Plant Species and Sites of Botanical Significance in the Southern Bioregions of the Northern Territory

Volume 2: Significant Sites
Part 2: Site Descriptions

Prepared By

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for the Arid Lands Environment Centre

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Part 2 – Site Descriptions

1. Burt Plain Bioregion

1.1 OVERVIEW OF THE BURT PLAIN BIOREGION

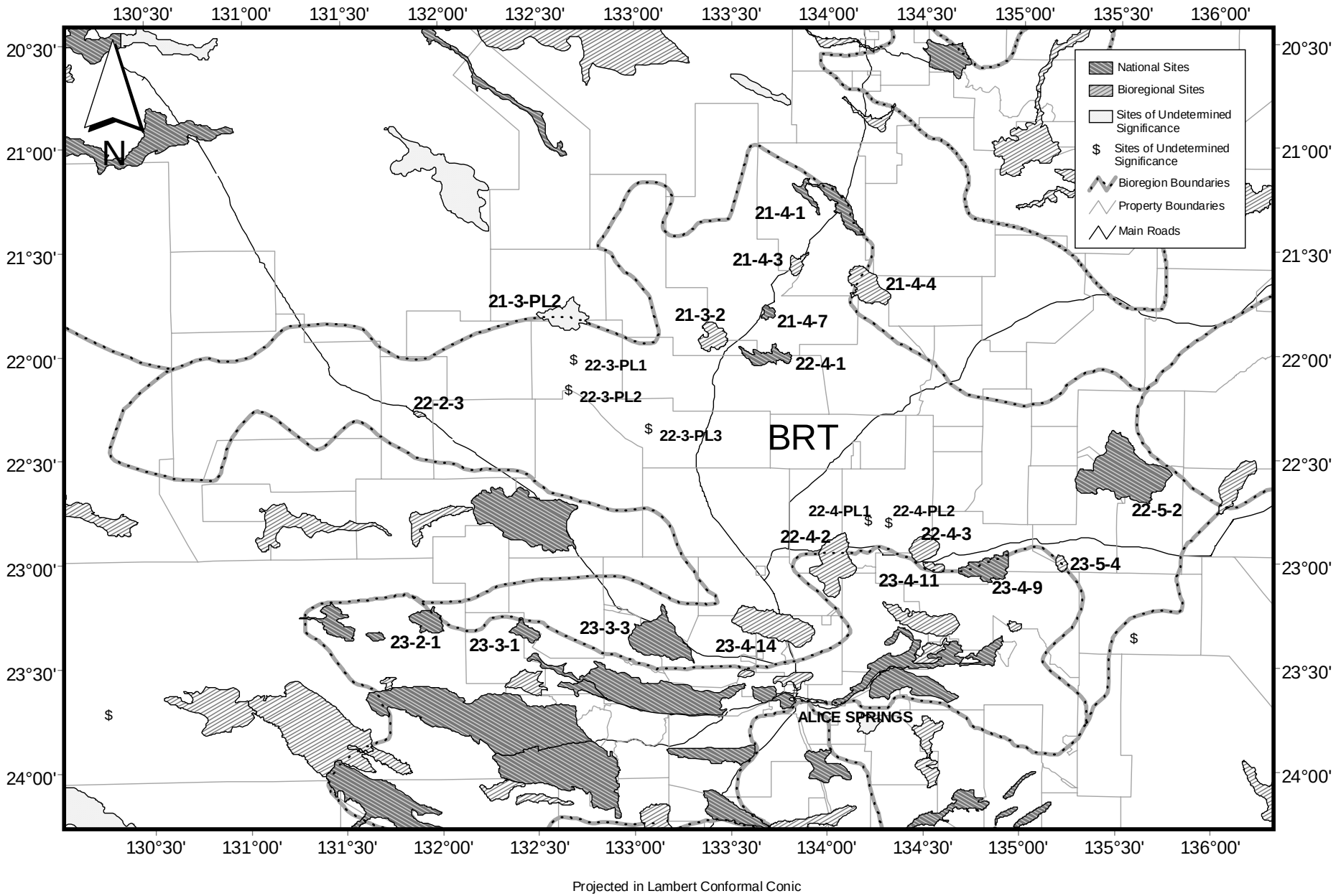
The Burt Plain bioregion comprises an area of 74,400km^2, all of which is located in the Northern Territory. The topography of the Burt Plain is generally subdued. Undulating stepped plains predominate, interrupted by major drainage lines and associated terraces and levees and sporadic occurrences of hills and rocky ranges formed from the basement geologies of the MacDonnell Ranges to the south. Concentrations of dissected topography are associated with the Stuart Bluff Range, the Dulcie Range and the Hann and Renolds ranges. The soils of the plains are generally red earths. However, earthy sands and red siliceous sands occur extensively. There are minor occurrences of red and brown clays supporting Mitchell Grass (*Astrebla* spp.) dominated grasslands, notably near Mount Hay and north of the Harts Range.

The vegetation of the red-earth plains is characterised by extensive Mulga (*Acacia aneura*) shrublands and woodlands with a sparse grassy understorey dominated by Woolly Butt (*Eragrostis eriopoda*). On the rocky ranges *Acacia* (*A. kempeana and A. aneura*) shrublands over hummock grasses such as *Triodia spicata* and *Triodia pungens* predominate (Wilson *et al* 1990). The bioregion also includes significant occurrences of vegetation types dominated by *Acacia estrophiolata* or *A.georginae* (in the eastern part of the bioregion), and 'breakaway' vegetation.

The climate is arid with rainfall strongly skewed to the summer months. Almost all rainfall occurs between October and March. Annual average rainfall at Barrow Creek weather station is 312 mm but this is highly variable. Frosts are rare and potential evaporation is very high exceeding 2 m per annum.

Despite its proximity to Alice Springs the botanical values of this bioregion are poorly known. A total of 196 indigenous vascular plant taxa are currently considered to be of conservation significance. These are listed in volume 1, appendix 3.

Index to Sites in and adjacent to Burt Plain bioregion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1.2 SITES OF NATIONAL SIGNIFICANCE IN THE BURT PLAIN BIOREGION

Site: 21-4-1 Osborne and Crawford Ranges

Level of significance: national

Location: 21º 9' S 134º 2' E; Osborne Ranges - Northern Uplands. Near the Junction of Taylor Creek and the Stuart Highway

Area: 290 km^2 **Map sheet:** Barrow Creek SF 53-6

Bioregions: Burt Plain (BRT 85.4%) & Tanami (TAN 14.6%)

Tenure: Pastoral Lease - Neutral Junction Station (100% of site)

Description: This site includes the Osborne and adjacent Crawford Ranges, and surrounding alluvial fans and run-on areas. It also includes a large claypan which lies in-between the northern end of the ranges.

Notes: The site is of particular significance because it supports one of only two known populations of *Scaevola graminea*. It also supports a highly disjunct record of *Sedopsis filsonii*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Scaevola graminea* {3R [NE] only known in BRT from this site}, *Sedopsis filsonii* {3RC-}

Taxa of NT significance: *Gymnanthera cunninghamii* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in BRT bioregion from this site: *Eucalyptus leucophloia*, *Fimbristylis ammobia*, *Gomphrena diffusa subsp. arenicola*, *Ruppia maritima*, *Whiteochloa cymbiformis*

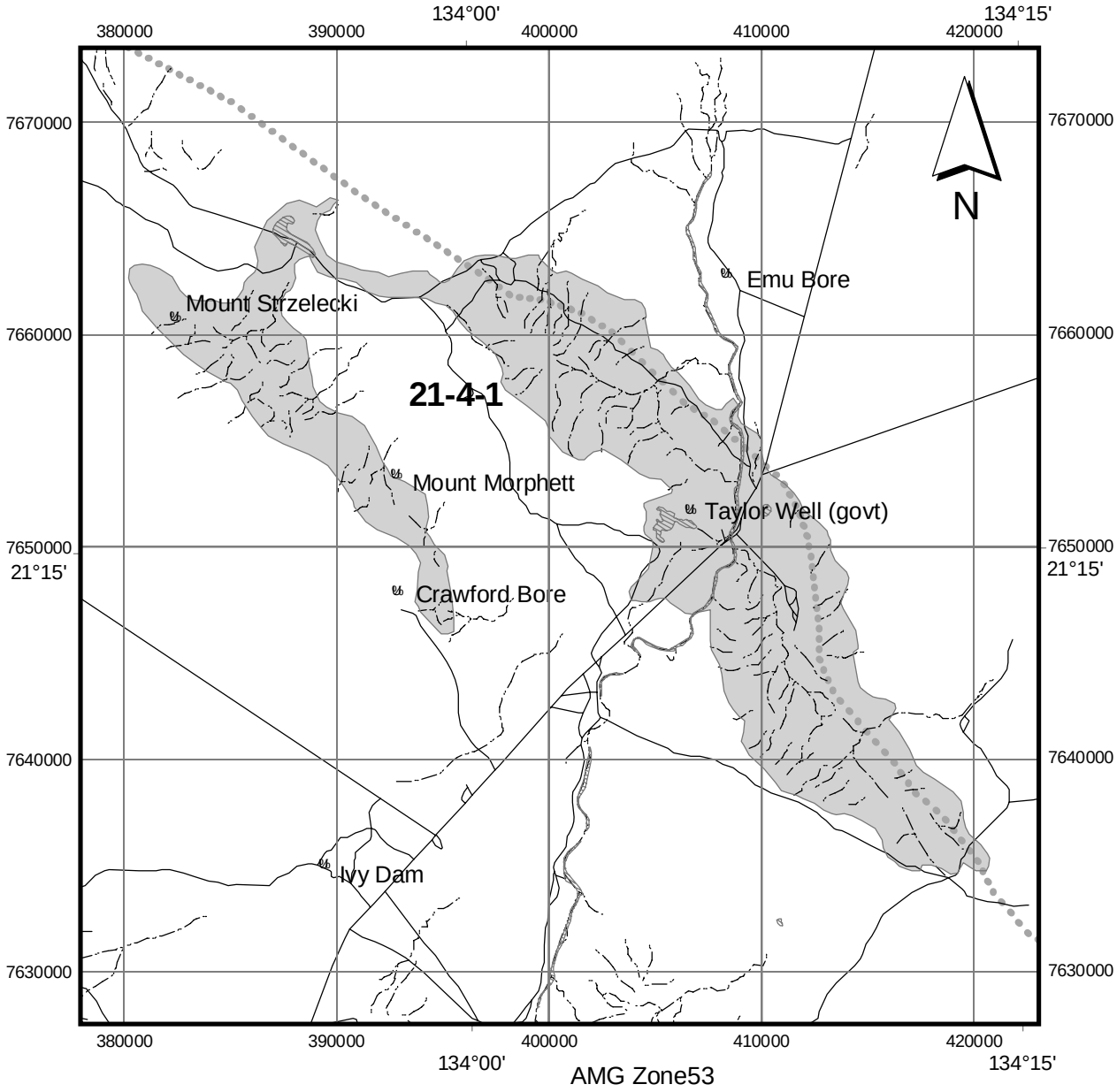
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 27 (10 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 76 (33 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 43 (49 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 65 (6 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.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21-4-1
Mount Morphett
Taylor Well (govt)
Crawford Bore
Ivy Dam
AMG Zone53

Site: 21-4-7 Stirling Swamp

Level of significance: national

Location: 21º 47' S 133º 43' E; Swamplands adjacent to the Hanson River.

Area: 41 km^2 **Map sheet:** Barrow Creek SF 53-6

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Stirling Station (95% of site); Freehold - Wilora Community Inc. (<1% of site) and Ankweleyelengkwe Aboriginal Land Trust (3% of site)

Description: This site includes Stirling Swamp, an extensive sub-saline, seasonal wetland.

Notes: The site supports a diversity of wetland habitats and a wide range of disjunct, rare and threatened plant taxa. In addition, this site is of biogeographic significance with many species reaching the edge of their known continental range. The site is the type location for *Eleocharis papillosa*.

Criteria satisfied: B1 b1 i), A1 a i)

Taxa of Australian significance: *Eleocharis papillosa* {3R}, *Goodenia A44284 Subsaline* {3K [SE] only known in BRT from this site}, *Isotoma luticola* {3R only known in BRT from this site}

Taxa of NT significance: *Eragrostis A51007 Limestone* {3k [N]}, *Streptoglossa cylindriceps* {3kC-}

Taxa of Southern NT (study area) significance: *Cyperus castaneus* {(disjunct) only known in BRT from this site}

Taxa of bioregional significance: *Atriplex limbata* {BRT (northern range limit) [N] only known in BRT from this site}, *Atriplex spongiosa* {BRT (northern range limit) [N]}, *Dysphania glomulifera subsp. eremaea* {BRT (northern range limit) [N]}, *Ectrosia scabrida* {BRT (southern range limit) [S] only known in BRT from this site}, *Goodenia cycloptera* {BRT (northern range limit) [N]}, *Goodenia maideniana* {BRT (disjunct and eastern range limit) [E] only known in BRT from this site}, *Peplidium muelleri* {BRT (apparently rare) only known in BRT from this site}, *Sclerolaena johnsonii* {BRT (northern range limit) [N]}, *Sclerolaena muelleri* {BRT (eastern range limit) [E] only known in BRT from this site}, *Sclerolaena urceolata* {BRT (northern range limit) [N]}, *Triglochin hexagonum* {BRT (disjunct)}

Other taxa only known in BRT bioregion from this site: *Cyperus rigidellus*, *Halosarcia indica subsp. leiostachya*, *Lawrencia glomerata* s.lat., *Maireana luehmannii*, *Sida ammophila*, *Zygophyllum compressum*

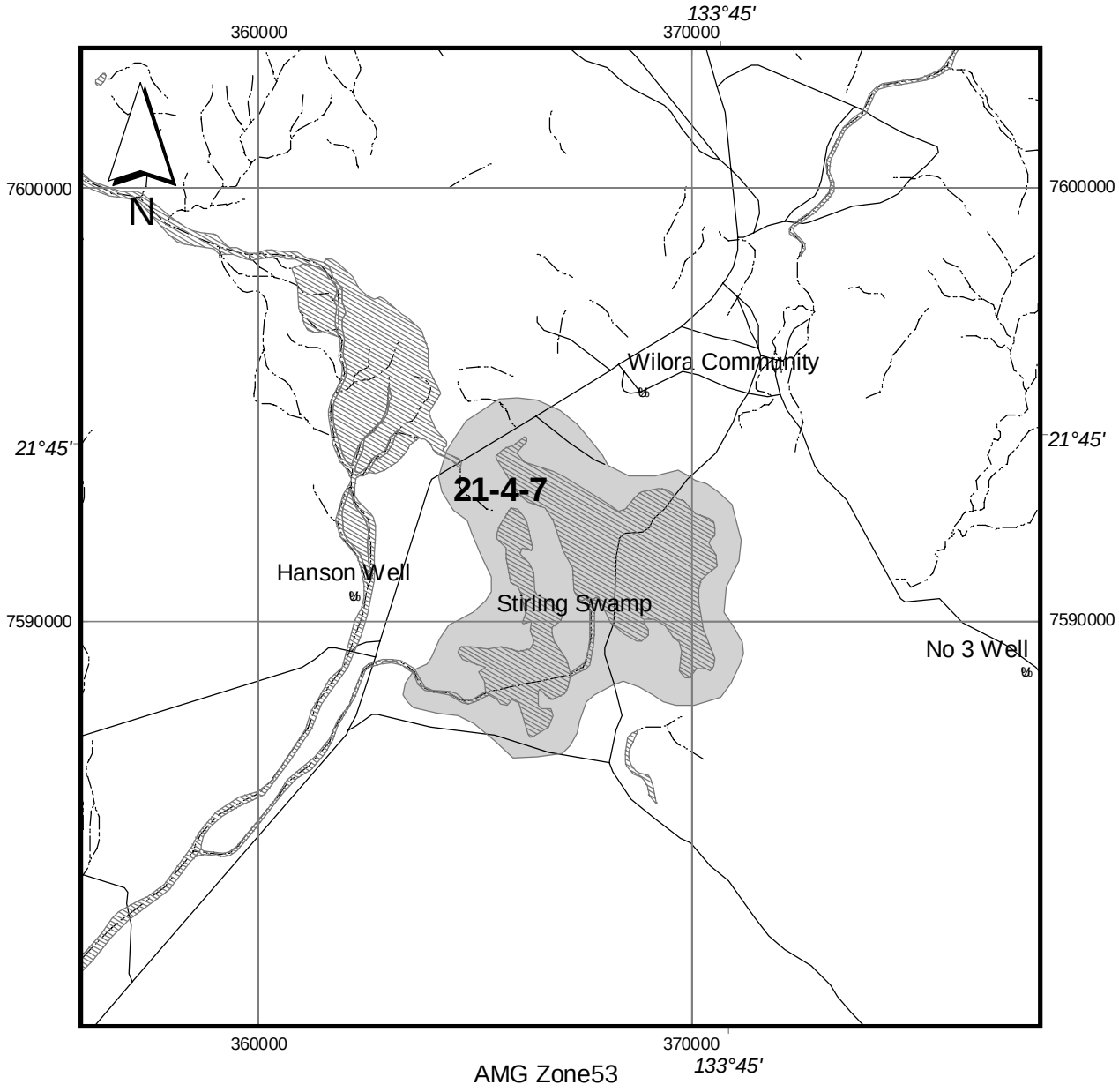
Type locations of the following were collected from the site: *Eleocharis papillosa* (1974)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (2 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 27 (92 %): *Eucalyptus microtheca* s. *lat.* (Coolibah) low open-woodland with open-grassland understorey.

Map unit 43 (4 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.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AMG Zone53

Site: 22-4-1 Bush Potato Site

Level of significance: national

Location: 22º 0' S 133º 43' E; East of Ti-tree.

Area: 164 km^2 **Map sheet:** Alcoota SF 53-10

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Stirling Station (26% of site) and Anningie Station (13% of site); Freehold - Ahakeye Aboriginal Land Trust (59% of site)

Description: This site encompasses a small outcrop (Scrub Cairn) of quartz sandstone and the surrounding groves of *Acacia aneura* on red earth soils.

