

Soils of the Mareeba - Dimbulah Irrigation Area (MDIA)

Sheet 1 of 2

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Information shown on this map is current to June 1997.

The information shown on this map has been supplied by the Department of Natural Resources, Resource Management Group.

The soils information has been compiled from a re-interpretation of the original soils survey and soils mapping by C. Van Wijk et al (unpubl.) using air photo interpretation and limited ground survey observations. Linework depicts unique mapping areas (UMAs), or areas of uniform soil and landform type. UMAs may contain more than one soil type in association. UMAs are coded and coloured by dominant soil type forming at least 60% of the soils found within the UMA.

The information presented is consistent with a 1:25000 scale soils survey. This department does not accept any liability for mis-use of this information when applied to mapping at scales greater than 1:25000.

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LEGEND

- BS Balancing storages
- DC Drainage channels
- Cadastral boundaries
- Dam Farm storage dams
- MLQ Made land: quarrying
- SC Stream channels
- SDG Steep/dissected land: major gullying and minor intermittent streams
- SDH Steep/dissected land: hillslopes, crests and gorges
- SW Permanent swamp
- U Unidentified/unclassified land
- UR Urban/built-up areas

REFERENCE

Symbol Mapping Unit Attributes Area (ha)

SOILS OF BASALTIC ROCK ORIGIN

Soils formed on undulating plains and rises.

Symbol	Mapping Unit	Attributes	Area (ha)
To	Toiga	Very deep uniform to occasionally gradational red podal light-medium clays; neutral to slightly acid; nodular and rocky in places.	3285
ToR	Toiga Rocky phase	As for Toiga above but with >20% basalt rock (<40mm) throughout the profile and surface.	1640
Wk	Walkamin	Moderately deep to deep uniform to gradational mottled nodular yellow-brown light-medium clays; neutral to acid; rocky in places.	2530
WkR	Walkamin Rocky phase	As for Walkamin above but with >20% basalt rock (<40mm) throughout the profile and surface.	910
WkS	Walkamin Shallow phase	As for Walkamin above but with basalt or tuffaceous parent material or unrelaxed heavy impermeable clays limiting soil depth to <1.0m.	130
WkSy	Walkamin Sandy phase	As for Walkamin above but with a grey to yellow-grey sandy loam to sandy clay loam A horizons to 35 to 50cm.	280

Soils formed on lower elevated plains and depressions.

Symbol	Mapping Unit	Attributes	Area (ha)
Ry	Ray	Moderately deep to deep uniform to gradational mottled nodular and greyish grey to yellow grey or yellow-brown yellow-brown podal light-medium clays; neutral, rocky in places.	360
RyR	Ray Rocky phase	As for Ray above but with >20% basalt rock (<40mm) throughout the profile and the surface.	305
Mj	Morgan	Moderately deep to deep seasonally cracking uniform dark to grey brown podal clays; neutral to alkaline; rocky, mottled and nodular in places.	220

SOILS OF GRANITIC AND ACID IGNEOUS ORIGIN

Residual and colluvial soils formed on the crests and upper slopes of hills rises and fans.

Symbol	Mapping Unit	Attributes	Area (ha)
Al	Atlanta	Deep to very deep uniform soils with fine gravelly apedal grey to yellow-brown coarse loamy sands to sandy loams; neutral, becoming browner with depth.	175
AlS	Atlanta Shallow phase	As for Atlanta above but with parent material limiting soil depth to <1.0m to 1.30m.	40
Cl	Colidge	Very deep duplex soils with thick to very thick fine gravelly grey to brown coarse sandy loams overlying fine gravelly red podal coarse sandy clay loams to sandy clay; neutral to slightly acid.	370
Dd	Dimbulah	Deep to very deep duplex and occasionally gradational soils with medium to thick fine gravelly grey to yellow-brown podal sandy clay loams overlying fine gravelly red podal sandy clay loams to sandy clay; neutral to slightly acid.	4890
DdS	Dimbulah Shallow phase	As for Dimbulah above but with parent material limiting soil depth to <1.0 to 1.30m.	53
Fm	Fumar	Deep uniform to gradational soils with red to brown sandy loams to fine sandy clay loams; slightly acid to neutral.	905
FmS	Fumar Shallow phase	As for fumar above but with decomposing parent material or unrelaxed rock material limiting soil depth to <1.0m.	7
Mb	Morganbury	Deep to very deep gradational soils with red to brown sandy loams to sandy clay loams grading to fine gravelly red podal sandy clay loams to sandy light-medium clays; neutral to slightly acid.	3120
MdB	Morganbury Brown variant	Brown Earth variant to Morganbury soils with predominantly brown subsoil colour.	45
Ni	Nullinga	Deep duplex to gradational soils with medium to thick grey-brown sands to sandy loams overlying mottled nodular yellow-brown grey to yellow-brown apedal or podal sandy clay loams to sandy light-medium clays; neutral to slightly acid.	1280
NiS	Nullinga Shallow phase	Moderately deep soils with thin to medium gravelly grey-brown sandy loamy sands to sandy loams overlying mottled nodular yellow-brown to grey apedal sandy clay loams to sandy light-medium clays; neutral to slightly acid; occasionally mottled, nodular in places, granitic rock, occasional hardpan found at or near hill crests.	305
Sr	Sorenson	Deep to very deep gradational to occasional duplex soils with medium to thick grey to yellow-brown coarse loamy sands to sandy loams grading to fine gravelly yellow-brown to brown apedal coarse sandy clay loams to sandy light-medium clays; neutral to slightly acid.	750
SrK	Sorenson Coarse Sandy phase	As for Sorenson above but with abundant coarse sands and fine quartz gravel throughout.	155

