydrosol) (8%) N1 Peaty soil (Organosol) (2%)
Summary:	Mostly deep, poorly drained sand and sand over clay soils on plains. Land use is principally constrained by shallow water tables, which must be either lowered artificially or only crops suited to those conditions must be grown i.e. plants which are tolerant of waterlogging or shallow rooted.

Soil Landscape Unit summary: Peeweena Land System (PEW)

SLU	% of area	Component	Main soils	Prop#	Notes
OFC	4.9	Dune	I1	D	OFC Deep moderately to highly leached siliceous sands on dunes. OFCv As above, with volcanic ash in the surface OFDv Low dune as above. Main soils: <u>Highly leached sand - I1.</u>
OFCv	0.3	Dune	I1	D	
OFDv	0.8	Low dune	I1	D	
PBav	1.7	Plain	G3	D	Sand plain with 10% low sand dunes. Thick sand over clay on the plains, and deep leached siliceous sand on the dunes. Minor shallow rises with sandy loam over red clay on calcreted calcarenite. Soils contain volcanic ash in surface. Main soils: Plains: <u>Thick sand over clay - G3.</u> Dunes: <u>Highly leached sand - I1</u> and <u>Wet highly leached sand - I2.</u>
		Dune	I1I2	M	
PEA	1.8	Flat	I2I1	D	Plain with poorly drained deep acidic siliceous sand, sometimes with acidic brown clay subsoil. Main soils: <u>Wet highly leached sand - I2</u> , <u>Highly leached sand - I1.</u>
POj	2.5	Plain	I2	V	POj Poorly drained gently undulating plain with 20-30% swamps. Deep leached wet siliceous sands are dominant, often having impermeable clay at depth, but it also occurs at relatively shallow depth. POjv As above with volcanic ash in the surface. Main soils: Plains: <u>Wet highly leached sand - I2.</u> Swamps: <u>Wet highly leached sand - I2</u> and <u>Wet saline clay loam - N2.</u>
		Swamp	I2N2	C	
POjv	1.0	Plain	I2	V	
		Swamp	I2N2	C	
PPav	11.4	Plain	I2G3	V	PPav Sand plain with deep bleached wet sand over clay or coffee rock; with 20-30% well drained siliceous sand on rises. Very wet swales. Volcanic ash in the surface.
		Sand rise	I1	C	
		Swamp	I2N2	M	
PPb	42.2	Plain	G3I2	V	PPb Gently undulating plain as above, with 10-20% sand rises. No volcanic ash.
		Sand rise	I1	L	



PPbv	9.1	Plain	G3I2	V	PPbv As above, with volcanic ash in the surface.
		Sand rise	I1	L	
PPi	4.5	Plain	G3I2	V	Main soils: Plains: <u>Wet highly leached sand - I2</u> and <u>Thick sand over clay - G3</u> . Swamps: <u>Wet saline clay loam - N2</u> , <u>Wet clay loam - N3</u> and <u>Wet highly leached sand - I2</u> .
		Swamp	N3	C	
PRA	0.5	Plain	G3	D	Plain with deep leached sand over brown clay, poorly drained, low fertility. Main soils: <u>Thick sand over clay - G3</u> .
Xuav	6.8	Swamp	N3	V	Xuav Swampy flat with 20-305 sandy rises with volcanic ash in the surface. Non-peaty wet soils.
		Sandy rise	I2	C	
XuC	0.3	Swamp	N3	D	XuC Swamp with non-peaty wet soils
XuCv	0.5	Swamp	N3	D	XuCv As above, with volcanic ash in the surface.
Xud	2.9	Swamp	N3	V	Xud Non-peaty swamp with 20-30% sandy rises. Main soils: Swamps: <u>Wet clay loam - N3</u> . Sandy rises: <u>Wet highly leached sand - I2</u> .
		Sandy rise	I2	C	
vGA	8.8	Plain	G2	D	Plains with often thick, dark volcanic loam over red & brown clay subsoils. Main soils: <u>Bleached sand over sandy clay loam - G2</u> .

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

D	Dominant in extent (>90% of SLU)	C	Common in extent (20–30% of SLU)
V	Very extensive in extent (60–90% of SLU)	L	Limited in extent (10–20% of SLU)
E	Extensive in extent (30–60% of SLU)	M	Minor in extent (<10% of SLU)

Detailed soil profile descriptions:

- G2** Bleached sand over sandy clay loam (sandy Brown-Red Chromosol)
Sandy texture contrast soil with a bleached A2 and a friable brown-red sandy clay loam to sandy loam subsoil.
- 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.
- I1** 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, 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.
- N2c** Wet saline clay loam (Dermosolic, Salic Hydrosol)
Medium thickness dark grey to black clay loam to clay grading to well-structured dark grey clay with minor carbonates and a water table within 100 cm.
- N3** Seasonally waterlogged, non to marginally saline equivalents of soils listed above, viz.:
- N3c** Wet **G3**
N3d Wet **B5**
N3e Wet **B7**

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