Notes: This site is notable for its groves of mature *Acacia aneura* which shelter the highly localised and threatened endemic taxon - *Ipomoea A83192 Stirling*. This taxon has unusually large edible tubers. *Ipomoea A83192 Stirling* (see also volume one of this report) is threatened by fire which destroys the deep layers of leaf litter required for germination and growth. An additional threat is severe soil erosion, which has been promoted by the poor construction and siting of a road near part of the population.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Ipomoea A83192 Stirling* {2V [NSEW] endemic to/only known from this site}

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

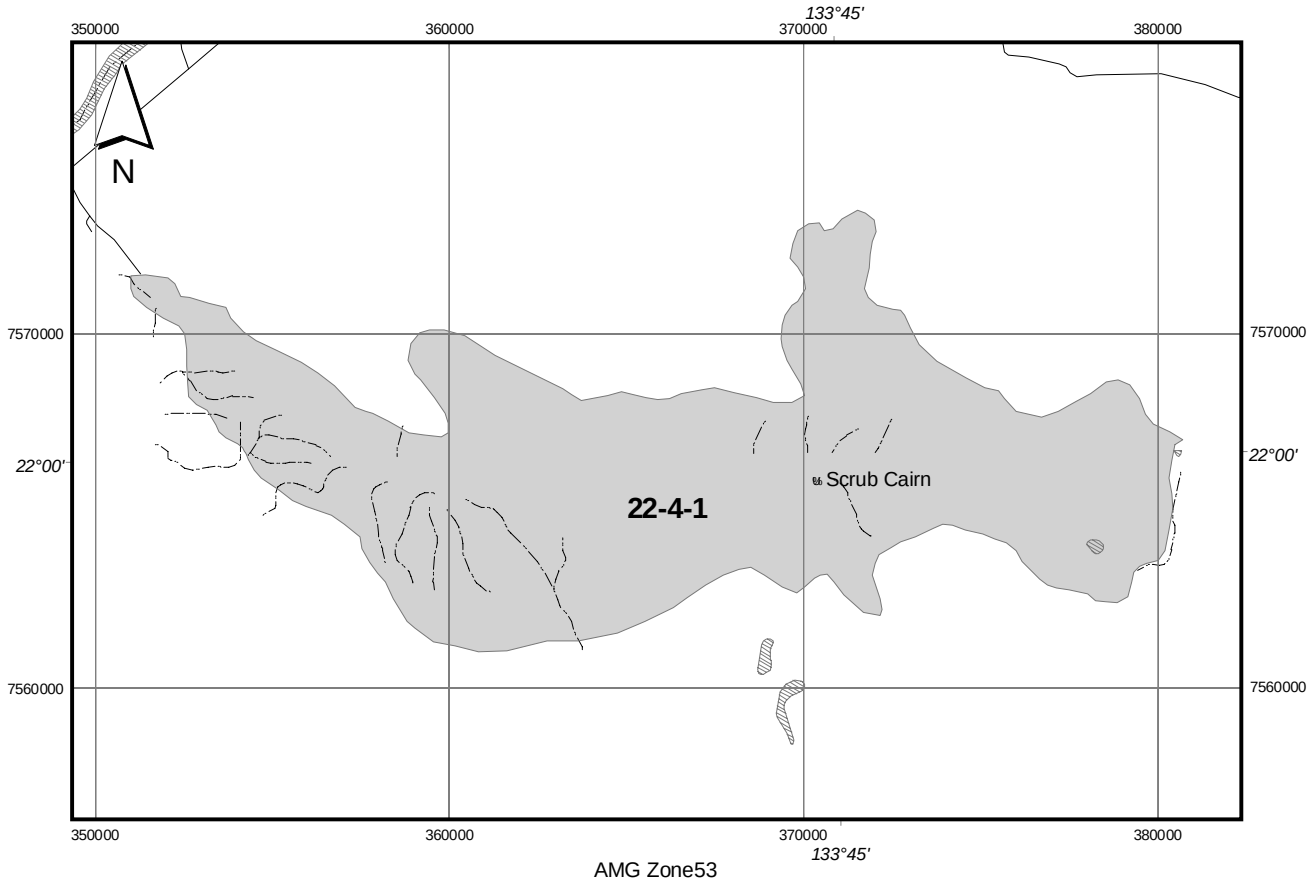
Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (14 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 65 (68 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 71 (17 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.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AMG Zone53

Site: 22-5-2 Dulcie Ranges

Level of significance: national

Location: 22º 35' S 135º 39' E; Extensive area of low ranges, ca. 220 km north east of Alice Springs.

Area: 1117 km^2 **Map sheet:** Huckitta SF 53-11

Bioregion: Burt Plain (BRT)

Tenure: Dulcie Ranges National Park (12% of site); Pastoral Lease - Arapunya Station (29% of site), Dneiper Station (<1% of site), Huckitta Station (24% of site) and Jinka Station (32% of site)

Description: The site incorporates much of the central Dulcie Range an extensive but isolated sandstone upland. The site includes the upper reaches of the catchments of Ooratippra, Oomoolmilla, Oorabra and Yam Creeks.

Notes: The Dulcie Range is biogeographically significant and supports many rare and disjunct populations of plant taxa. The botanical values of this site are centred on the sandstone gorges within the ranges and their numerous permanent and semi-permanent waterholes and spring fed rockholes. The site also supports good populations of the rare *Cratystylis A36062 Glen Helen*. The south western foothills of the Dulcie Ranges support interesting shrublands dominated by *Eremophila dalyana*.

Criteria satisfied: A1 a i), A1 b i), A2 e i), A1 c i) , B1 b1 i)

Taxa of Australian significance: *Cratystylis A36062 Glen Helen* {3RC- [NE]}, *Samolus eremaeus* {3KC-}, *Stylidium inaequipetalum* {3RCa [E] only known in BRT from this site}

Taxa of NT significance: *Eragrostis A51007 Limestone* {3k}, *Eremophila dalyana* {3rC-}, *Juncus continuus* {3rC- only known in BRT from this site}, *Sida D70364 Huckitta* {3k only known in BRT from this site}, *Spartothamnella puberula* {3rC-}

Taxa of Southern NT (study area) significance: *Fimbristylis sieberana* {(disjunct) only known in BRT from this site}, *Imperata cylindrica* {(disjunct & apparently rare) only known in BRT from this site}, *Psilotum nudum* {(rare) only known in BRT from this site}, *Schoenus falcatus* {(disjunct & apparently rare) only known in BRT from this site}

Taxa of bioregional significance: *Acacia macdonnelliensis subsp. macdonnelliensis* {BRT (eastern range limit) [E]}, *Aristida arida* {BRT (northern range limit) [N]}, *Cremnothamnus thomsonii* {BRT (eastern range limit) [E]}, *Cyanthillium cinereum* s.lat. {BRT (disjunct)}, *Kennedia prorepens* {BRT (disjunct and apparently rare)}, *Lepidium oxytrichum* {BRT (northern range limit) [N]}, *Myoporum acuminatum* {BRT (disjunct)}, *Ozothamnus kempei* {BRT (eastern range limit) [E]}, *Senecio laceratus* {BRT (northern range limit) [N]}, *Wahlenbergia caryophylloides* {BRT (disjunct) [S] only known in BRT from this site}

Other taxa only known in BRT bioregion from this site: *Cheilanthes brownii, Euphorbia alsiniflora, Sida virgata, Solanum petrophilum, Triodia pungens var. linearis*

Botanically Significant Waterholes at the site: Dulcie Gorge Waterholes, Picton Springs

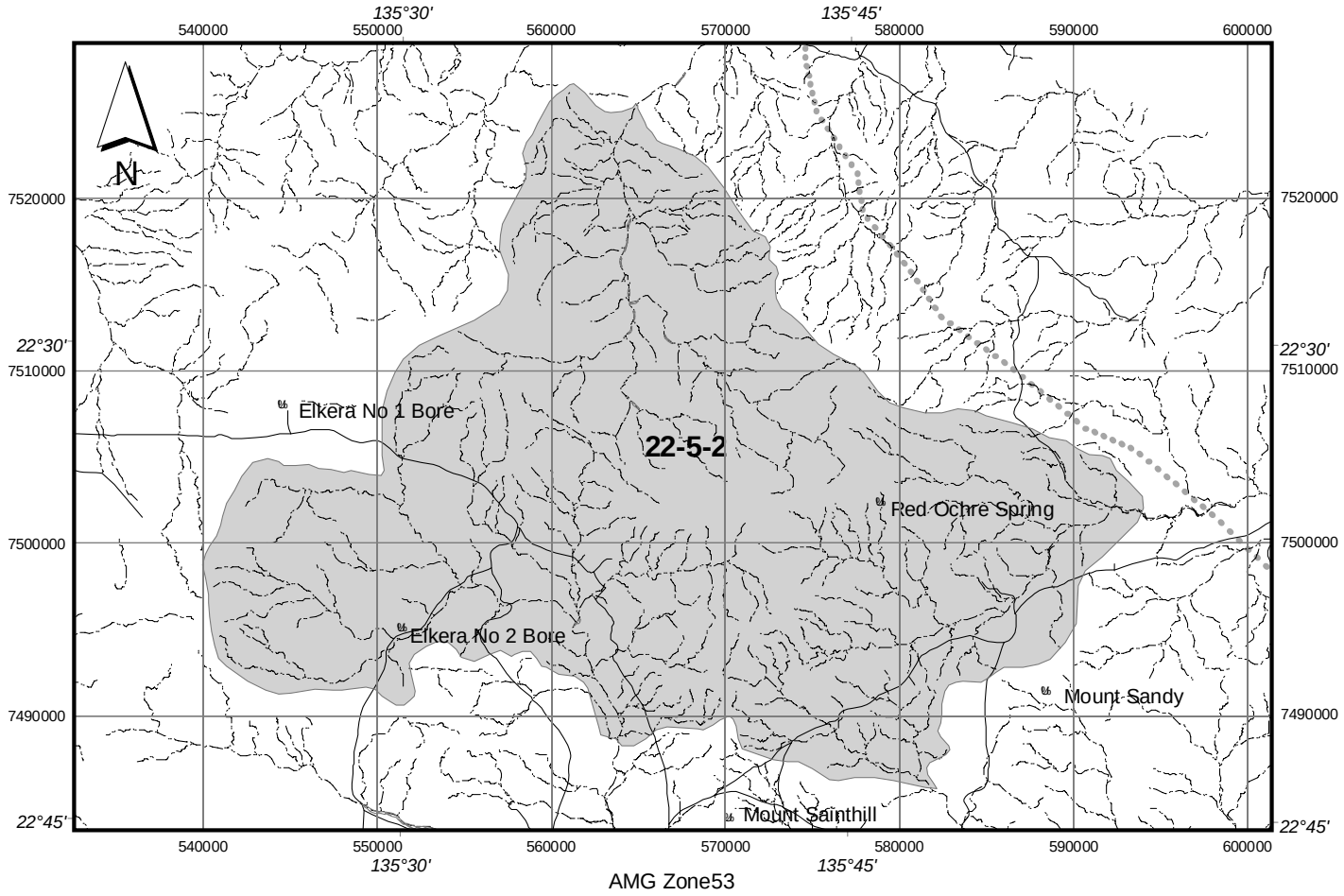
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 71 (9 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 43 (77 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 58 (8 %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 59 (4 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.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Site: 23-3-3 Mount Hay

Level of significance: national

Location: 23º 26' S 133º 7' E; ca. 75 km north west of Alice Springs.

Area: 562 km^2 **Map sheet:** Hermannsburg SF 53-13

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Hamilton Downs Station (39% of site) and Amburla Station (60% of site)

Description: This site is centred on Mount Hay, a large isolated range on the northern side of the Macdonnell Ranges composed of granulite. This parent material has weathered to form deep brown, nutrient rich clay soils on parts of the surrounding plains. These alluvial soils occur mainly to the north of the range and the site is largely delineated by their extent. The rich clay soils on these alluvial plains have a more distinctive flora than the mountain after which the site is named. Mount Hay is one of several outliers of the nearby MacDonnell ranges bioregion and supports some species that are characteristic of the MacDonnell Ranges such as *Macrozamia macdonnellii*.

Notes: This area of heavy clay soil is isolated by sandy or rocky environments from the main areas of clay soil in the east (Channel Country bioregion), north east (Mitchell Grass Downs bioregion) and in the far south (Stony Plains bioregion) of the study area. As such it is an important area for range disjunctions and supports one or possibly two endemic plant taxa: *Ptilotus aristatus var. stenophyllus* and *Ptilotus aristatus var. exilis* (see note in volume one of this report).

Criteria satisfied: A1 b i), B1 b1 i)

Taxa of Australian significance: *Ixiochlamys integerrima* {3K [W]}, *Macrozamia macdonnellii* {3VCa}, *Ptilotus aristatus var. exilis* {2R [SE]}, *Ptilotus aristatus var. stenophyllus* {2R [NSEW] endemic to/only known from this site}, *Samolus eremaeus* {3KC-}

Taxa of NT significance: *Calotis cuneifolia* {3k}, *Heliotropium inexplicitum* {3k only known in BRT from this site}, *Sida goniocarpa* {3r}, *Vittadinia pterochaeta* {3r only known in BRT from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Acacia salicina* {BRT (disjunct) [W]}, *Actinobole uliginosum* {BRT (northern range limit) [N] only known in BRT from this site}, *Boerhavia paludosa* {BRT (disjunct)}, *Desmodium campylocaulon* {BRT (disjunct)}, *Glycine falcata* {BRT (disjunct)}, *Iseilema macratherum* {BRT (disjunct and apparently rare) only known in BRT from this site}, *Myoporum acuminatum* {BRT (disjunct)}, *Neobassia proceriflora* {BRT (disjunct)}, *Sclerolaena calcarata* {BRT (disjunct)}

Other taxa only known in BRT bioregion from this site: *Prostanthera sericea* {[N]}, *Solanum eardleyae* {[N]}, *Zygophyllum emarginatum*

Type locations of the following were collected from the site: *Ptilotus aristatus var. exilis* (1962), *Ptilotus aristatus var. stenophyllus* (1974)

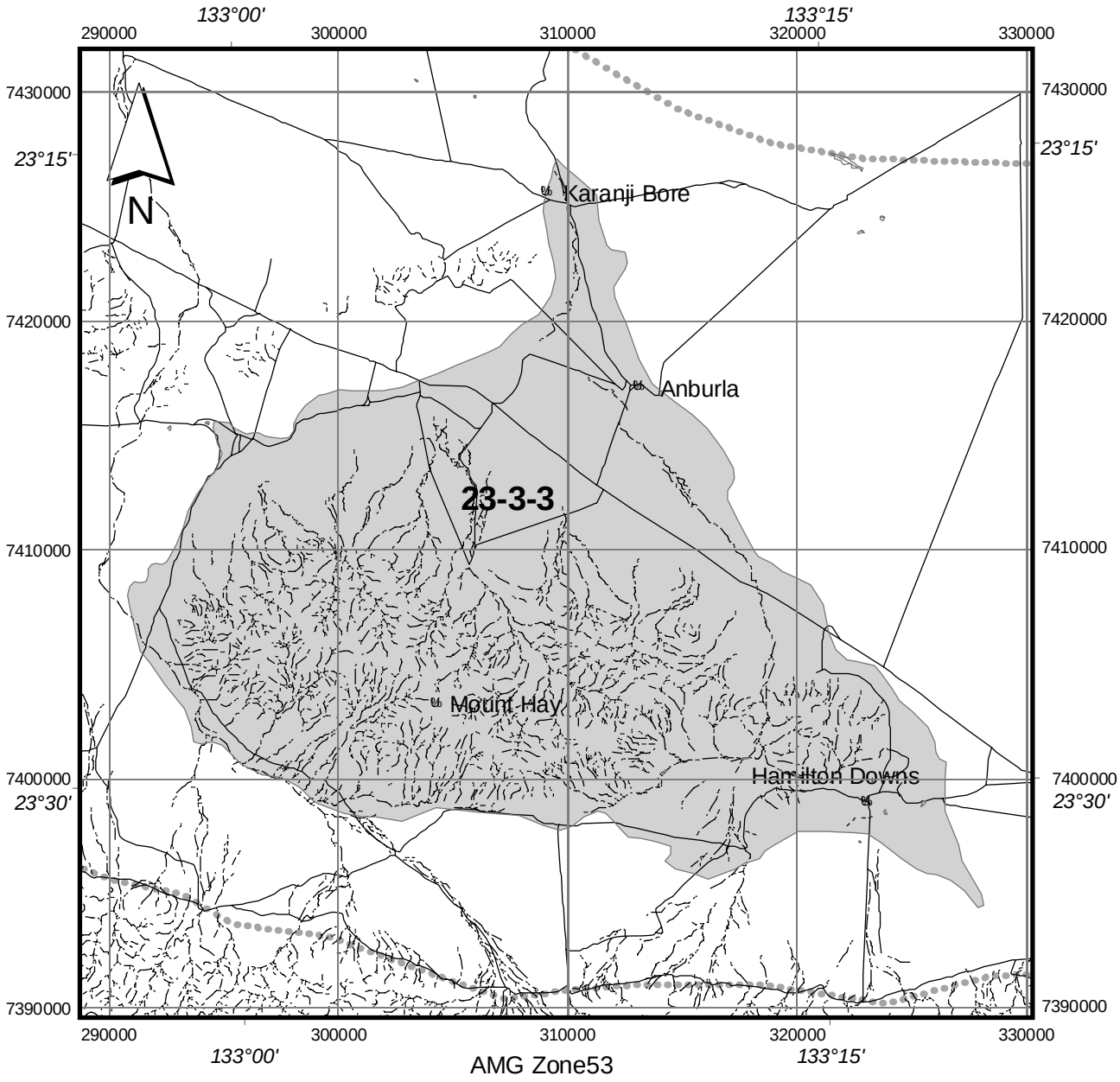
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 96 (32 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 70 (32 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.

Map unit 65 (17 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 59 (17 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.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Anburla
23-3-3
Mount Hay
Hamilton Downs
AMG Zone53

1.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE BURT PLAIN BIOREGION

Site: 21-3-2 Central Mount Stuart

Level of significance: bioregional

Location: 21º 54' S 133º 25' E; Northern uplands.

Area: 169 km^2 **Map sheet:** Mount Peake SF 53-5

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Anningie Station (49% of site) and Stirling Station (50% of site)

Description: The site includes the Central Mount Stuart massif and outlying hills and associated run-on areas. This is a geologically complex area, comprised of dolomite, limestone, quartzite, calcareous pellite and arkosic conglomerates.

