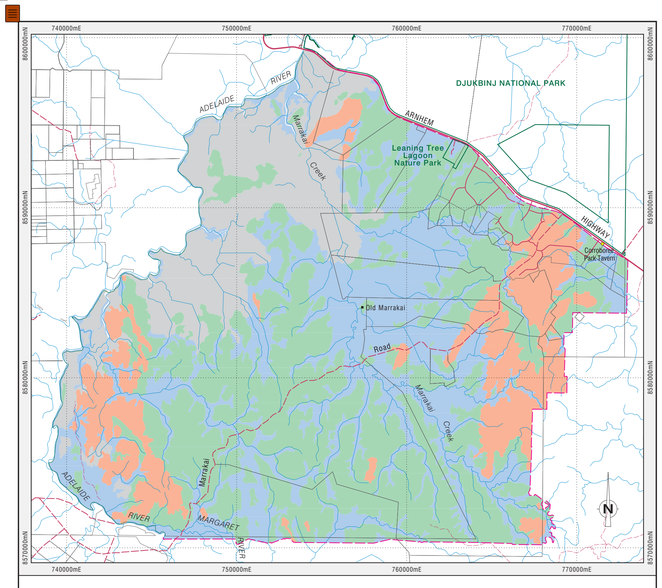
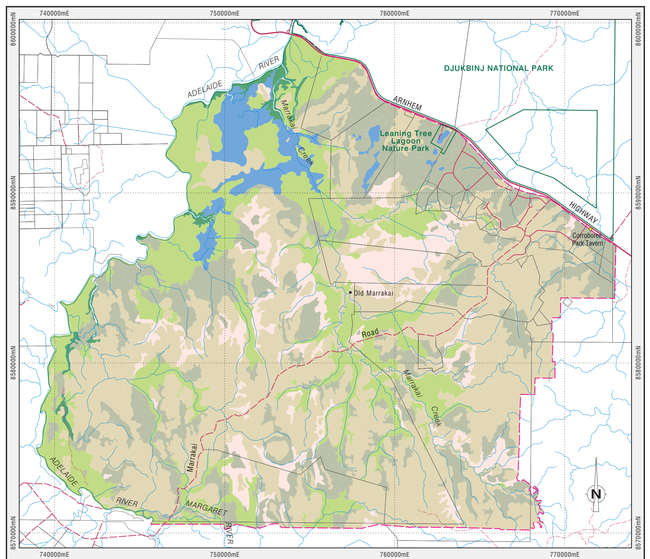