Colluvial soils formed on the lower slopes and toes of fans on the footslopes of hills and rises.

Symbol	Mapping Unit	Attributes	Area (ha)
At	Ami	Moderately deep to deep uniform grey to brown apedal sandy; acid; occasionally overlying mottled clays.	310
Nc	Narcotic	Deep to very deep duplex soils with medium to thick grey to bleached apedal loamy sands to sandy loams overlying mottled nodular yellow-brown to grey apedal sandy clay loams to sandy light-medium clays; acid; occasionally gravelly; abundant ferromanganese nodules forming a rudimentary hardpan layer at varying depths.	2020
No	Nicotine	Deep to very deep uniform to gradational bleached to pale yellow-brown podal sands to light sandy clay loams; neutral to slightly acid; occasionally mottled, fine gravelly and nodular.	1680
NoY	Nicotine Yellow variant	Deep to very deep uniform to gradational mottled light yellow-brown to yellow-brown apedal sandy loams to clay loams, and occasionally nodular podal clays, overlying weathered parent material, neutral to slightly alkaline.	520

Symbol Mapping Unit Attributes Area (ha)

Symbol	Mapping Unit	Attributes	Area (ha)
Uc	Uncle	Moderately deep to deep duplex to gradational soils with medium to thick fine gravelly grey to occasional yellow-brown sandy loams to sandy clay loams overlying yellow-brown apedal fine gravelly sandy clay loams to sandy clays; acid; overlying decomposing granitic rock.	290
UcS	Uncle Shallow phase	As for Uncle above but with decomposing granitic parent material limiting soil depth to 0.45 to 0.9m.	135

SOILS OF METAMORPHIC AND OTHER META-SEDIMENTARY ROCK ORIGIN

Residual and colluvial soils formed on the crests and upper to mid-slopes of fans and hills and rises

Symbol	Mapping Unit	Attributes	Area (ha)
Cb	Cobena	Deep to very deep gradational soils with red-brown sandy clay loams to clay loams grading to red apedal or podal sandy clay loams to sandy light clays; neutral; occasionally nodular.	1145
CBG	Coben Gravelly phase	As for Cobena above but with >20% coarse gravels throughout.	240
CBS	Coben Shallow phase	As for Cobena above but with weathered parent material limiting soil depth to 0.90 to 1.30m; occasionally gravelly and nodular throughout.	70
Mi	Mulligan	Deep duplex to occasional gradational soils with medium to thick pale sandy loams overlying mottled yellow to yellow-brown podal light to medium clays; neutral to slightly acid; occasionally gravelly and nodular.	4480
MIG	Mulligan Gravelly phase	As for Mulligan above but with >20% gravels throughout.	601
MILdX	Mulligan-Leadingham Complex	Dominantly Mulligan soils with minor areas of Leadingham Soils forming a complex landscape pattern.	160
MIP	Mulligan Pan phase	As for Mulligan above but with abundant (>50%) ferromanganese nodules forming a rudimentary hardpan layer or with an indurated hardpan layer from 0.80 to 1.30m.	3900
MIS	Mulligan Shallow phase	As for Mulligan above but with weathered parent material limiting soil depth to 0.80 to 1.30m; occasionally gravelly and nodular throughout.	7180
Mt	Masterton	Shallow to moderately deep uniform to gradational gravelly grey-brown to yellow-brown apedal sandy loams to clay loams, and occasionally nodular podal clays, overlying weathered parent material, neutral to slightly alkaline.	