Notes: The site is the type location for *Triodia triaristata* and *Hakea grammatophylla*.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Digitaria hystrichoides* {3r}, *Elacholoma hornii* {3rC-}, *Gymnanthera cunninghamii* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Buchnera linearis* {BRT (southern range limit) [S]}, *Eucalyptus sessilis* {BRT (northern range limit) [N]}, *Fuirena incrassata* {BRT (apparently rare) only known in BRT from this site}, *Gompholobium polyzygum* {BRT (disjunct)}, *Indigofera monophylla* {BRT (eastern range limit) [E] only known in BRT from this site}, *Isoetes muelleri* {BRT (disjunct)}, *Prostanthera striatiflora* {BRT (northern range limit) [N]}, *Rotala diandra* {BRT (southern range limit) [S]}, *Rotala occultiflora* {BRT (disjunct) only known in BRT from this site}, *Stackhousia A90542 Mt Liebig* {BRT (apparently rare) only known in BRT from this site}

Other taxa only known in BRT bioregion from this site: *Centipeda minima subsp. A94915 NDhala Gorge*, *Cyperus nervulosus*, *Eriachne pulchella subsp. dominii*, *Triodia triaristata* {[W]}

Type locations of the following were collected from the site: *Hakea grammatophylla* (1860s), *Triodia triaristata* (1974)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

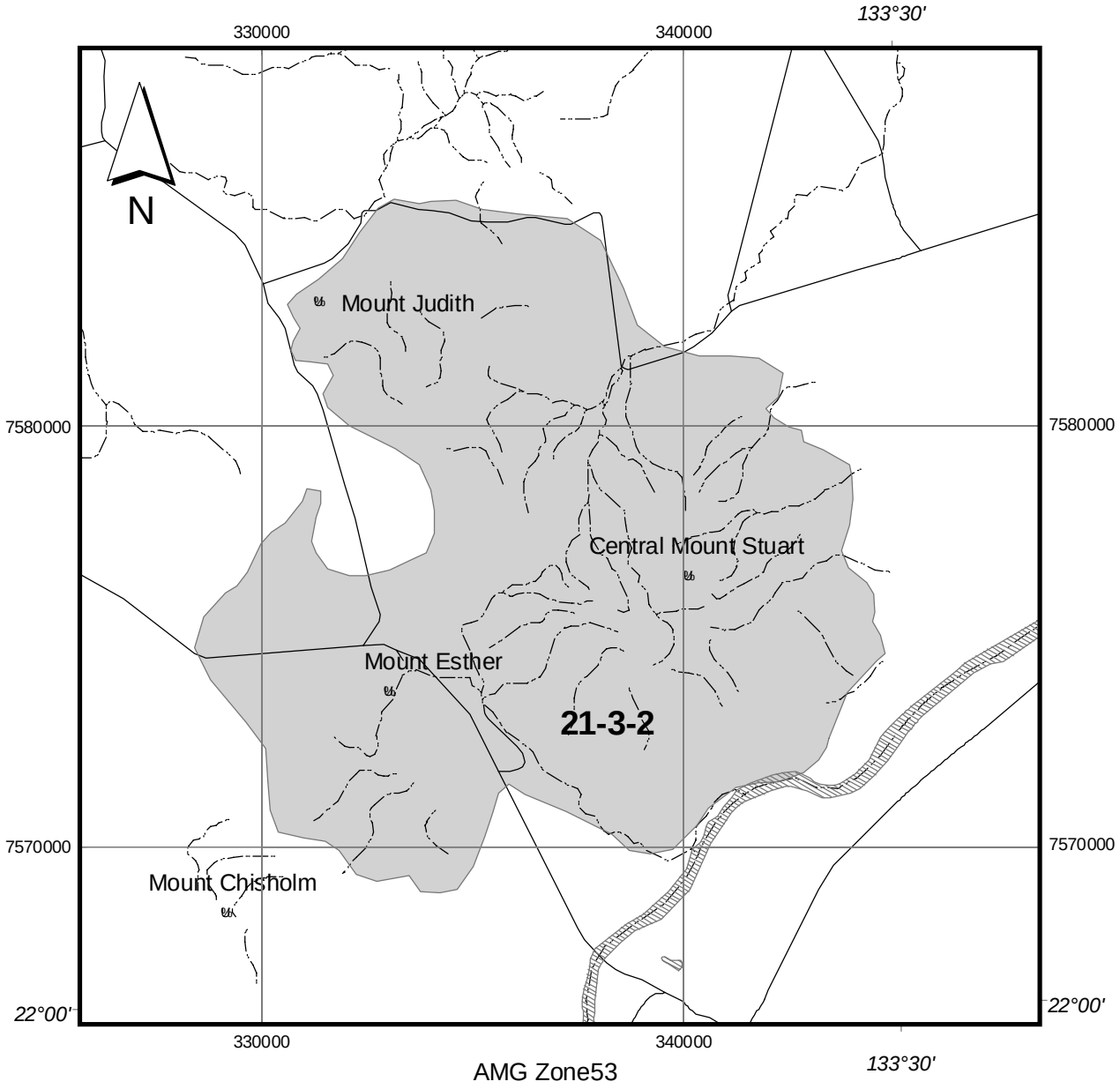
Map unit 70 (34 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.

Map unit 58 (16 %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 76 (31 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 65 (7 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 27 (9 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.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AMG Zone53

Site: 21-4-3 Barrow Creek

Level of significance: bioregional

Location: 21º 32' S 133º 52' E; Barrow Creek

Area: 67 km^2 **Map sheet:** Barrow Creek SF 53-6

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Neutral Junction Station (85% of site) and Stirling Station (14% of site)

Description: The site incorporates the upper catchment of Barrow Creek.

Notes: This site has a high diversity of *Acacia* species. It also supports extensive, mature stands of *Acacia paraneura* and includes the type location for *Acacia ancistrocarpa*.

Criteria satisfied: A1 a ii), B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Sclerolaena minuta* {3k}, *Trianthema glossostigma* {3r only known in BRT from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Acacia hemignosta* {BRT (southern range limit) [S] only known in BRT from this site}, *Acacia murrayana* {BRT (northern range limit) [N]}, *Acacia perryi* {BRT (southern range limit) [S] only known in BRT from this site}, *Swainsona phacoides* {BRT (northern range limit) [N]}, *Triodia triaristata* {BRT (northern range limit) [N]}

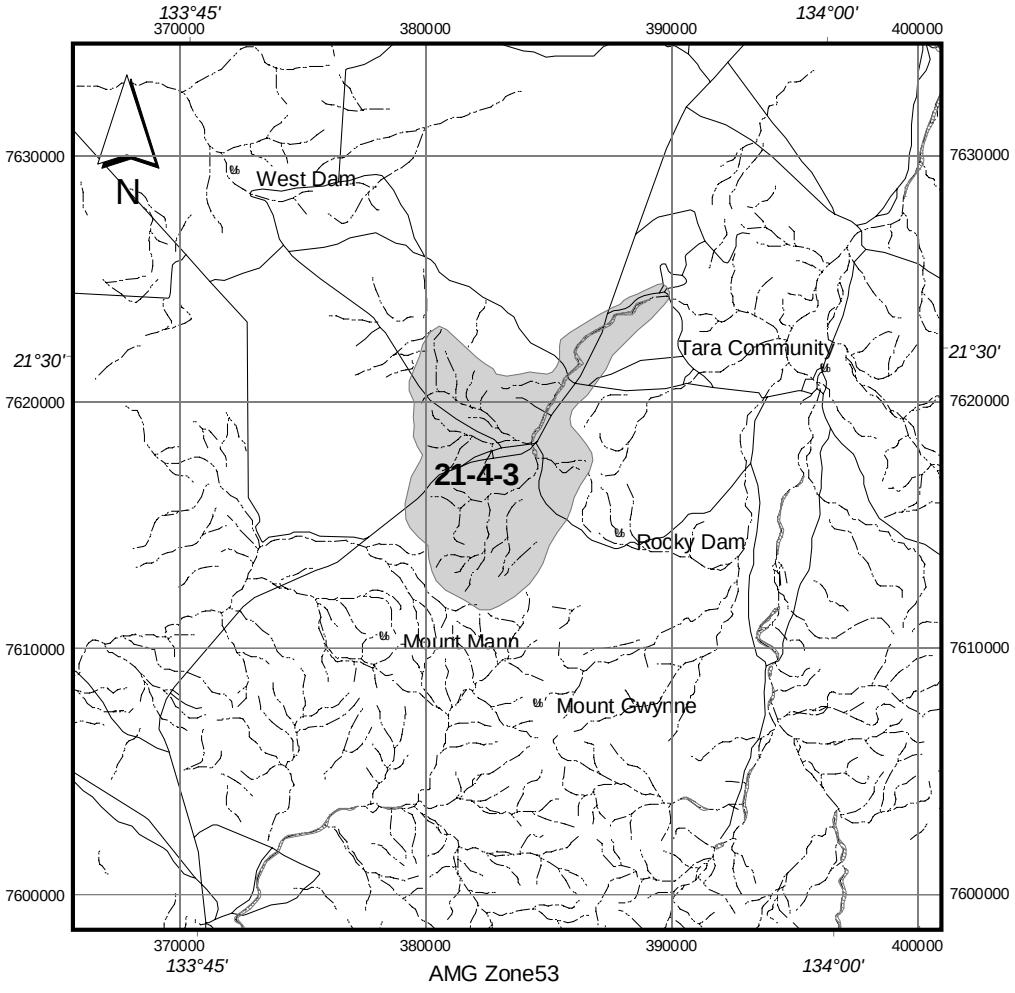
Other taxa only known in BRT bioregion from this site: *Heliotropium haesum*

Type locations of the following were collected from the site: *Acacia ancistrocarpa*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 58 (93 %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 43 (6 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.



Site: 22-2-3 Yuendumu South

Level of significance: bioregional

Location: 22º 17' S 131º 49' E; Southern Tanami Desert. To the south of Yuendumu Township.

Area: 13 km^2 **Map sheet:** Mount Doreen SF 52-12

Bioregion: Burt Plain (BRT)

Tenure: Freehold - Yuendumu Aboriginal Land Trust (100% of site)

Description: The site is comprised of a small sandstone and quartzite range to the south of Yuendumu and its associated colluvial slopes and alluvial fans.

Notes: This site supports a small population of *Scaevola obovata* which is highly disjunct - over 400 km from its nearest occurrence which is in South Australia.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Scaevola obovata* {3K [N] only known in NT from this site}

Taxa of NT significance: none

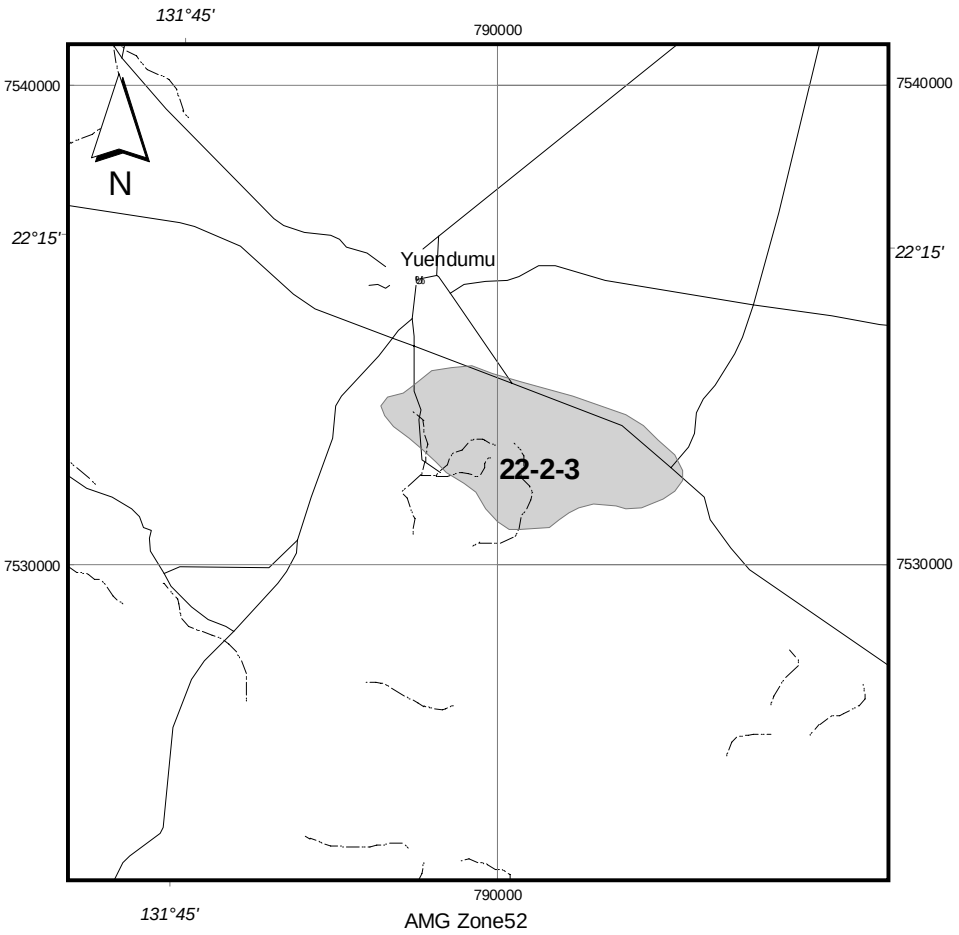
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (84 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 92 (16 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.



Site: 22-4-3 Upper Plenty River

Level of significance: bioregional

Location: 22º 58' S 134º 34' E; Approximately 100 km NNW of Alice Springs.

Area: 176 km^2 **Map sheets:** Alcoota SF 53-10 & Alice Springs SF 53-14

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Mount Riddock Station (36% of site) and Alcoota Station (63% of site)

Description: This site includes the headwaters of the Plenty River.

Notes: This site incorporates an outlier of heavy nutrient-rich clay soils derived from the weathering of the Mount Riddock Metamorphics.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Cratystylis A36062 Glen Helen* {3RC-}

Taxa of NT significance: *Astrebla lappacea* {3k}, *Cyperus gilesii* {3k}, *Gilesia biniflora* {3k [N]}, *Maireana schistocarpa* {3k}, *Pimelea microcephala subsp. microcephala* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Maireana astrotricha* {BRT (northern range limit) [N]}, *Neobassia proceriflora* {BRT (disjunct)}, *Sclerolaena calcarata* {BRT (disjunct)}, *Zygophyllum prismatothecum* {BRT (northern range limit) [N]}

Other taxa only known in BRT bioregion from this site: *Nicotiana occidentalis subsp. obliqua*

Type locations of the following were collected from the site: *Aristida biglandulosa* (1972)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 63 (31 %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.

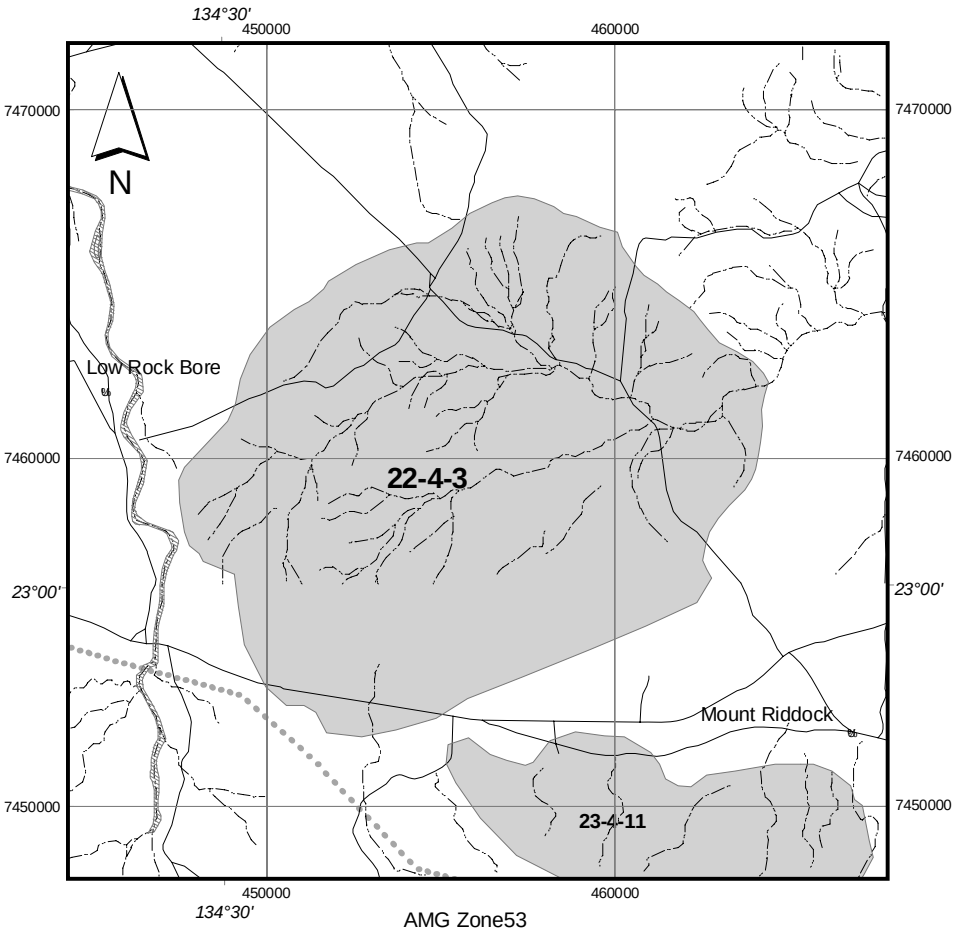
Map unit 65 (7 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 59 (4 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.

Map unit 68 (1 < %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 100 (51 %): *Eragrostis xerophila* (Neverfail) open-grassland with scattered trees and shrubs.

Map unit 71 (5 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.


134°30'
450000
460000
7470000
N
Low Rock Bore
7460000
22-4-3
23°00'
Mount Riddock
7450000
23-4-11
AMG Zone53

Site: 23-4-17 Everard Scrub

Level of significance: bioregional

Location: 23º 32' S 133º 43' E; Approximately 40 km north of Alice Springs.

Area: 597 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Bond Springs Station (66% of site), Hamilton Downs Station (15% of site) and Yambah Station (18% of site); Freehold - Mpweringe-Arnapipe (2) Aboriginal Land Trust (<1% of site)

Description: The site includes a large area of red-earth plain with extensive stands of 'groved' Mulga (*Acacia aneura*) shrubland. The site is bounded to the west by an arbitrary line where botanical values are unknown as a consequence of bias in the available data. The site is otherwise bounded by the extent of Mulga shrubland.