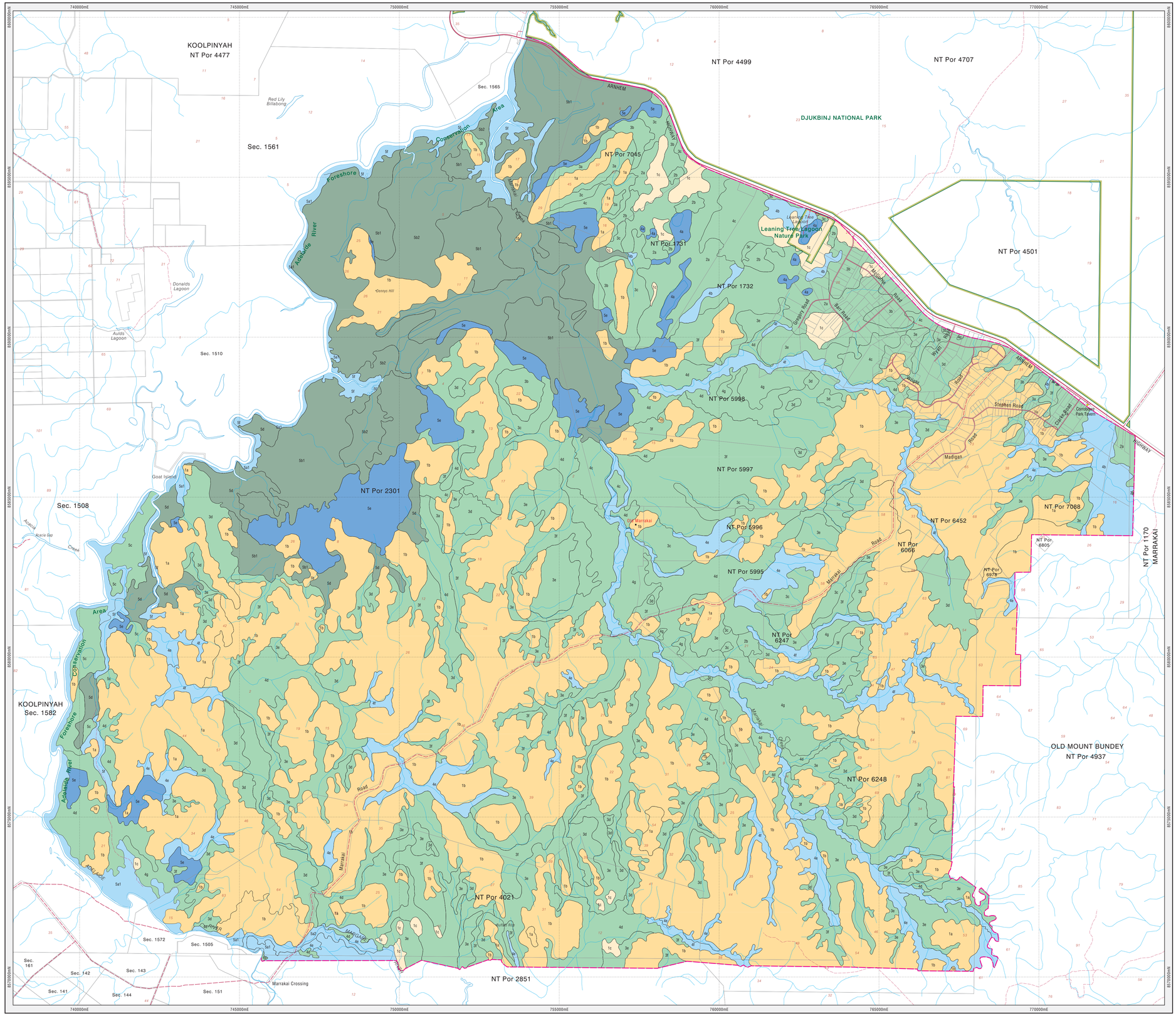