Symbol Mapping Unit Attributes Area (ha)

Symbol	Mapping Unit	Attributes	Area (ha)
DI	Donlen	Deep duplex soils with medium to thick pale sandy loams overlying mottled nodular yellow-brown podal light to medium clays; alkaline, sodic and occasionally gravelly.	800
DIP	Donlen Pan phase	As for Donlen above but with abundant (>50%) ferromanganese nodules forming a rudimentary hardpan or with an indurated hardpan layer from 0.80 to 1.30m.	25
DIS	Donlen Shallow phase	As for Donlen above but with weathered parent material limiting soil depth to 0.80 to 1.30m; occasionally gravelly and nodular throughout.	855
Mc	McLeid	Shallow to moderately deep uniform to gradational apedal loamy sands to sandy clay loams overlying strongly cemented hardpan from 0.35 to 0.70m; neutral to alkaline; weathered parent material or mottled sodic grey heavy clays below hardpan.	800
Mp	Murphy	Deep duplex and occasional gradational soils with medium to thick bleached sandy loams to sandy clay loams overlying mottled grey to yellow-grey podal light to medium clays; neutral to slightly acid; nodular and gravelly in places.	5200
Mp-Asy	Murphy - Ariga Sandy variant Intergate		85
MpG	Murphy Gravelly phase	As for Murphy above but with >20% coarse gravels throughout.	60
MpP	Murphy Pan phase	As for Murphy above but with abundant (>50%) ferromanganese nodules forming a rudimentary hardpan or with an indurated hardpan layer from 0.80 to 1.30m.	1330
MpS	Murphy Shallow phase	As for Murphy above but with weathered parent material limiting soil depth to 0.80 to 1.30m; occasionally gravelly and nodular throughout.	15

Colluvial and older alluvial soils formed on outwash fans, relict alluvial floodplains and backplains

Symbol	Mapping Unit	Attributes	Area (ha)
Ar	Ariga	Deep to very deep uniform to gradational mottled grey-brown to olive-grey podal light to heavy clays; alkaline to occasionally neutral; sodic, nodular and occasionally gravelly in places.	1370
ArSy	Ariga Sandy variant	Deep to very deep gradational to duplex soils with thin to medium sandy clay loams to sandy light clays grading to mottled nodular grey, brown or medium clays; neutral; occasionally increasing to alkaline with depth, occasionally nodular and fine gravelly.	690
FpX	Floodplain Complex	Highly complex landscape patterns with areas of deep to very deep coarse sands and intervening series of alluvial deposits of clays and loams with variable layers of differing texture classes.	1910
Ld	Leadingham	Deep duplex to occasional gradational soils with thin to medium pale sandy loams overlying mottled yellow to yellow-brown podal light to medium clays; alkaline, sodic; gravelly in places.	2070
LdP	Leadingham Pan phase	As for Leadingham above but with abundant (>50%) ferromanganese nodules forming a rudimentary hardpan layer or with an indurated hardpan layer from 0.65 to 1.30m.	450
LdPmX	Leadingham-Pennan Complex	Dominantly Leadingham soils with minor areas of Pennan soils forming a complex landscape pattern.	255
LdS	Leadingham Shallow phase	As for Leadingham above but with weathered parent material limiting soil depth to 0.80 to 1.30m; occasionally nodular.	30
Pi	Peplar	Very deep uniform to occasionally gradational mottled yellow-grey podal nodular clay loams to light-medium clays grading to mottled grey podal nodular light to medium heavy clays; variable slightly acid to strongly alkaline, sodic; calcareous fragments at depth.	1410
Pm	Pennan		4250
PmAgX	Pennan-Algebra Complex	Dominantly Pennan soils with minor areas of Algebra soils forming a complex landscape pattern.	30
PmAgPX	Pennan-Algebra Pan phase Complex	Dominantly Pennan soils with minor areas of Algebra Pan phase soils forming a complex landscape pattern.	65
PmD	Pennan Dark phase	As for Pennan above but with dark to brown A horizon colours; hard pan may be present.	170
PmLdX	Pennan-Leadingham Complex	Dominantly Pennan soils with minor areas of Leadingham soils forming a complex landscape pattern.	35
PmP	Pennan Pan phase	As for Pennan above but with abundant (>50%) ferromanganese nodules forming a rudimentary hardpan or with an indurated hardpan layer from 0.65 to 1.30m.	65
PmSy	Pennan Sandy phase	As for Pennan above but with a high medium to coarse sand content throughout.	440

1:50000

0 5 10 Kilometers