Notes: This site supports several plants which are uncommon, rare or poorly known in the study area.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Bulbostylis pyriformis* {3rC-}, *Calotis cuneifolia* {3k}, *Chenopodium pumilio* {3k}, *Digitaria hystrichoides* {3r}, *Einadia nutans subsp. nutans* {3rC-}, *Eragrostis lanicaulis* {3k only known in BRT from this site}, *Ophioglossum polyphyllum* {3rC-}, *Sclerolaena muricata var. muricata* {3r only known in BRT from this site}, *Senecio cunninghamii var. serratus* {3r only known in BRT from this site}, *Sida A71181 Bond Springs* {3kC-}

Taxa of Southern NT (study area) significance: none

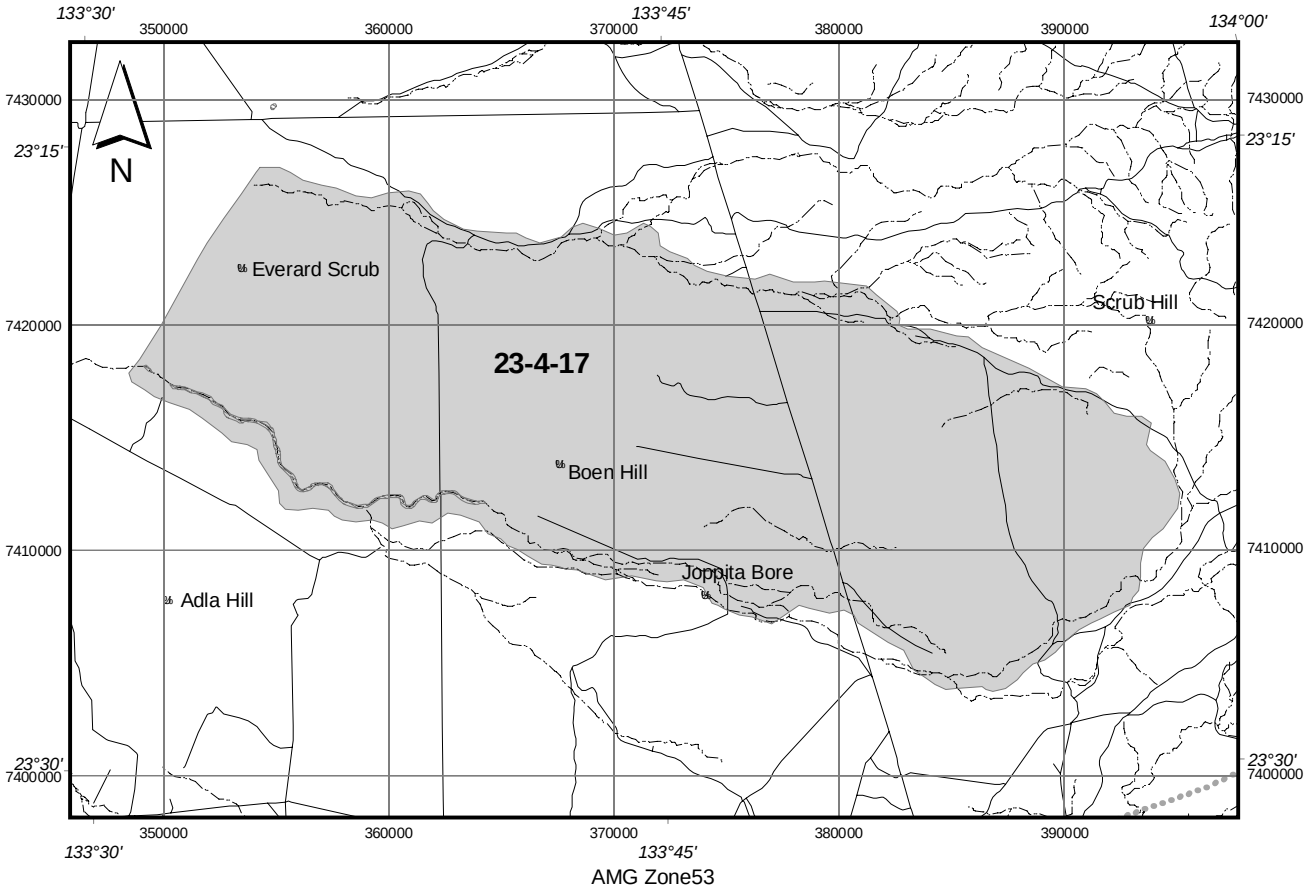
Taxa of bioregional significance: *Acacia salicina* {BRT (disjunct)}, *Sclerolaena calcarata* {BRT (disjunct)}, *Sclerolaena obliquicuspis* {BRT (northern limit) [N]}

Other taxa only known in BRT bioregion from this site: *Chenopodium cristatum*, *Hibiscus sturtii var. campylochlamys*, *Minuria cunninghamii* {[N]}, *Othonna gregorii*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (82 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 59 (4 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.



1.4 SITES OF UNDETERMINED SIGNIFICANCE IN THE BURT PLAIN BIOREGION

Site: 21-3-PL2 Nanga Range

Level of significance: undetermined

Location: 21º 48' S 132º 37' E; West of Ti-tree

Area: 271 km^2 **Map sheet:** Mount Peake SF 53-05

Bioregions: Tanami (TAN 61%) & Burt Plain (BRT 39%)

Tenure: Pastoral lease - Conniston Station (28% of site); Freehold - Pawu Aboriginal Land Trust (71% of site)

Description: This site includes the Nanga Range, a low sandstone and quartzite range on the southern edge of the Tanami Desert.

Notes: This site reputedly supports extensive mature stands of *Acacia aneura*. *Hakea grammatophylla* has been recorded from Mount Leichhardt.

Taxa of Australian significance: *Hakea grammatophylla* {3RC- [N] only known in BRT from this site}

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (47 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 27 (12 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 65 (3 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 43 (36 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Site: 22-3-PL1 Yunderbulu

Level of significance: undetermined

Location: 22º 1' S 132º 40' E; West of Ti-tree

Area: only mapped as point location **Map sheet:** Napperby SF 53-09

Bioregion: Burt Plain (BRT)

Tenure: Freehold - Ahakeye Aboriginal Land Trust

Description: Further survey is required to establish the significance of this area.

Notes: This range supports mature stands of 'fire sensitive' *Acacia* shrubland.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 22-3-PL2 Mount Gardiner

Level of significance: undetermined

Location: 22º 10' S 132º 39' E; West of Ti-tree

Area: only mapped as point location **Map sheet:** Napperby SF 53-09

Bioregion: Burt Plain (BRT)

Tenure: Freehold - Ahakeye Aboriginal Land Trust

Description: Further survey is required to establish the significance of this area.

Notes: This range supports mature stands of 'fire sensitive' *Acacia* shrubland.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 22-3-PL3 Warimbi Hills

Level of significance: undetermined

Location: 22º 22' S 133º 5' E; South west of Ti-tree.

Area: only mapped as point location **Map sheet:** Napperby SF 53-9

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Pine Hill Station.

Description: The Warimbi Hills area, in the headwaters of the Hanson River.

Notes: The site includes good stands of mature 'fire sensitive' *Acacia aneura* shrubland. Further survey is required to establish the botanical values of this area.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 22-4-PL1 Mount Beechmore Mulga

Level of significance: undetermined

Location: 22º 50' S 134º 17' E; ca. 15 km north west of Utopia.

Area: only mapped as point location **Map sheet:** Alcoota SF 53-10

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Alcoota Station

Description: This site is centred on Mount Bleechmore.

Notes: Interesting 'spinifex free' range with excellent cover of mature *Acacia aneura*.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 22-4-PL2 The Twins

Level of significance: undetermined

Location: 22º 51' S 134º 23' E; 5 km south west of Alcoota Homestead.

Area: only mapped as point location **Map sheet:** Alcoota SF 53-10

Bioregion: Burt Plain (BRT)

Tenure: Pastoral Lease - Alcoota Station.

Description: This site is centred on a small area of clay rich soils west of Waite Creek. The presence of rare, threatened or otherwise significant plant species at this location is anticipated.

Notes: Further detailed survey of this general area is warranted.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

1.5 WATERHOLES OF BOTANICAL SIGNIFICANCE IN THE BURT PLAIN BIOREGION

Dulcie Gorge Waterholes

Significance: bioregional

Included within Dulcie Ranges site of significance, site no. 22-5-2

Reference coordinates (decimal degrees of latitude and longitude): -22.5º , 135.6º

Significant plant taxa: *Imperata cylindrica* {sthn NT (disjunct & apparently rare)}, *Juncus aridicola* {3rC-}, *Psilotum nudum* {sthn NT (rare)}

Picton Springs

Significance: bioregional

Included within Dulcie Ranges site of significance, site no. 22-5-2

Reference coordinates (decimal degrees of latitude and longitude): -22.6º , 135.8º

Significant plant taxa: *Fimbristylis sieberana* {sthn NT (disjunct)}, *Samolus eremaeus* {3KC-}, *Schoenus falcatus* {sthn NT (disjunct & apparently rare)}

2. Central Ranges Bioregion

2.1 OVERVIEW OF THE NT PORTION OF THE CENTRAL RANGES BIOREGION

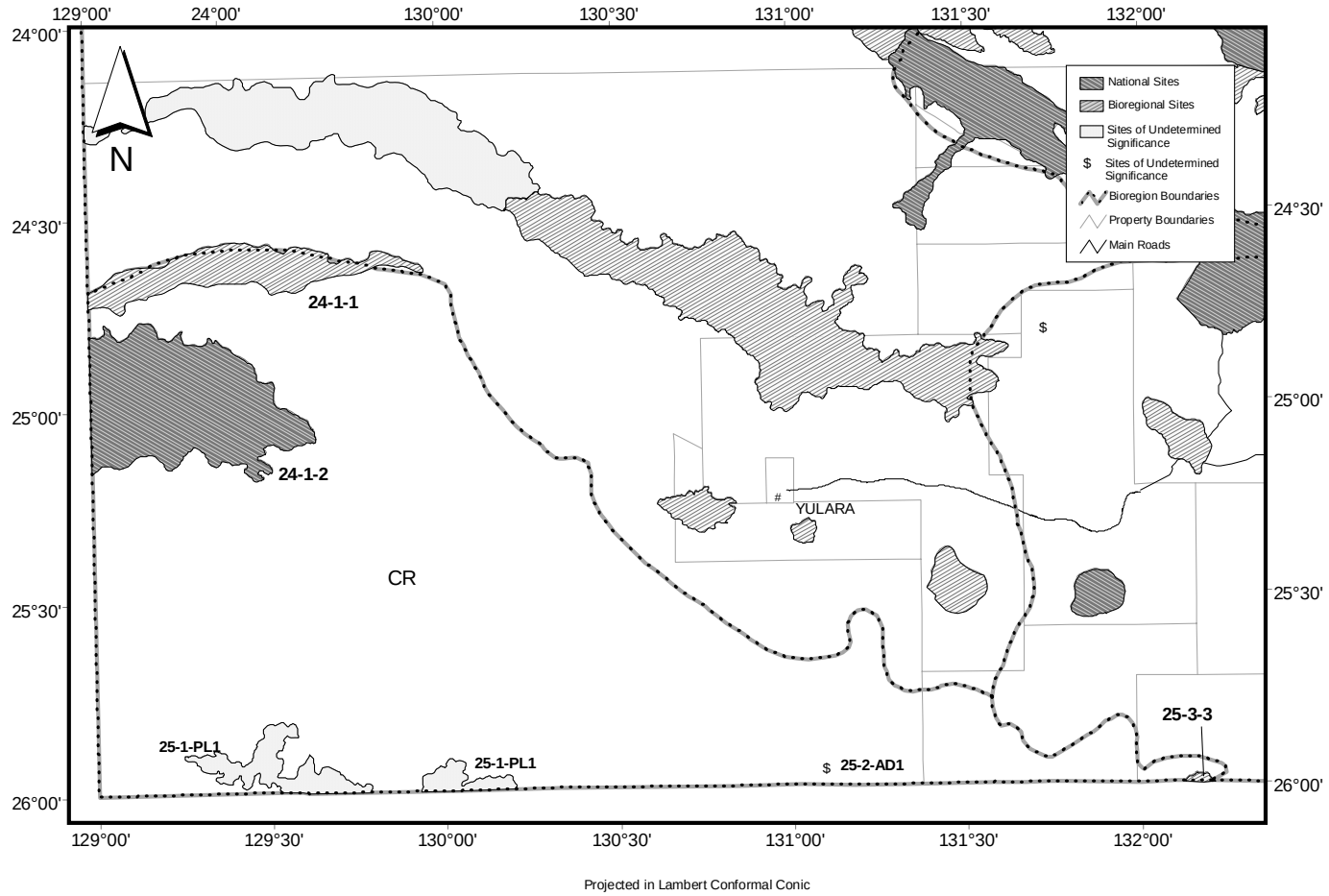
The Central Ranges bioregion comprises an area of 97,100km^2, of which 27% (26,000km^2) is located in the Northern Territory. The Central Ranges bioregion straddles the south western corner of the study area and includes adjoining areas of Western Australia and South Australia. The region is dominated by a series of rocky quartzite, gneiss and granite ranges, interspersed with red Quaternary sandplains and occasional dunefields. The sandplains support low open woodlands of either Desert Oak (*Allocasuarina decaisneana*) or Mulga (*Acacia aneura*) over hummock grasslands. Low open woodlands of Ironwood (*Acacia estrophiolata*) and Corkwoods (*Hakea* spp.) often fringe ranges. The ranges support low mixed shrublands of *Acacia* spp. *Eremophila* spp. and *Grevillea* spp. or White Callitris Pine (*Callitris glaucophylla*) woodlands over hummock (*Triodia spicata, T.melvillei* and *T. irritans*) and tussock grasslands.

The climate is arid temperate. Rainfall is sporadic and unreliable with falls occurring throughout the seasons.

A total of 85 indigenous vascular plant taxa are currently considered to be of conservation significance in the NT portion of the Central Ranges bioregion. These taxa are listed in volume 1, appendix 3. The botanical heritage of this area is poorly known to western science with very little documented biological survey activity in recent times. Further work is urgently required.

Index to Sites in the Central Ranges bioregion (NT portion)

Site No.	Site Name	Significance	Principal Bioregion	Page
24-1-1	Bloods Range	bioregional	Central Ranges	70
24-1-2	Petermann Ranges	national	Central Ranges	68
25-1-PL1	Northern Mann Ranges	undetermined	Central Ranges	73
25-2-AD1	Northern Musgrave Range	undetermined	Central Ranges	73
25-3-3	Mount Cuthbert	bioregional	Central Ranges	72



2.2 SITES OF NATIONAL SIGNIFICANCE IN THE NT PORTION OF THE CENTRAL RANGES BIOREGION

Site: 24-1-2 Petermann Ranges

Level of significance: national

Location: 24º 59' S 129º 16' E; South of Docker River in the far south west of the study area.

Area: 1905 km^2 **Map sheets:** Bloods Range SG 52-3 & Petermann Ranges SG 52-7

Bioregion: Central Ranges (CR)

Tenure: Freehold - Petermann Aboriginal Land Trust (100% of site)

Description: This large site comprises the greater Petermann Ranges (including all of the steep quartzite ranges and their outliers - the Dean, Mannanana, Ilyaralona, Curdie and Piultarana Ranges, as well as Mount Skene, Mount Fagen and Mount Hastie), much of the Pottoyu Hills (including Mount Bearteaux and the upper catchment of Giles Creek) and their associated alluvial fans and all intervening sandplain. The site is large and geologically diverse. The main landscape feature is the series of steep ridges of quartzite emerging from sandplain (Dean Quartzite). The ridges rise to 1000 m ASL at their highest point, which is up to 300 m above the surrounding plains. These ranges/ridges provide shaded aspects and harbour numerous precipitous gorges. The comparatively gentle topography which characterises the Pottoyu Hills, is composed of pre-Cambrian metamorphosed granite (Pottoyu Granite) and schist quartz feldspar. In the valleys and plains between the ranges there are extensive deposits of alluvium and minor occurrences of aeolian sand. These valleys support extensive tracts of *Acacia* spp. dominated shrubland.

Notes: The site incorporates the type localities of *Acacia macdonnellensis subsp. teretifolia*, *Dicrastylis petermannensis*, *Dampiera dentata*, *Isotropis centralis*, *Ozothamnus A25067 Petermann Ranges* and *Cyperus centralis*. *Goodenia rupestris* is endemic to this site.

Criteria satisfied: A1 a i), A1 b i), B1 b2 ii), A1 c i), A2 e i), A3 c i), C1 B i), B1 b2 i), B1 b1 i)

Taxa of Australian significance: *Acacia auricoma* {3K [SE]}, *Callistemon pauciflorus* {3RC- [SW] only known in CR from this site}, *Dicrastylis petermannensis* {3K (border) [NE] only known in NT from this site}, *Eucalyptus sparsa* {3K (border) [N]}, *Goodenia rupestris* {2R (border) endemic to/only known from this site}, *Leucopogon sonderensis* {3RC- [SW] only known in CR from this site}, *Melaleuca fulgens subsp. corrugata* {3R (border) [N] only known in NT from this site}, *Ozothamnus A25067 Petermann Ranges* {3K (border) [E]}, *Prostanthera centralis* {3K}, *Ptilotus royceanus* {3K (border) [E] only known in NT from this site}, *Sida A83883 Petermann Ranges* {2K (border) [E] only known in NT from this site}, *Stylidium inaequipetalum* {3RCa only known in CR from this site}

Taxa of NT significance: *Acacia macdonnelliensis subsp. teretifolia* {3k (border) [E] only known in NT from this site}, *Acacia pachyacra* {3k}, *Arthropodium strictum* {3rC- only known in CR from this site}, *Caesia chlorantha* {3r (border) only known in study area from this site}, *Cymbopogon dependens* {3kC-}, *Dampiera dentata* {3r (border) [E] only known in NT from this site}, *Enneapogon intermedius* {3k}, *Eremophila alternifolia* {3k only known in CR from this site}, *Eremophila clarkei* {3r (border)}, *Eremophila elderi* {3k}, *Eremophila hughesii subsp. hughesii* {3k (border) [E] only known in NT from this site}, *Eremophila serrulata* {3k (border)}, *Eriochlamys behrii* {3k only known in CR from this site}, *Goodenia brunnea* {3r (border)}, *Goodenia centralis* {3kC-}, *Hakea rhombales* {3k}, *Isolepis australiensis* {3kC- only known in CR from this site}, *Isotropis centralis* {3rC-}, *Lechenaultia lutescens* {3k}, *Maireana appressa* {3k only known in CR from this site}, *Newcastelia bracteosa* {3k}, *Oldenlandia argillacea* {3kC- only known in CR from this site}, *Poranthera microphylla* s.lat. {3rC- only known in CR from this site}, *Rhodanthe laevis* {3r only known in CR from this site}, *Rulingia rotundifolia* {3r only known in CR from this site}, *Sida calyxhymenia* {3r}, *Solanum lasiophyllum* {3k}, *Stenanthemum A81040 Docker River* {3k}, *Swainsona disjuncta* {3k only known in CR from this site}, *Tietkensia corrickiae* {3r}, *Trichodesma zeylanicum var. grandiflorum* {2r}, *Tricoryne elatior* s.lat. {3rC-}, *Triodia helmsii* {3r (border) only known in NT from this site}, *Xanthorrhoea thorntonii* {3rCa only known in CR from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Acacia chippendalei* {CR (southern range limit) [S]}, *Acacia hilliana* {CR (southern range limit) [S]}, *Acacia monticola* {CR (southern range limit) [S]}, *Baeckea polystemonea* {CR (disjunct) only known in CR from this site}, *Calandrinia reticulata* {CR (apparently rare) only known in CR from this site}, *Grevillea wickhamii subsp. aprica* {CR (southern range limit) [S] only known in CR from this site}, *Ptychosema anomalum* {CR (western range limit) [W]}, *Sclerolaena urceolata* {CR (western range limit) [W] only known in CR from this site}