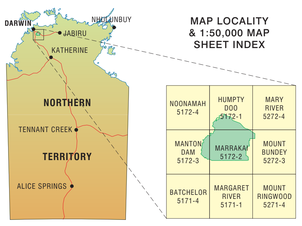




GENERAL FEATURES

- Land unit boundary
- Limit of land unit mapping
- Property boundary (Jan. 2013)
- Property name/number — NT Por 5997
- Park or reserve
- Roadhouse — Corroboree Park Tavern
- Highway
- Minor road
- Minor road: unsealed
- Local road / track
- Drainage
- Relief feature, named — *Buffalo Rise
- Spot height — 27

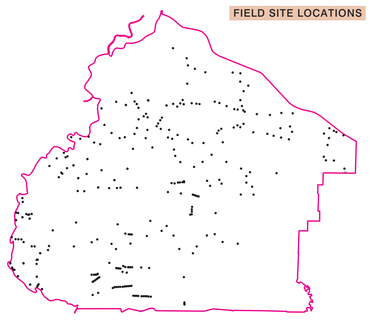
Base Information Data Sources:
Northern Territory Department of Lands, Planning and the Environment, and Geoscience Australia, Australian Government



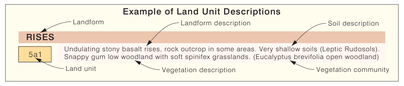
MAP LOCALITY & 1:50,000 MAP SHEET INDEX

NOONAMAH 5172-4	HUMPTY DOO 5172-1	MARY RIVER 5272-4
MANTON DAM 5172-3	MARRAKAI 5172-2	MOUNT BUNDEY 5272-3
BATCHELOR 5171-4	MARGARET RIVER 5171-1	MOUNT RINGWOOD 5271-4

FIELD SITE LOCATIONS



Example of Land Unit Descriptions



Cartography by Spatial Data and Mapping,
Water Resources Division,
Department of Land Resource Management,
Northern Territory of Australia October 2013

Web: www.lrm.nt.gov.au/nrmapsnt
Map Reference: Marrakai-Area_Land-Resources_50k

LAND UNIT DESCRIPTIONS

RISES

- 1a — Higher hills and ridges; moderately steep sideslopes (6-30%); relief 5 to 20 metres; 5-10% outcrop siltstone, greywacke; minor ironstone outcrop; 60-80% surface stone /gravel. Shallow lithosols (Leptic Rudosols); uniform, coarse textured; very gravelly and stony; excessively drained. Eucalyptus tectifica, Eucalyptus miniata, Corymbia confertiflora Open woodland; occasionally low woodland.
- 1b — Lower, rounded hills; gentle sideslopes; gradients 2-6% relief between 5 and 20 metres; extensive surface gravels (60-100% ground cover); minor quartz and ironstone outcrop. Shallow to moderately deep lithosols (Kandosols); very gravelly throughout; minor gravelly, shallow yellow massive earths; lithosols uniform loamy sand or sandy loam; massive earths generally gradational with sandy surface over gravelly sandy clay loam. Corymbia polysciada, Eucalyptus miniata, Corymbia bleeseri Open woodland.

LOW RISES

- 1c — Low gravelly rises; very gentle sideslopes; gradients 0.5-1.5%; extensive ironstone gravels, minor outcrop of ironstone. Shallow, gravelly massive earths (Kandosols); gradational; loamy sand surface soil grading into light sandy clay loam; gravelly surface horizon (5-15%), very gravelly subsoil (10-30%); well drained. Eucalyptus miniata Woodland.