Other taxa only known in CR bioregion (NT portion) from this site: *Acacia adoxa var. adoxa*, *Acacia jennerae*, *Acacia olgana*, *Acacia tenuissima*, *Acacia tetragonophylla*, *Amyema hilliana*, *Aristida inaequiglumis*, *Atriplex elachophylla*, *Atriplex limbata*, *Austrostipa nitida*, *Calandrinia balonensis*, *Calandrinia ptychosperma*, *Calandrinia pumila*, *Callitris glaucophylla*, *Calotis plumulifera*, *Calytrix carinata*, *Cassytha capillaris*, *Centaurium spicatum*, *Chrysocephalum pterochaetum*, *Corymbia eremaea subsp. eremaea*, *Cullen cinereum*, *Cullen pallidum*, *Cyperus blakeanus*, *Cyperus cunninghamii*, *Dysphania kalpari*, *Dysphania rhadinostachya subsp. rhadinostachya*, *Enchylaena tomentosa*, *Enteropogon acicularis*, *Eragrostis dielsii*, *Eremophea spinosa*, *Eremophila gilesii var. gilesii*, *Eremophila glabra subsp. glabra*, *Eremophila latrobei var. glabra*, *Eremophila longifolia*, *Eremophila willsii subsp. willsii*, *Erodium cygnorum subsp. cygnorum*, *Eucalyptus orbifolia subsp. orbifolia*, *Euchiton sphaericus*, *Eulalia aurea*, *Euphorbia biconvexa*, *Evolvulus alsinoides var. villosicalyx*, *Frankenia cordata*, *Gastrolobium brevipes*, *Goodenia armitiana*, *Goodenia modesta*, *Grevillea juncifolia subsp. juncifolia*, *Gyrostemon ramulosus*, *Haloragis aspera*, *Haloragis odontocarpa*, *Hibiscus burtonii*

Type locations of the following were collected from the site: *Cyperus centralis* (1973), *Dampiera dentata* (1973), *Dicrastylis petermannensis* (1969), *Goodenia rupestris* (1966), *Isotropis centralis* (1973), *Ozothamnus A25067 Petermann Ranges* (1969), *Prostanthera centralis* (1973)

Botanically Significant Waterholes at the site: Wankarily Waterhole

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 78 (16 %): *Triodia spicata* (Spike-flowered Spinifex) hummock grassland with *Grevillea wickhamii* (Holly *Grevillea*), *Acacia* sparse-shrubland overstorey.

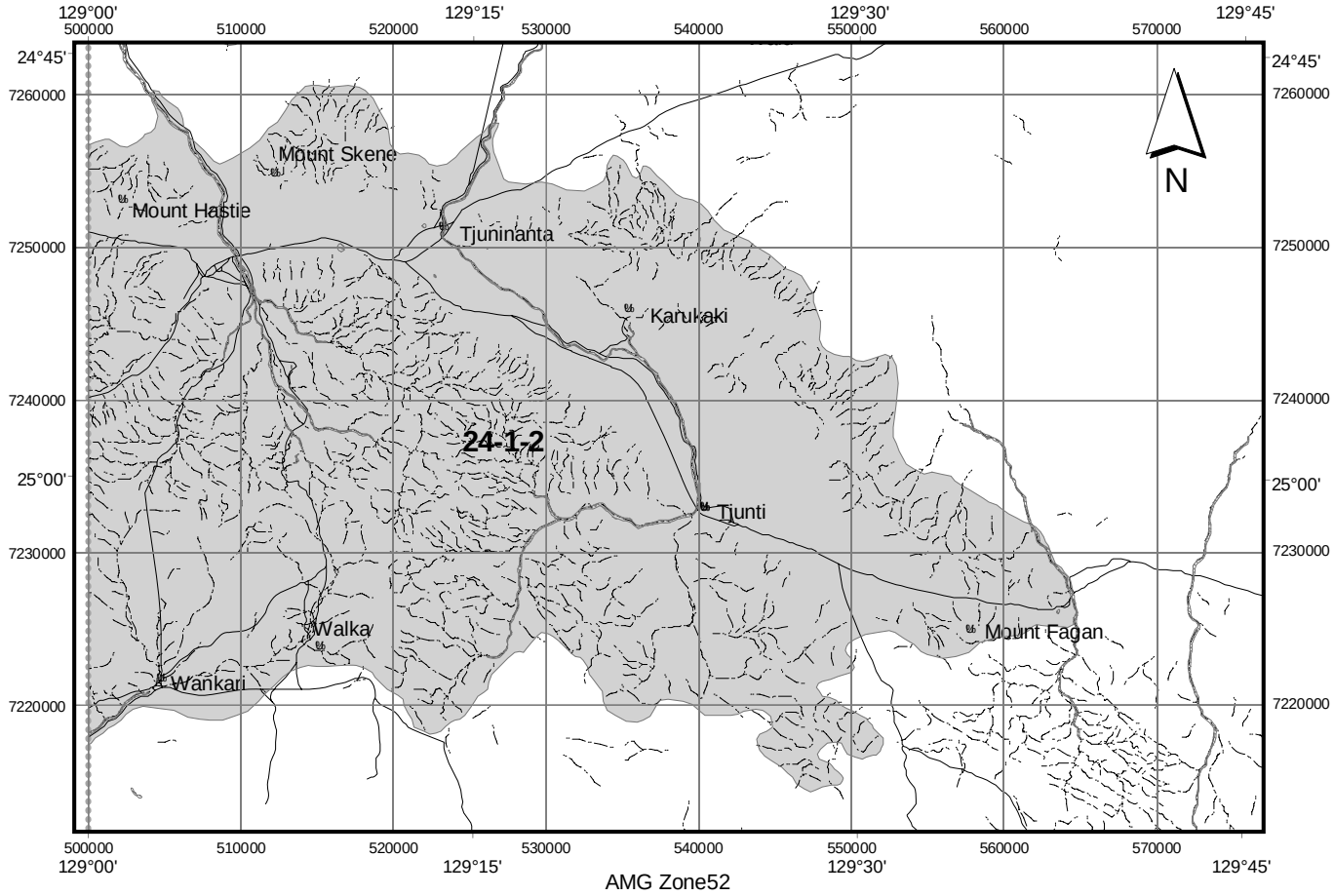
Map unit 73 (29 %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.

Map unit 79 (4 %): *Triodia melvillei* (Soft Spinifex) hummock grassland with *Acacia aneura* (Mulga), *Acacia kempeana* (Witchetty Bush) tall open-shrubland overstorey.

Map unit 84 (10 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee) tall sparse-shrubland overstorey.

Map unit 93 (24 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 65 (14 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.



2.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE NT PORTION OF THE CENTRAL RANGES BIOREGION

Site: 24-1-1 Bloods Range

Level of significance: bioregional

Location: 24º 38' S 129º 25' E; 20 km north of Docker River in the far south west of the study area.

Area: 777 km^2 **Map sheet:** Bloods Range SG 52-3

Bioregions: Central Ranges (CR 81.7%) & Great Sandy Desert (GSD 18.3%)

Tenure: Freehold - Petermann Aboriginal Land Trust (100% of site)

Description: The site includes the broken system of ranges including Bloods Range, Mount Harris, Rowley Range and Pinyinna Range and their associated colluvial slopes and alluvial fans. The site incorporates minor occurrences of the intervening sandplain and dunefield. The ranges are composed of resistant quartzite and silicified colluvium. The site also includes a small section of the floodplain of the Hull River, which terminates in the sandplains to the north of the Bloods Range.

Notes: A rarely visited site. Further basic collecting of plants is required in this important area. The site includes the type location for *Acacia auricoma*.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Acacia auricoma* {3K}, *Daviesia eremaea* {3K}, *Eremophila hughesii subsp. A28811 Bloods Range* {3K [NW] only known in CR from this site}, *Logania centralis* {3KC- only known in CR from this site}, *Ozothamnus A25067 Petermann Ranges* {3K (border)}, *Prostanthera centralis* {3K [N]}

Taxa of NT significance: *Austrostipa trichophylla* {3rC- only known in CR from this site}, *Cymbopogon dependens* {3kC-}, *Dampiera roycei* {3k}, *Goodenia centralis* {3kC-}, *Hakea rhombales* {3k only known in GSD from this site}, *Heliotropium epacrideum* {3k only known in CR from this site}, *Isotropis centralis* {3rC-}, *Lechenaultia lutescens* {3k}, *Pityrodia loxocarpa* {3r only known in CR from this site}, *Sida calyxhymenia* {3r}, *Stenanthemum A81040 Docker River* {3k}, *Tricoryne elatior* s.lat. {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Gompholobium polyzygum* {GSD (disjunct) only known in GSD from this site}, *Triodia irritans* {CR (northern range limit) [N]}

Other taxa only known in CR bioregion (NT portion) from this site: *Bulbostylis turbinata*, *Canthium latifolium*, *Corchorus sidoides*, *Euphorbia boophthona*, *Euphorbia wheeleri*, *Goodenia grandiflora*, *Gossypium australe*, *Hannafordia bissellii*, *Heliotropium pachyphyllum*, *Hibiscus sturtii var. truncatus*, *Paspalidium reflexum*, *Prostanthera sericea*, *Sida A87985 Western sand dunes*, *Sida virgata*, *Tribulus hirsutus*, *Triodia longiceps*

Type locations of the following were collected from the site: *Acacia auricoma*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 93 (43 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

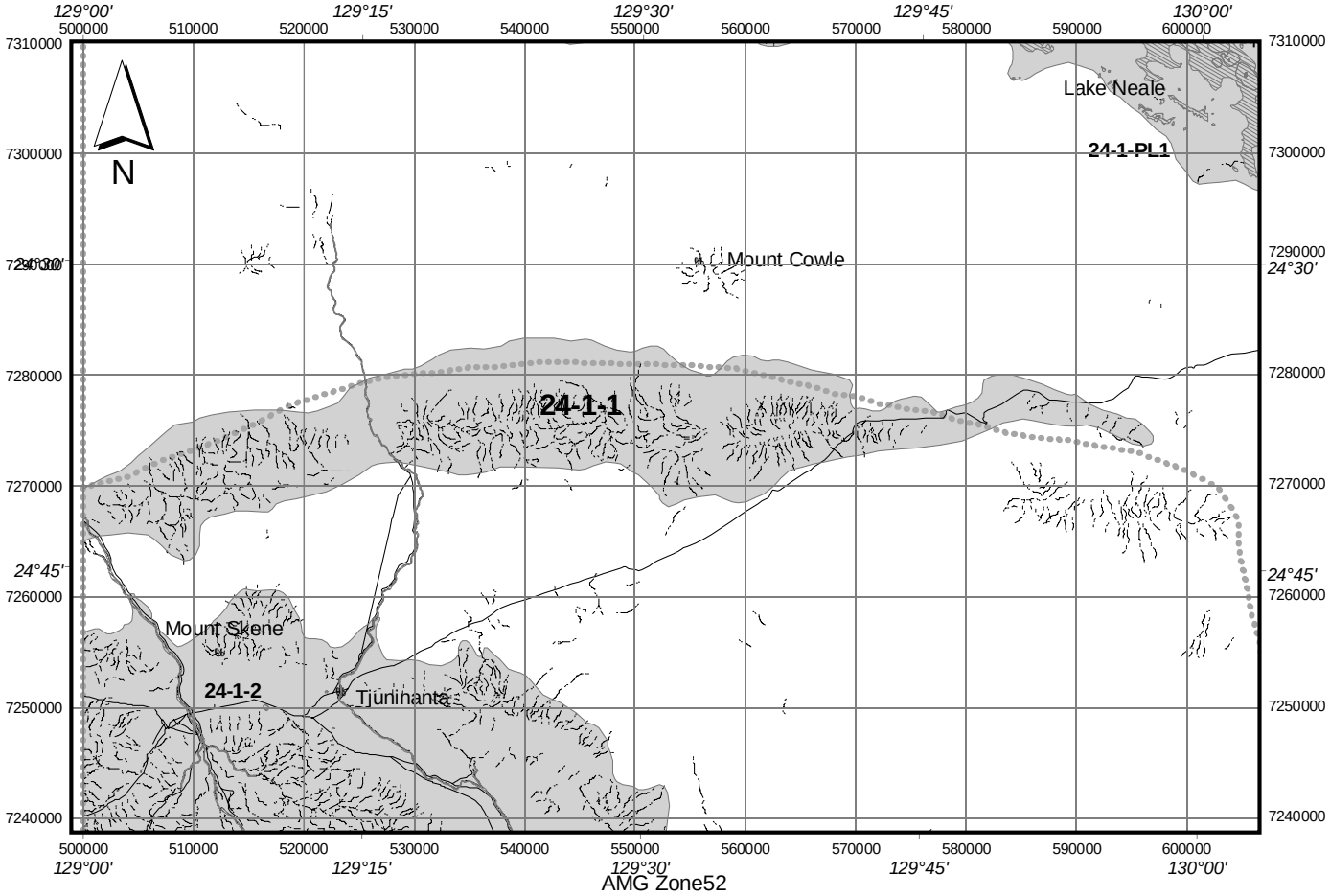
Map unit 73 (1 < %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.

Map unit 84 (1 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee) tall sparse-shrubland overstorey.

Map unit 65 (19 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 78 (21 %): *Triodia spicata* (Spike-flowered Spinifex) hummock grassland with *Grevillea wickhamii* (Holly *Grevillea*), *Acacia* sparse-shrubland overstorey.

Map unit 79 (14 %): *Triodia melvillei* (Soft Spinifex) hummock grassland with *Acacia aneura* (Mulga), *Acacia kempeana* (Witchetty Bush) tall open-shrubland overstorey.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24°30'
24°45'
N
Lake Neale
24-1-PL1
Mount Cowle
24-1-1
Mount Skene
24-1-2
Tjunihanta
AMG Zone52

Site: 25-3-3 Mount Cuthbert

Level of significance: bioregional

Location: 25º 59' S 132º 10' E; Northern edge of the Musgrave Ranges abutting the Northern Territory and South Australia border.

Area: 15 km^2 **Map sheet:** Kulgera SG 53-5

Bioregions: Central Ranges (CR 99.5%) & Finke (FIN 0.5%)

Tenure: Pastoral Lease - Victory Downs Station (100% of site)

Description: This site comprises the northern extremity of the Musgrave Range. The geology is predominantly metamorphic including schist and quartzite, mylonite, and granulite.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Eremophila serrulata* {3k (border)}, *Goodenia brunnea* {3r (border)}, *Grevillea nematophylla* {3r (border) only known in CR from this site}, *Isotropis centralis* {3rC-}

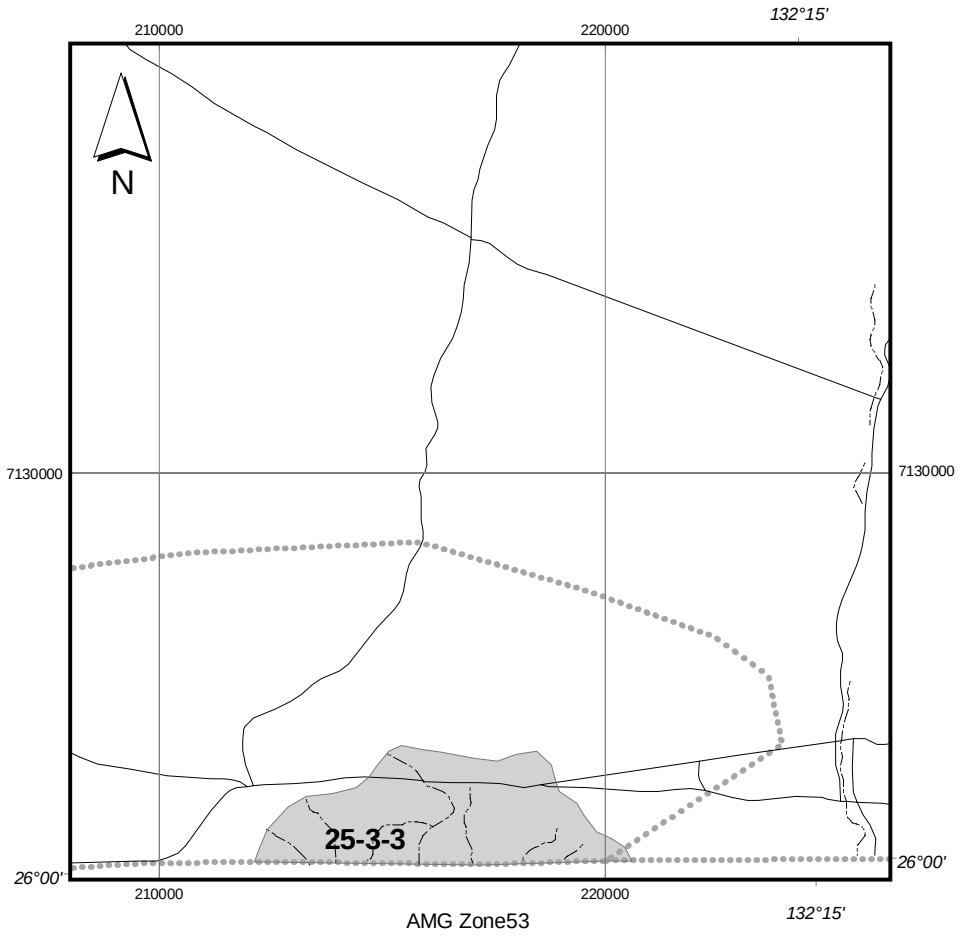
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in CR bioregion (NT portion) from this site: *Convolvulus remotus*, *Minuria leptophylla*, *Ptilotus exaltatus var. exaltatus*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 73 (100 %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.



2.4 SITES OF UNDETERMINED SIGNIFICANCE IN THE NT PORTION OF THE CENTRAL RANGES BIOREGION

Site: 25-1-PL1 Northern Mann Ranges

Level of significance: undetermined

Location: 25º 57' S 129º 47' E; This site is in the far south west of the study area.

Area: 514 km^2 **Map sheet:** Petermann Ranges SG 52-07

Bioregion: Central Ranges (CR)

Tenure: Freehold - Petermann Aboriginal Land Trust (100% of site)

Description: The site includes the northern extremity of the Mann Ranges, which occur more widely and extensively in South Australia. The site is mapped as two discrete polygons.

Notes: A poorly surveyed area. Further field work is required to quantify the anticipated botanical values.

Taxa of Australian significance: none

Taxa of NT significance: *Amyema miraculosa subsp. boormanii* {3k only known in CR from this site}, *Einadia nutans subsp. nutans* {3rC- only known in CR from this site}, *Enneapogon intermedius* {3k}, *Eremophila elderi* {3k}, *Eremophila serrulata* {3k (border)}, *Hakea minyma* {3k}, *Trichodesma zeylanicum var. grandiflorum* {2r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in CR bioregion (NT portion) from this site: *Bothriochloa ewartiana*, *Paspalidium constrictum*, *Ptilotus nobilis var. nobilis*, *Senna artemisioides subsp. filifolia*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 90 (74 %): *Triodia irritans* (Porcupine Grass) open-hummock grassland.

Map unit 73 (5 %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.

Map unit 65 (5 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 94 (15 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) low open-woodland or *Acacia* tall sparse-shrubland overstorey.

Site: 25-2-AD1 Northern Musgrave Range

Level of significance: undetermined

Location: 25º 57' S 131º 6' E; Approximately 70 km due south of Uluru.

Area: only mapped as point location **Map sheet:** Ayres Rock SG 52-08

Bioregion: Central Ranges (CR)

Tenure: Freehold - Peterson Aboriginal land Trust

Description: This nominal site is comprised of extensive outcropping of granite.

Notes: This area requires further detailed survey. A collection of *Melaleuca fulgens subsp. corrugata* was made from these ranges in South Australia - approximately 10 km south of the Northern Territory border.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

2.5 WATERHOLES OF BOTANICAL SIGNIFICANCE IN THE NT PORTION OF THE CENTRAL RANGES BIOREGION

Wankarily Waterhole

Significance: bioregional

Included within Petermann Ranges site of significance, site no. 24-1-2

Reference coordinates (decimal degrees of latitude and longitude): -25.1º , 129.2º

Significant plant taxa: *Arthropodium strictum* {3rC-}, *Isolepis australiensis* {3kC-}

3. Channel Country Bioregion

3.1 OVERVIEW OF THE NT PORTION OF THE CHANNEL COUNTRY BIOREGION

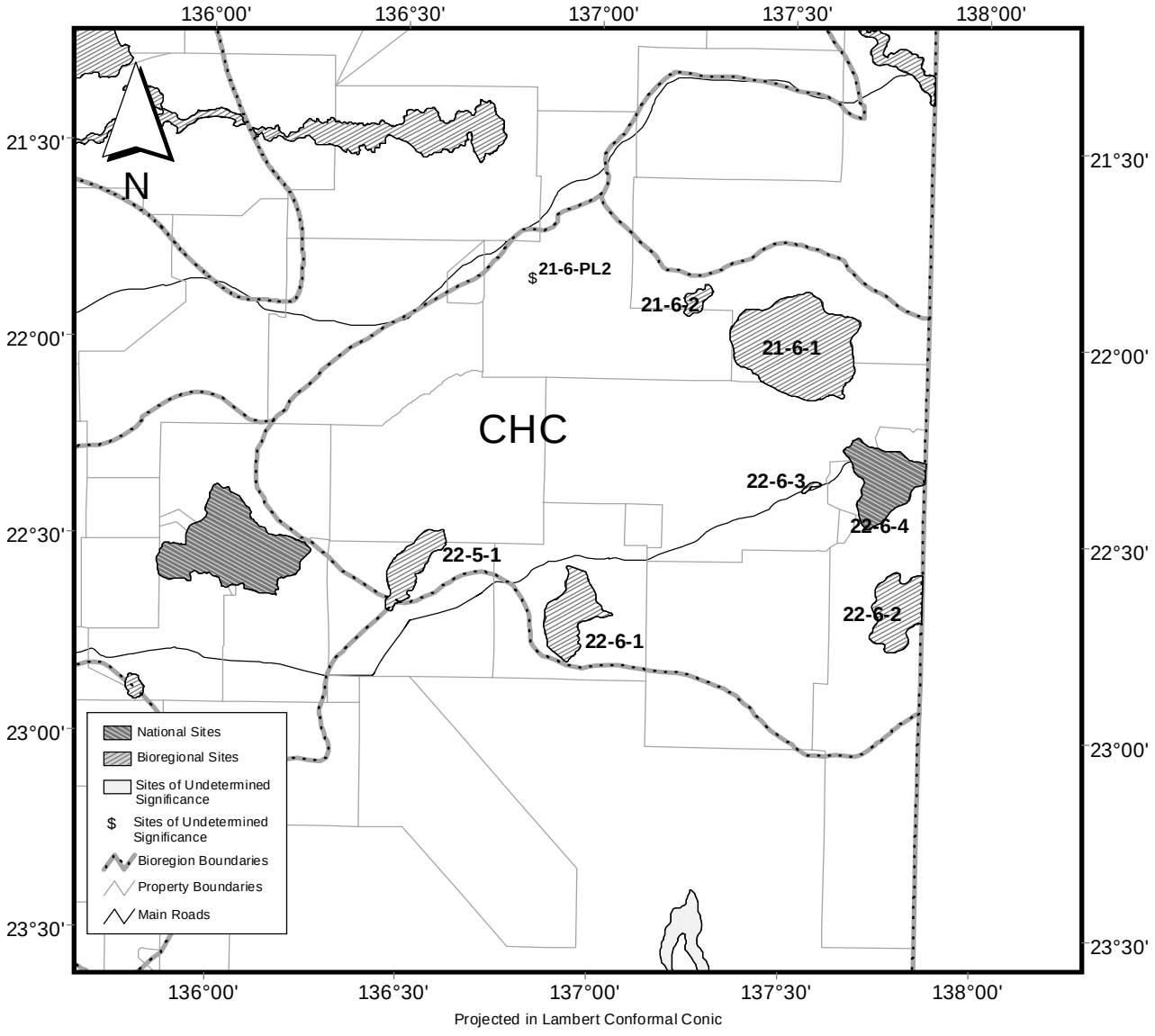
The Channel Country bioregion comprises an area of 314,100km^2, 10% (31,400km^2) of which is located in the Northern Territory. The remainder of this bioregion occurs in three states, New South Wales, South Australia and Queensland. The NT portion of the bioregion presents as a dissected undulating plain and is broadly characterised by extensive woodlands of Gidyea (*Acacia georginae*). The landscape is largely the result of the denudation of cretaceous marine sediments which has produced fine textured soils in the low lying areas and coarse, gravelly (often calcareous) soils higher in the landscape. Topographic relief is generally low, with duricrusted jump-ups and mesas – remnant tertiary land surfaces - the dominant features. The exceptions being low hills and ranges composed of Proterozoic and Ordovician sediments such as the Jervois and Toko Ranges.

The rainfall is highly variable but mostly summer dominant. Frosts are rare.

A total of 73 indigenous vascular plant taxa are currently considered to be of conservation significance. These taxa are listed in volume 1, appendix 3. There is a paucity of detailed information on the flora of this region.

Index to Sites in the Channel Country bioregion (NT portion)

Site No.	Site Name	Significance	Principal Bioregion	Page
21-6-1	Manners Creek Gidgee	bioregional	Channel Country	80
21-6-2	Lake Nash - No. One Dam	bioregional	Channel Country	82
21-6-PL2	Sandover River Floodout	undetermined	Channel Country	91
22-5-1	Jervois Range	bioregional	Channel Country	84
22-6-1	Tarlton Ranges	bioregional	Channel Country	86
22-6-2	Toko Range	bioregional	Channel Country	88
22-6-3	Querinya	bioregional	Channel Country	90
22-6-4	Illungnara	national	Channel Country	78



3.2 SITES OF NATIONAL SIGNIFICANCE IN THE NT PORTION OF THE CHANNEL COUNTRY BIOREGION

Site: 22-6-4 Illungnara

Level of significance: national

Location: 22º 19' S 137º 51' E; The site abuts the Queensland and Northern Territory border and is bisected by the Plenty Highway.

Area: 523 km^2 **Map sheet:** Tobermorey SF 53-12

Bioregion: Channel Country (CHC)

Tenure: Pastoral Lease - Tobermorey Station (86% of site) and Manners Creek Station (13% of site)

Description: This site is focused on the *Acacia georginae* (Gidyea) woodlands and *Astrebla* grasslands associated with the confluence of a number of ephemeral creeks, including Manners, Imborjudu, Gumhole and Noonda Creeks. The site includes heavy soil plains ephemeral waterholes and seasonal swamps with bluebush and coolabah.

Notes: This site is notable for the occurrence of the nationally vulnerable *Mukia* A90788 Tobermorey Station.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Mukia A90788 Tobermorey Station* {3V}

Taxa of NT significance: *Atriplex muelleri* {3r only known in CHC from this site}, *Cyperus gilesii* {3k only known in CHC from this site}, *Eclipta alatocarpa* {3k only known in CHC from this site}, *Eragrostis lanicaulis* {3k}, *Iotasperma sessilifolia* {3k}, *Mentha australis* {3r (border) only known in CHC from this site}, *Mimulus prostratus* {3k only known in CHC from this site}, *Plantago cunninghamii* {3k only known in CHC from this site}, *Rhodanthe gossypina* {3k}, *Senna phyllodinea* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Ipomoea coptica* {CHC (apparently rare) only known in CHC from this site}, *Melochia pyramidata* {CHC (apparently rare) only known in CHC from this site}

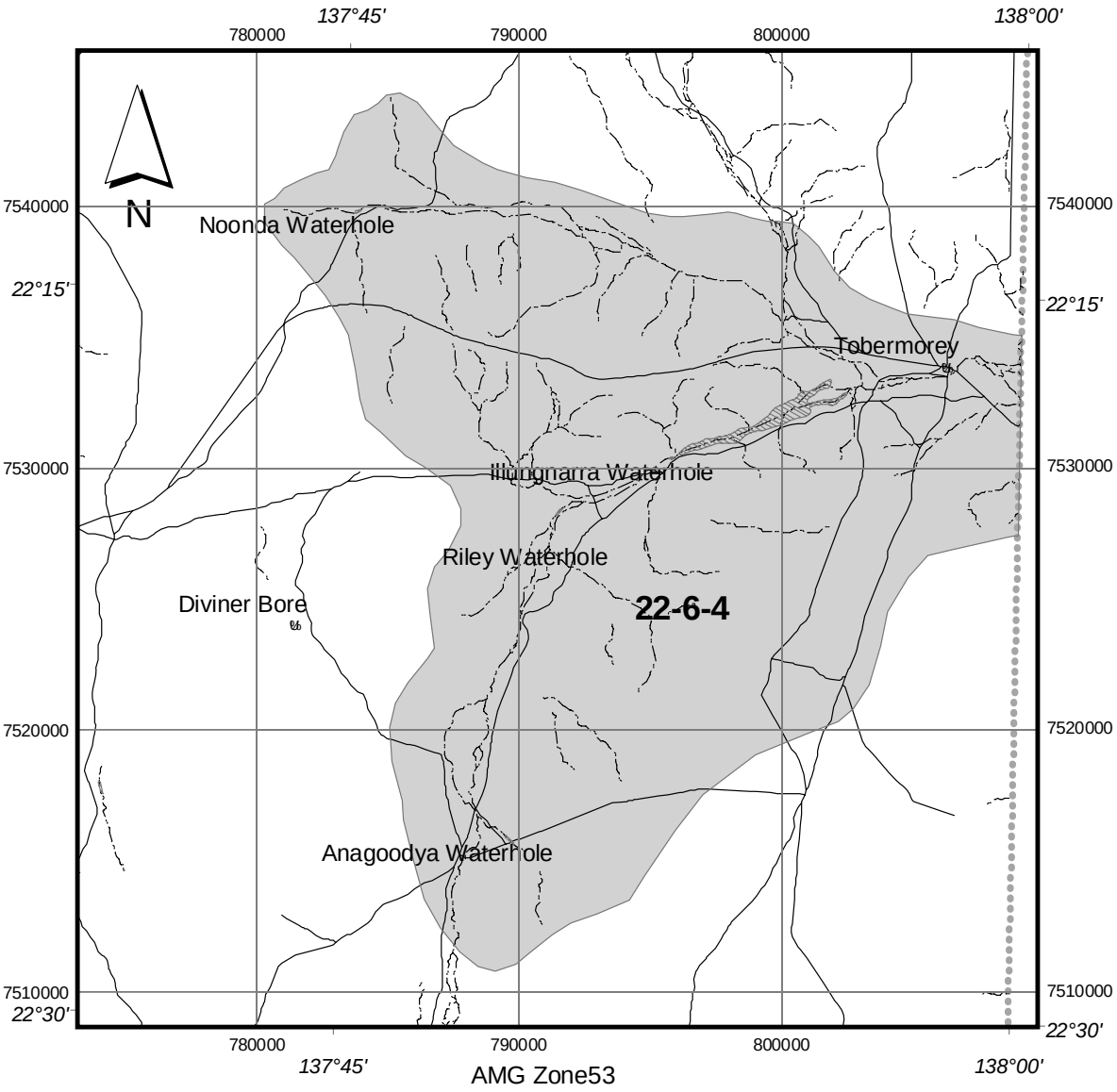
Other taxa only known in CHC bioregion (NT portion) from this site: *Aristida anthoxanthoides, Basilicum polystachyon, Boerhavia schomburgkiana, Cyperus bifax, Cyperus difformis, Eragrostis laniflora, Eriochloa australiensis, Mimulus gracilis, Mollugo cerviana, Paspalidium jubiflorum, Polycarpaea arida, Pseudoraphis spinescens, Sporobolus australasicus, Uranthoecium truncatum*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 62 (96 %): *Acacia georginae* (Gidyea) low open-woodland with *Astrebla pectinata* (Bull Mitchell Grass) open-grassland understorey.

Map unit 71 (1 < %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 96 (3 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.


137°45'
780000
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Noonda Waterhole
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22°15'
Tobermorey
7530000
Illungnarra Waterhole
Riley Waterhole
Diviner Bore
22-6-4
7520000
Anagoodya Waterhole
7510000
22°30'
AMG Zone53

3.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE NT PORTION OF THE CHANNEL COUNTRY BIOREGION

Site: 21-6-1 Manners Creek Gidgee

Level of significance: bioregional

Location: 21º 53' S 137º 33' E; North west of Tobermorey Homestead.

Area: 1275 km^2 **Map sheets:** Sandover River SF 53-8 & Tobermorey SF 53-12

Bioregion: Channel Country (CHC)

Tenure: Pastoral Lease - Manners Creek Station (14% of site), Lake Nash Station (85% of site) and Argadargada Station (<1% of site)

Description: Gidyea, *Acacia georginae* (Gidyea) woodlands occur in the Manners and Imbordjudu Creek Catchments. Site includes clay plains and dolomite, limestone and sandstone rises.

Notes: Relatively undisturbed and weed-free woodlands.

Criteria satisfied: A1 a ii), B1 b1 ii)

Taxa of Australian significance: *Corchorus elderi* {3K}

Taxa of NT significance: *Cleome oxalidea* {3r only known in CHC from this site}, *Crotalaria dissitiflora var. dissitiflora* {3k [N]}, *Eragrostis lanicaulis* {3k}, *Eremophila cordatisepala* {3r}, *Sida D70364 Huckitta* {3k}

Taxa of Southern NT (study area) significance: none

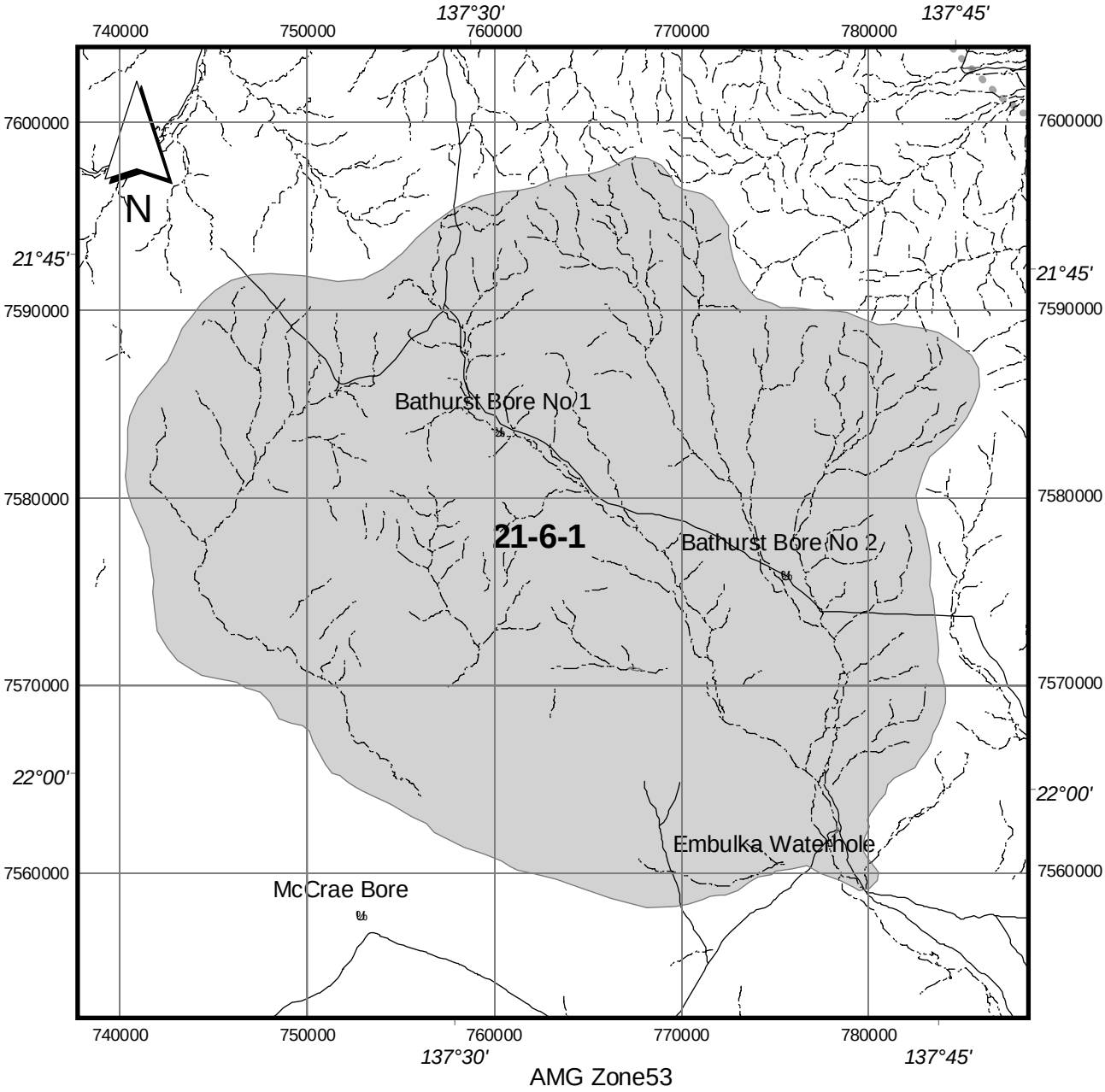
Taxa of bioregional significance: *Eucalyptus victrix* {CHC (eastern range limit) [E] only known in CHC from this site}, *Fimbristylis ammobia* {CHC (eastern range limit) [E]}, *Fimbristylis littoralis var. littoralis* {CHC (apparently rare) only known in CHC from this site}, *Goodenia gibbosa* {CHC (eastern range limit) [E] only known in CHC from this site}, *Sida A87842 Wakaya Desert* {CHC (eastern range limit) [E] only known in CHC from this site}

Other taxa only known in CHC bioregion (NT portion) from this site: *Acacia tetragonophylla, Bergia pedicellaris, Boerhavia repleta, Bulbostylis barbata, Capparis loranthifolia var. loranthifolia, Eremophila latrobei, Eriachne pulchella subsp. pulchella, Euphorbia drummondii entity C, Glycine falcata, Muelleranthus stipularis, Oldenlandia mitrasacmoides subsp. mitrasacmoides, Pluchea dunlopii, Sarcostemma viminale subsp. australe, Scaevola parvifolia subsp. parvifolia, Sida cunninghamii, Spermacoce scabra, Thyridolepis mitchelliana* {[N]}, *Tribulopis angustifolia, Trichodesma zeylanicum var. zeylanicum*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 96 (4 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 62 (95 %): *Acacia georginae* (Gidyea) low open-woodland with *Astrebla pectinata* (Bull Mitchell Grass) open-grassland understorey.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N
Bathurst Bore No 1
21-6-1
Bathurst Bore No 2
Embulka Waterhole
McCrae Bore
AMG Zone53

Site: 21-6-2 Lake Nash - No. One Dam

Level of significance: bioregional

Location: 21º 44' S 137º 13' E; ca. 60 km east of Argadargada Station homestead in the upper catchment of the Woodroffe River.