PLAINS

- 2a — Gently undulating surface; slope gradients range between 0 and 1.5%; moderately extensive surface gravels, minor ironstone outcrop. Shallow to moderately deep massive earths (Kandosols); predominantly gradational; loamy sand or sandy loam overlying a very gravelly sandy clay loam at 40-60 cm; nil to slightly gravelly surface, moderately gravelly subsoil; well drained. Eucalyptus tetrodonta, Eucalyptus miniata Woodland to open forest.
- 2b — More extensive level areas on the gently undulating surface - restricted occurrence; less than 0.5% gradient; minor surface gravels only. Deep red massive earths (Red Kandosols); gradational; sandy loam to sandy clay loam; minor gravels only; well drained. Eucalyptus tetrodonta, Eucalyptus miniata Woodland to open forest.
- 3a — Footslopes of higher hills, usually linear in extent; gently sloping gradients between 1 and 3%; extensive surface gravels; minor quartz and angular siltstone outcrop. Shallow lithosols (Leptic Rudosols); uniform: loamy sand or sandy loam; very gravelly throughout; well drained. Eucalyptus miniata and Corymbia confertiflora Woodland to open woodland.
- 3b — Gravelly sideslopes; gently sloping - gradients between 1 and 3%; extensive surface gravels, minor ironstone and quartz outcrop. Shallow massive earths and minor earthy sands (Kandosols); predominantly gradational massive earths with sandy loam grading to sandy clay loam; minor uniform, loamy sand to sandy loam; minor surface soil gravels; high subsoil gravel content (20-50%); wel. Eucalyptus miniata and Eucalyptus tetrodonta Woodland.
- 3c — Lower sideslopes; very gently sloping - gradients between 0.25 and 1%; surface usually sandy and of low coherence. Apedal mottled yellow duplex soils (Hydrosols); sandy loam surface to 20-30 cm, over sandy clay loam to light clay subsoil; minor subsoil ferruginous gravels; impeded internal drainage. Lophostemon lactifluus Open woodland.
- 3d — Gravelly upper slope (associated with terrain of Burrells Creek formation); gentle slopes gradients between 2 and 4%; extensive cover of flakey siltstone gravels. Shallow to moderately deep lithosols (Rudosols and Kandosols); uniform; loamy sand to sandy loam; very gravelly; usually between 15 and 30% siltstone fragments throughout; well drained; occasionally more heavier textured subsoil (sandy clay loam). Corymbia foelscheana, Corymbia confertiflora Woodland to open woodland.
- 3e — Gentle sideslopes; gradients between 0.5 and 1.5%; hardset, often crusted soil surface. Shallow yellow massive earths (Yellow Kandosols); gradational; loamy sand or sandy loam; moderately high gravel content in subsoil; moderately well drained; soil depth varies between 40 and 60 cm, subsoil gravel content varies between 5 and 30%. Eucalyptus miniata, Corymbia foelscheana, Corymbia polycarpa Woodland to open woodland.
- 3f — Very gentle sideslopes; gradients less than 0.5%; hardset soil surface. Yellow massive earth (Kandosols); gradational; sandy loam grading to sandy clay loam at 30-60 cm; overlies gritty clay weathering parent material; subsoil gravels between 0 and 20%; imperfectly drained; soil depth varies considerably. Melaleuca viridiflora shrubland with emergent Corymbia polycarpa and Corymbia bella trees.
- 4c — Broad floodplains, within gently undulating terrain (generally situated in north of survey area); firm sandy surface. Apedal mottled yellow duplex soil (Hydrosols); loamy sand or sandy loam to 20-30 cm, over mottled sandy clay loam to light sandy clay; imperfectly drained. Melaleuca viridiflora and Melaleuca nervosa Low woodland or shrubland with emergent Corymbia bella trees.
- 4d — Broad open floodplains (generally found in centre and south of survey area); negligible slopes; hard, bulldusty surface (when dry); debil debil common. Hard, apedal mottled yellow duplex soils (Hydrosols), (often termed Soloths, Solodics); fine sandy loam surface soil to 20-30 cm over dense clay subsoil; minor ferruginous nodules throughout subsoil; poorly drained due to impermeable subsoil. Themeda triandra, Eriachne burkittii, Heteropogon triticeus Grassland.
- 4g — Plains - very slight relief; negligible slope; patches of surface ferruginous usually on slightly elevated areas. Yellow massive earths (Hydrosols); gradational - fine sandy loam grading into a sandy clay loam at 10-30 cm, then into a light clay deep subsoil at 70-100 cm; up to 15% ferruginous gravels in subsoil; imperfectly drained internally. Themeda triandra, Chrysopogon latifolius, annual Sorghum sp. Grassland.
- 5c — Clay plains; cracked when dry; uneven microrelief (gilgai) over a major proportion of the unit. Brown cracking clays (Vertosols); uniform medium to heavy clay; poor internal drainage. Themeda triandra, Sorghum plumosum, Paspalum sp.. Mixed species Open grassland with patches of Melaleuca sp., shrubland.

ALLUVIAL PLAINS

- 5b1 — Extensive clay plains; cracked when dry. Black massive cracking clays (Vertosols); strongly acid SRT - Soil reaction trend, i.e. pH trend with depth down the soil profile; uniform medium to heavy clay; poor internal drainage. Cynodon sp., Echinocloa colona, Panicum sp., and Eriachne burkittii Grassland.
- 5b2 — Clay plains. Black massive cracking clay (Vertosols), (Strongly acid SRT); uniform medium to heavy clay; very poor internal drainage. Fimbristylis ferruginea, Eleocharis sp., Cyperus sp., Sedgeland.
- 5d — Clay plains; hardset when dry, often cracked. Black massive cracking clays (Vertosols); uniform medium to heavy clay; poor internal drainage. Pettophorum pterocarpum mixed species Woodland to open forest.