Area: 62 km^2 **Map sheet:** Sandover River SF 53-8

Bioregion: Channel Country (CHC)

Tenure: Pastoral Lease - Lake Nash Station (85% of site) and Argadargada Station (14% of site)

Description: Upper reaches of Gordon Creek. A small site with a concentration of rare daisy records.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Ixiochlamys integerrima* {3K only known in CHC from this site}

Taxa of NT significance: *Iotasperma sessilifolia* {3k}, *Rhodanthe gossypina* {3k}

Taxa of Southern NT (study area) significance: none

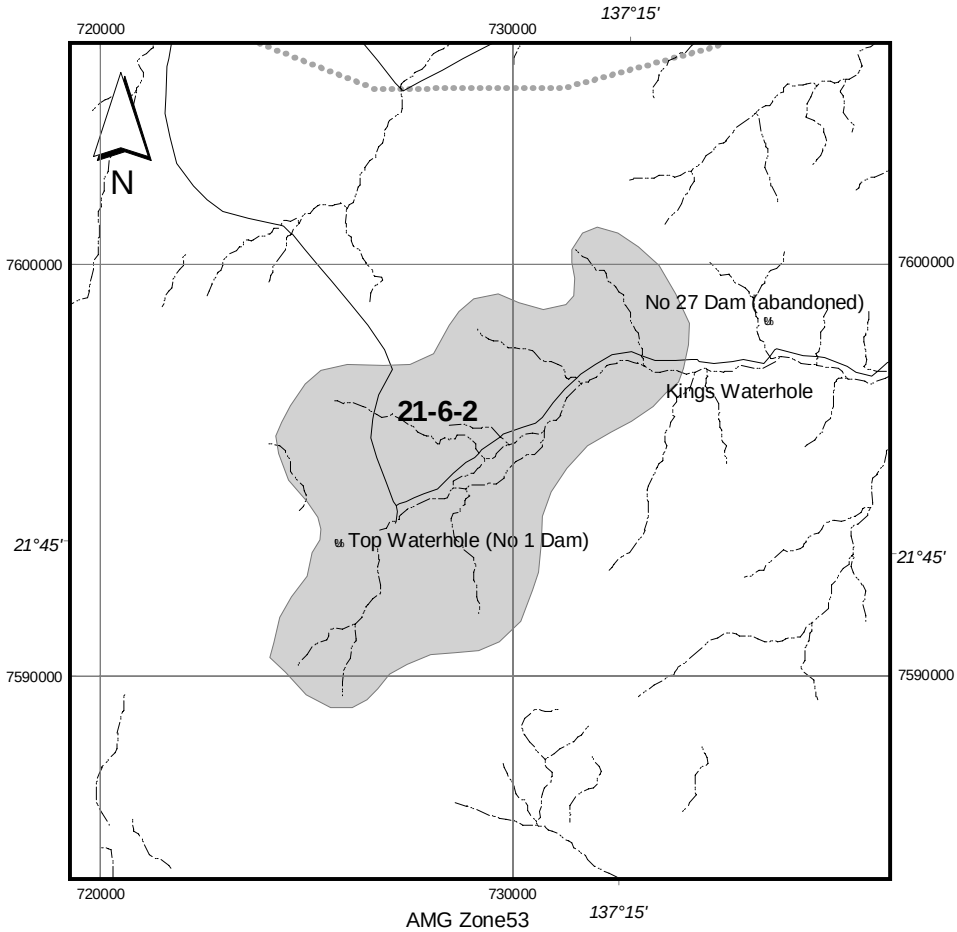
Taxa of bioregional significance: *Chenopodium cristatum* {CHC (northern range limit) [N]}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 62 (31 %): *Acacia georginae* (Gidyea) low open-woodland with *Astrebla pectinata* (Bull Mitchell Grass) open-grassland understorey.

Map unit 96 (64 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 70 (4 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.


137°15'
720000
730000
N
7600000
No 27 Dam (abandoned)
Kings Waterhole
21-6-2
Top Waterhole (No 1 Dam)
21°45'
7590000
720000
730000
137°15'
AMG Zone53

Site: 22-5-1 Jervois Range

Level of significance: bioregional

Location: 22º 38' S 136º 16' E; Eastern outlier of the Dulcie Ranges, 20km north of Jervois Station Homestead.

Area: 274 km^2 **Map sheet:** Huckitta SF 53-11

Bioregions: Channel Country (CHC 95.3%) & Burt Plain (BRT 3.4%) & Simpson-Strzelecki Dunefields (SSD 1.3%)

Tenure: Pastoral Lease - Jervois Station (85% of site) and Lucy Creek Station (14% of site)

Description: This site includes the Jervois Range, an isolated range to 500 m in height, comprised of siltstones, sandstones and quartz arenite.

Notes: A rarely visited area.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Bolboschoenus caldwellii* {3vC- only known in CHC from this site}, *Eremophila cordatisepala* {3r [W]}, *Fimbristylis velata* {3k only known in CHC from this site}, *Sauropus rigens* {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Abutilon cryptopetalum* {CHC (apparently rare) only known in CHC from this site}, *Chrysopogon pallidus* {CHC (disjunct) only known in CHC from this site}, *Pandorea doratoxylon* {CHC (eastern range limit) [E] only known in CHC from this site}

Other taxa only known in CHC bioregion (NT portion) from this site: *Acacia monticola*, *Acacia spondylophylla*, *Cheilanthes brownii*, *Cyperus cunninghamii*, *Eragrostis cumingii*, *Eremophila duttonii*, *Eucalyptus intertexta*, *Eucalyptus normantonensis*, *Ficus brachypoda*, *Glossostigma diandrum*, *Grevillea wickhamii subsp. aprica*, *Lysiana subfalcata*, *Olearia stuartii*, *Schoenoplectus litoralis*, *Sida ammophila*, *Tribulus macrocarpus*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 74 (60 %): *Acacia stowardii* (Bastard Mulga), *Senna*, *Eremophila* (Fuchsia) sparse-shrubland.

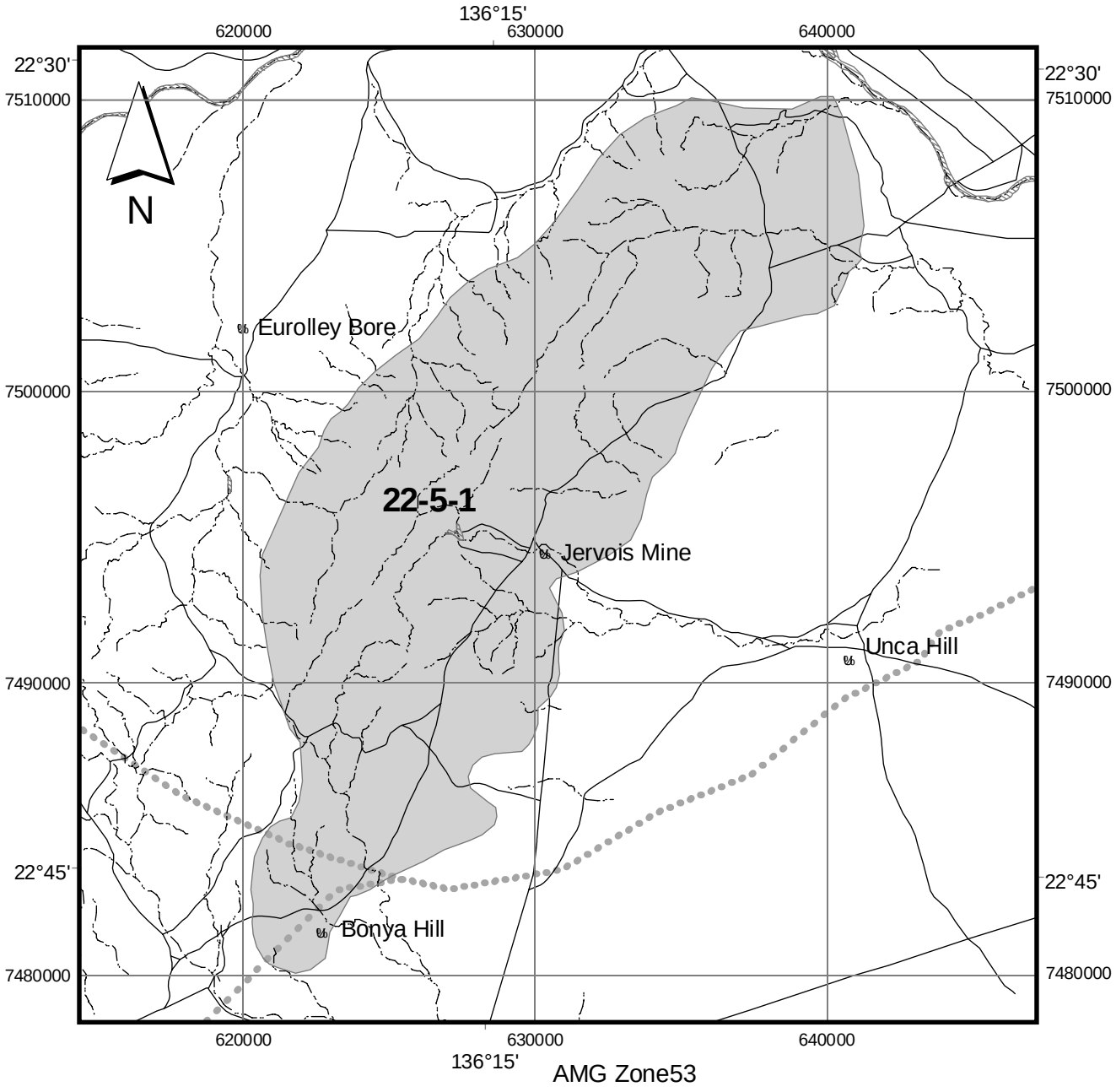
Map unit 63 (1 < %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.

Map unit 59 (2 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.

Map unit 95 (2 %): Mixed species sparse-grassland or herbland.

Map unit 84 (4 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee) tall sparse-shrubland overstorey.

Map unit 71 (29 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.


136°15'
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N
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7500000
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Jervois Mine
Unca Hill
7490000
22°45'
Bonya Hill
7480000
AMG Zone53

Site: 22-6-1 Tarlton Ranges

Level of significance: bioregional

Location: 22º 47' S 136º 48' E; South of Tarlton Downs Homestead.

Area: 398 km^2 **Map sheet:** Tobermorey SF 53-12

Bioregion: Channel Country (CHC)

Tenure: Pastoral Lease - Tarlton Downs Station (100% of site)

Description: The site incorporates the southern Tarlton Range, and associated colluvial slopes and run-on areas. The sparse shrublands of the ranges are dominated by *Acacia stowardii*. The plains surrounding the range support *Acacia georginae* (Gidyea) woodlands and ephemeral Coolabah swamps.

Notes: The site includes the only known NT population of *Eremophila polyclada*. An isolated and rarely visited area, which requires further investigation.

Criteria satisfied: A1 a ii), B1 b1 ii)

Taxa of Australian significance: *Corchorus elderi* {3K}

Taxa of NT significance: *Atriplex crassipes var. crassipes* {3k only known in CHC from this site}, *Bergia diacheiron* {3r only known in CHC from this site}, *Enneapogon intermedius* {3k only known in CHC from this site}, *Eremophila polyclada* {3r [N] only known in NT from this site}, *Potamogeton crispus* {3rC- only known in CHC from this site}, *Sauropus rigens* {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Blennodia canescens* {CHC (northern range limit) [N] only known in CHC from this site}, *Eragrostis australasica* {CHC (northern range limit) [N]}, *Stenopetalum velutinum* {CHC (northern limit) [N] only known in CHC from this site}

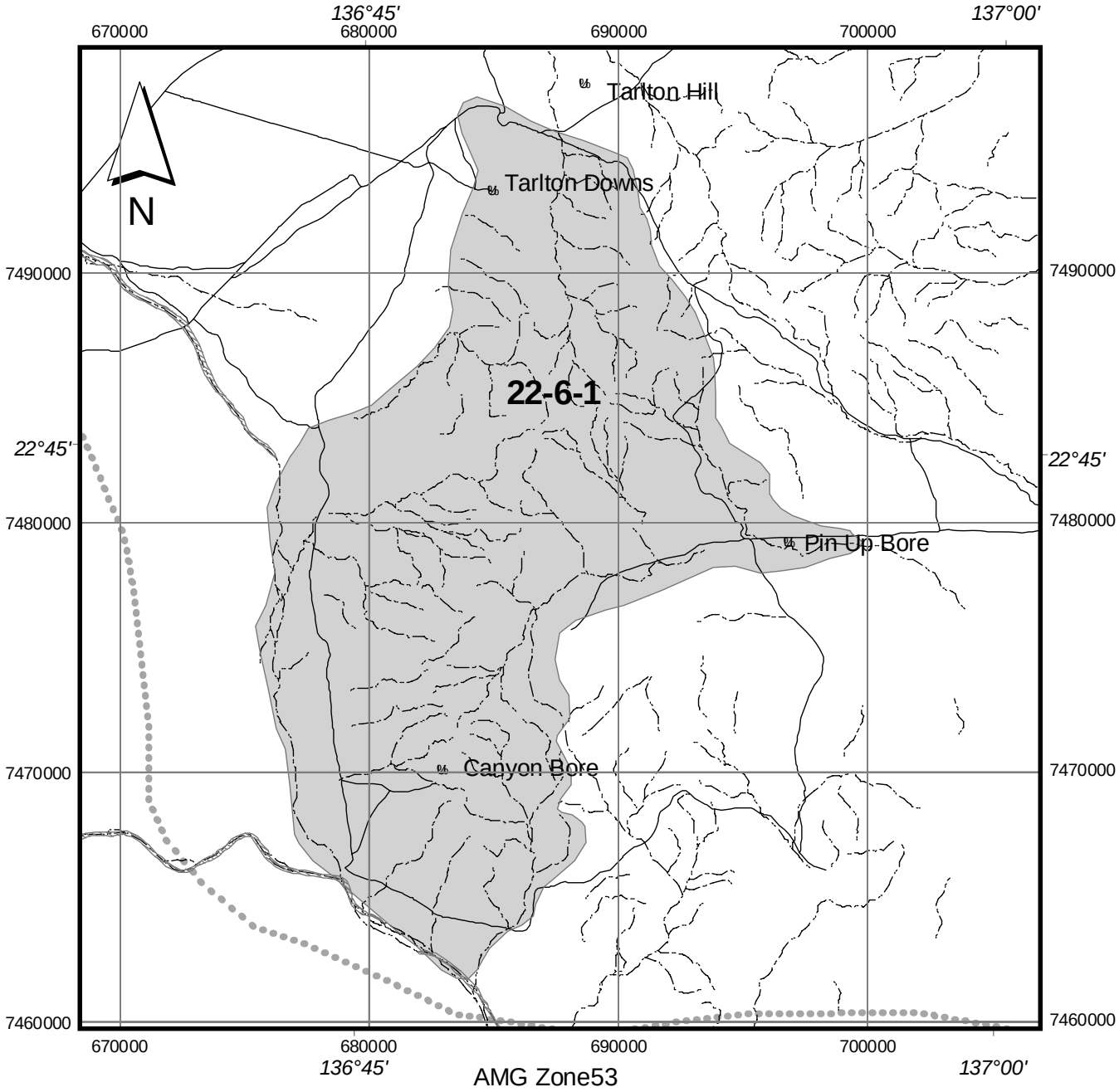
Other taxa only known in CHC bioregion (NT portion) from this site: *Amphipogon caricinus var. sericeus*, *Atriplex vesicaria subsp. macrocystidia*, *Centipeda minima subsp. A94915 NDhala Gorge*, *Chrysocephalum pterochaetum*, *Lepidium muelleriferdinandi*, *Pseudognaphalium luteoalbum*, *Swainsona oroboides*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 70 (2 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.

Map unit 74 (50 %): *Acacia stowardii* (Bastard Mulga), *Senna*, *Eremophila* (Fuchsia) sparse-shrubland.

Map unit 63 (46 %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.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700000
N
Tarlton Hill
Tarlton Downs
22-6-1
Pin Up Bore
Canyon Bore
22°45'
7490000
7480000
7470000
7460000
AMG Zone53

Site: 22-6-2 Toko Range

Level of significance: bioregional

Location: 22º 45' S 137º 55' E; ca. 50 km due south of Tobermorey Station on the Queensland and Northern Territory border.