DRAINAGE SYSTEMS

- 4b — Narrow drainage ways in gently undulating terrain (mostly in north of survey area); negligible slopes; mostly loose, sandy surface. Apedal mottled yellow duplex soil (Hydrosols); duplex; coarse sandy surface 20-35 cm, over gravelly mottled clay; 5-10% ferruginous nodules in subsoil; imperfectly drained. Melaleuca viridiflora and Melaleuca nervosa Low woodland or shrubland with emergent Corymbia bella trees.
- 4e — Narrow drainage ways (situated mostly in south of survey area); hard surface. Shallow to moderately deep yellow massive earths (Hydrosols); gradational - sandy loam surface grading into a sandy clay loam subsoil at 25-35 cm; siltstone gravels common in subsoil, at depths between 45 and 60 cm; moderately well drained internally. Corymbia polycarpa, Eucalyptus alba, Eucalyptus apodophylla Woodland with some Grassland areas.
- 4f — Channels and banks of non-perennial streams; scalding extensive. Yellow massive earths (Hydrosols); gradational - commonly fine sandy loam grading into fine sandy clay loam with depth; minor subsoil gravels; imperfectly drained. Corymbia bella, Melaleuca sp. and Acacia auriculiformis Open woodland, woodland or open forest.
- 5a1 — Levee and banks of lower Adelaide River and perennial tributaries; hardset; in places severely degraded gully erosion. Uniform loams or yellow massive earths (Hydrosols); uniform loams or clay loam throughout; massive earths usually silty loam grading into a clay loam or light clay, between 15 and 80 cm; imperfectly drained; minor areas of uniform brown clays. Mixed species Open grassland (river levees). Melaleuca sp., Nauclea orientalis, Bambusa arnhemica Open to closed forest (river banks).
- 5a2 — Levee and banks of the upstream section of the Adelaide River; loose, sandy surface. Uniform sands (Hydrosols); coarse loamy sand throughout; well drained internally. Corymbia bella, Corymbia confertiflora, Syzygium sp., Woodland to open forest (levees). Bambusa arnhemica, Melaleuca sp. Closed forest (banks).
- 5f — Banks and lower fringing areas to major channels (levees which are slightly elevated above adjacent backplains). Brown clays and minor black massive cracking clays (Hydrosols and minor Vertosols); uniform medium to heavy clays; poor internal drainage. Closed forest to open forest.

SWAMPS

- 4a — Perennial billabongs and adjacent flats. Apedal mottled yellow duplex soil (Hydrosols); organic loamy surface over mottled light clay, minor ferruginous nodules in subsoil; poorly drained. Sedgeland with pockets of Melaleuca sp., shrubland on margins.
- 5e — Backplain swamp. Black massive cracking clays (Vertosols); uniform medium to heavy clay; poor internal drainage. Melaleuca cajuputi, Melaleuca nervosa Woodland to open forest.

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kilometres 0 2 4 6 8 10 kilometres

Black numbered lines are 10 000 metre intervals of the Map Grid of Australia (MGA) Zone 52 Transverse Mercator Projection Horizontal Datum: GDA 94

GDA — This map was produced on the Geocentric Datum of Australia 1994 (GDA 94)

Land resource information has been derived from aerial photograph interpretation and field data describing landform, soil and vegetation. Mapping has been collected according to the national standards and prepared at a scale of 1:100 000. Enlarging this map beyond this scale will not provide further detail.

A site inspection should always accompany mapping for specific areas.

Northern Territory Government

LAND RESOURCES of the MARRAKAI AREA

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