Area: 388 km^2 **Map sheet:** Tobermorey SF 53-12

Bioregion: Channel Country (CHC)

Tenure: Pastoral Lease - Tobermorey Station (98% of site)

Description: The site includes the rocky upper catchments of Pettigrew Creek in the central part of the Toko Range. The geology of this area is dominated by extensive outcroppings of Ordovician sandstones. The site also incorporates the clay rich plains grasslands to the north of the Toko Range drained by Alcoora and McCullock Creeks

Notes: The Toko Ranges support distinctive stands of *Acacia cyperophylla*/*Sida D70364 Hale River* shrublands in creeklines and gullies. These stands represent the best examples of this vegetation type in the Northern Territory. The remote and rarely visited Toko Ranges extend into Queensland.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Goodenia D70208 Barkly* {3KC- (border) [SE] only known in CHC from this site}, *Mukia A90788 Tobermorey Station* {3V}, *Sida A88135 Hale River* {3K [NE] only known in CHC from this site}

Taxa of NT significance: *Amaranthus macrocarpus* {3k (border) only known in NT from this site}, *Centipeda A92472 Toko Range* {3kC- only known in CHC from this site}, *Hibiscus sturtii var. sturtii* {3rC- only known in CHC from this site}, *Sarcostemma brevipedicellatum* {3k (border) only known in CHC from this site}, *Sauropus rigens* {3rC-}, *Senna phyllodinea* {3k}, *Sida D70364 Huckitta* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Gomphrena cunninghamii* {CHC (disjunct) [E] only known in CHC from this site}, *Operculina aequisepala* {CHC (southern range limit) [S] only known in CHC from this site}

Other taxa only known in CHC bioregion (NT portion) from this site: *Acacia salicina*, *Atalaya hemiglauca*, *Brachycome ciliaris* complex, *Cheilanthes lasiophylla*, *Cheilanthes sieberi subsp. pseudovellea*, *Crotalaria cunninghamii*, *Crotalaria eremaea var. eremaea*, *Cymbopogon ambiguus*, *Cyperus exaltatus*, *Cyperus gymnocaulos*, *Dysphania glomulifera subsp. eremaea*, *Dysphania rhadinostachya subsp. inflata*, *Dysphania simulans* {[N]}, *Echinochloa turneriana*, *Enneapogon oblongus*, *Enteropogon ramosus*, *Eragrostis dielsii*, *Eragrostis speciosa*, *Eriachne pulchella subsp. dominii*, *Gnephosis arachnoidea*, *Gomphrena lanata*, *Heliotropium curassavicum*, *Hibiscus burtonii*, *Ipomoea racemigera*, *Isotropis winneckei*, *Leptochloa fusca subsp. fusca*, *Myriophyllum verrucosum*, *Nicotiana velutina*, *Portulaca filifolia* s.lat., *Ptilotus exaltatus*, *Setaria dielsii*, *Spermacoce brachystema*, *Streptoglossa decurrens*, *Tragus australianus*, *Zaleya galericulata subsp. galericulata*

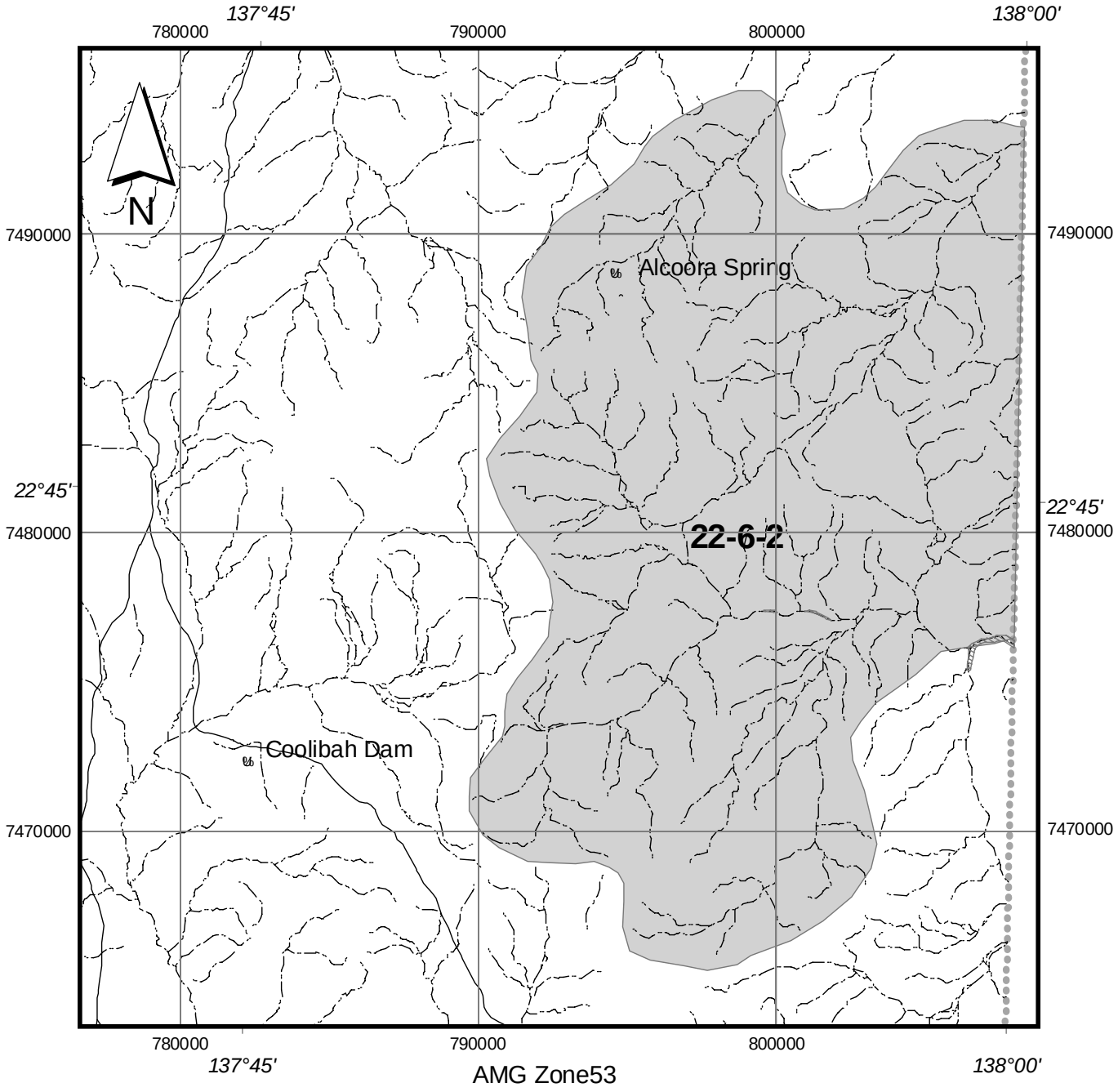
Botanically Significant Waterholes at the site: Nora Waterhole

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 62 (3 %): *Acacia georginae* (Gidyea) low open-woodland with *Astrebla pectinata* (Bull Mitchell Grass) open-grassland understorey.

Map unit 95 (15 %): Mixed species sparse-grassland or herbland.

Map unit 74 (80 %): *Acacia stowardii* (Bastard Mulga), *Senna*, *Eremophila* (Fuchsia) sparse-shrubland.


137°45'
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800000
138°00'
N
7490000
Alcoora Spring
22°45'
7480000
22-6-2
Coolibah Dam
7470000
780000
790000
800000
137°45'
138°00'
AMG Zone53

Site: 22-6-3 Querinya

Level of significance: bioregional

Location: 22º 21' S 137º 37' E; Approximately 30km west of Tobermorey Homestead.

Area: 11 km^2 **Map sheet:** Tobermorey SF 53-12

Bioregion: Channel Country (CHC)

Tenure: Pastoral Lease - Manners Creek Station (100% of site)

Description: The site includes Querinya waterhole and surrounding *Acacia georginae* (Gidyea) woodlands.

Notes: One of only two known sites for *Stemodia A57025 Manners Creek* in the Northern Territory.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Isotoma luticola* {3R [E]}, *Stemodia A57025 Manners Creek* {3K [SE] only known in CHC from this site}

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

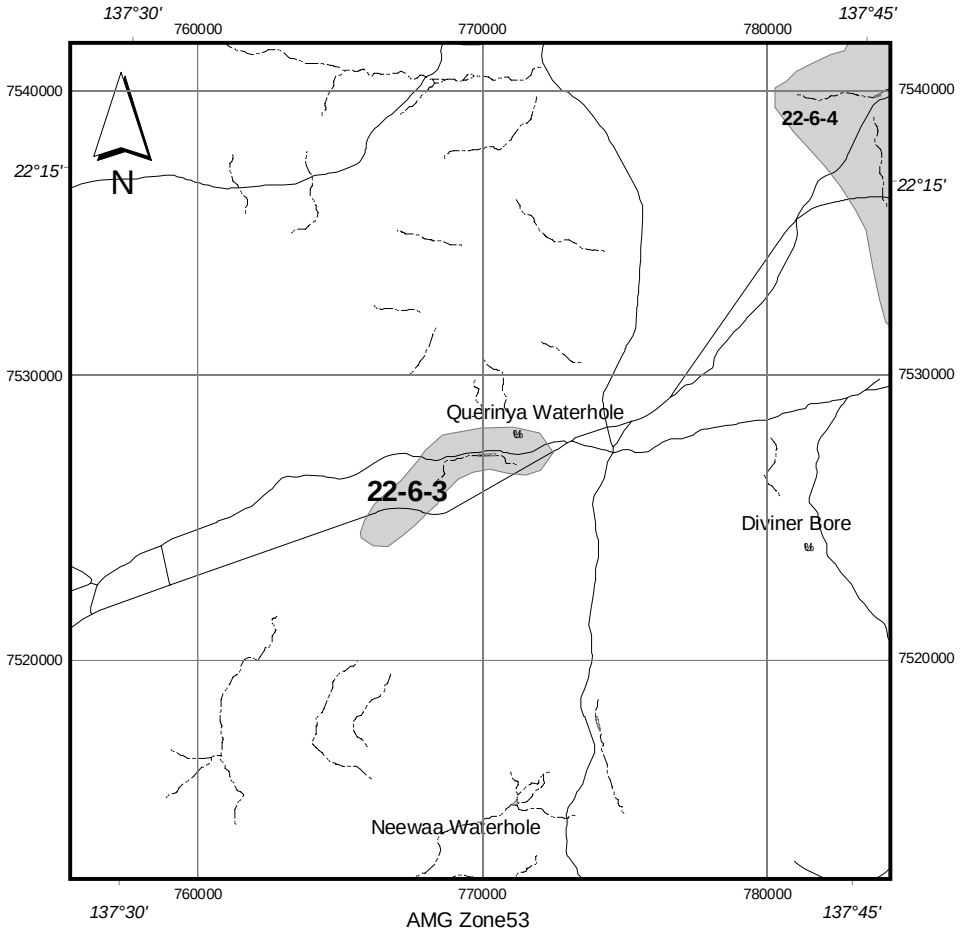
Other taxa only known in CHC bioregion (NT portion) from this site: *Cyperus bulbosus*, *Cyperus nervulosus*, *Macgregoria racemigera*, *Muelleranthus trifoliatus*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 71 (69 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 63 (1 < %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.

Map unit 62 (29 %): *Acacia georginae* (Gidyea) low open-woodland with *Astrebla pectinata* (Bull Mitchell Grass) open-grassland understorey.



3.4 SITES OFUNDETERMINED SIGNIFICANCE IN THE NT PORTION OF THE CHANNEL COUNTRY BIOREGION

Site: 21-6-PL2 Sandover River Floodout

Level of significance: undetermined

Location: 21º 40' S 136º 40' E; East of Ooratippra Homestead.

Area: only mapped as point location **Map sheets:** Sandover River SF 53-8 & Elkedra SF 52-7

Bioregion: Channel Country (CHC)

Tenure: Freehold - Angarapa Aboriginal Land Trust and Pastoral Lease - Ooratippra and Argadargada Stations

Description: The termination of the Sandover River presents as a broad floodout supporting extensive *Acacia estrophiolata* (Ironwood) woodlands. The site includes the floodout 'downstream' to Argadargada Waterhole.

Notes: The floodplain includes diverse woodlands and numerous swamps and ephemeral wetlands. Further survey is recommended for this area.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

3.5 WATERHOLES OF BOTANICAL SIGNIFICANCE IN THE NT PORTION OF THE CHANNEL COUNTRY BIOREGION

Nora Waterhole

Significance: national

Included within Toko Range site of significance, site no. 22-6-2

Reference coordinates (decimal degrees of latitude and longitude): -22.8º , 137.9º

Significant plant taxa: *Centipeda A92472 Toko Range* {3kC-}, *Mukia A90788 Tobermorey Station* {3V}

4. Davenport Murchison Ranges Bioregion

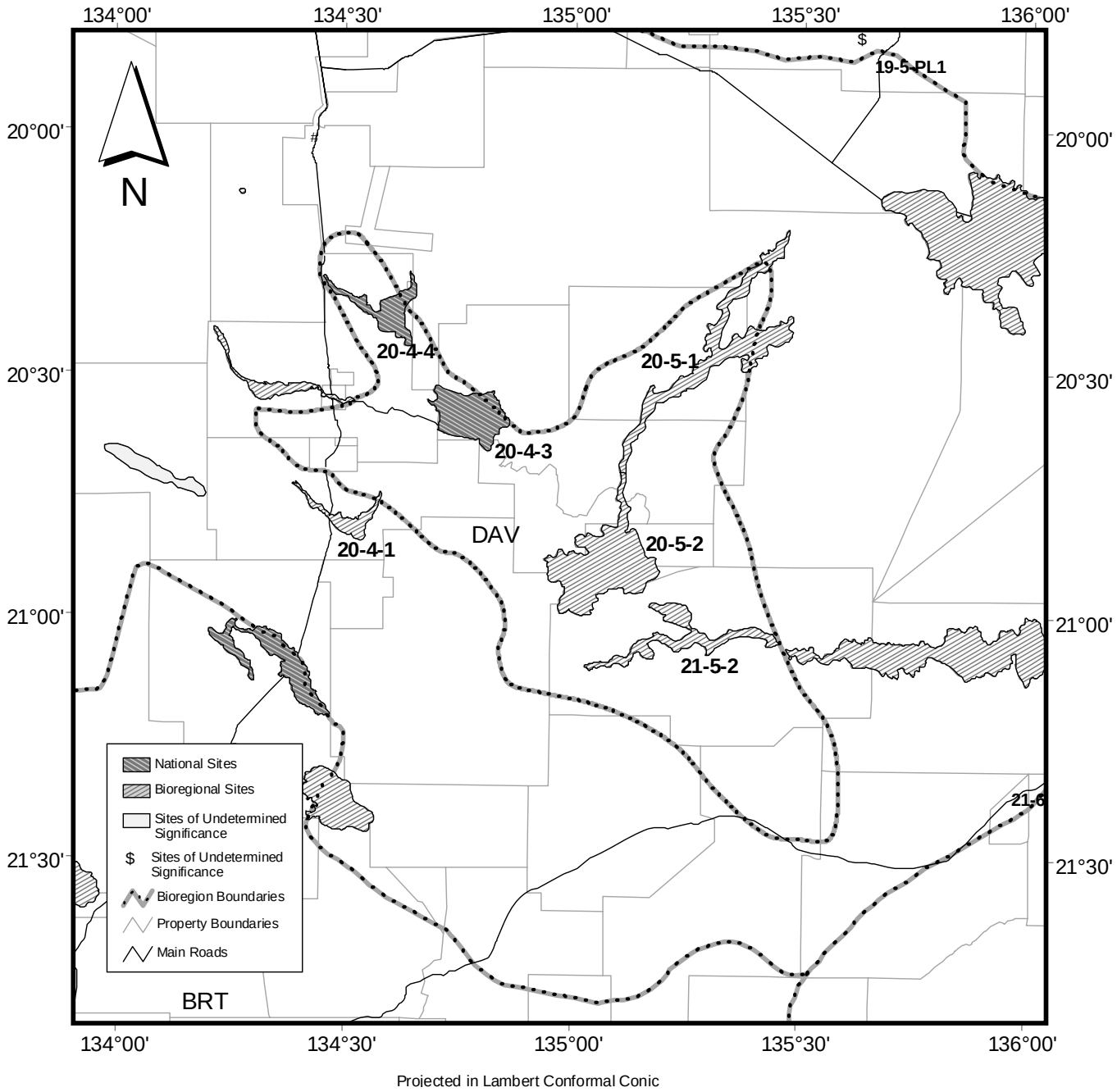
4.1 OVERVIEW OF THE DAVENPORT MURCHISON RANGES BIOREGION/SUBREGION

The Davenport Murchison Ranges bioregion/sub-region comprises an area of 15,900km^2, all of which is located in the Northern Territory. This bioregion is defined by the uplands comprising the Davenport and Murchison Ranges and their associated run-on and flood-out areas. These flat-topped sandstone ranges are dissected by steep valleys, many of which contain permanent or semi-permanent waterholes. The ranges give rise to a number of major rivers and watercourses including the Elkedra and Frew Rivers. These watercourses support in-stream waterholes. The region is topographically and floristically distinct from the surrounding Tanami bioregion. Readers are reminded here that the Davenport Murchison Ranges bioregion is not part of the 1995 national bioregionalisation (Thackway and Cresswell, 1995), which recognised it as part of the vast Tanami bioregion.

The principal soils of the ranges are shallow lithosols. Deep fine grained alluvial soils are found in the valleys and surrounding plains. The vegetation is dominated by hummock grasslands (*Triodia* spp) with a sparse over story of trees and shrubs. It is also an important region for aquatic and semi-aquatic vegetation because of the large number of permanent or semi-permanent waterholes. The climate is arid-tropical with most rainfall falling in the summer months in association with monsoonal low pressure systems. There are 84 significant botanical taxa recognised from the Davenport and Murchison Ranges bioregion. These taxa are listed in volume 1, appendix 3.

Index to Sites in and adjacent to Davenport Murchison Ranges bioregion

Site No.	Site Name	Significance	Principal Bioregion	Page
20-4-1	Thring Swamp	bioregional	Tanami	302
20-4-2	Algoolgoora Swamp	bioregional	Tanami	303
20-4-3	Kurundi Creek	national	Davenport Murchison Ranges	96
20-4-4	Gosse River and Edinburgh Creek	national	Davenport Murchison Ranges	98
20-5-1	Lower Frew River and Floodout	bioregional	Davenport Murchison Ranges	100
20-5-2	Upper Frew River	bioregional	Davenport Murchison Ranges	102
21-5-2	Upper Elkedra River	bioregional	Davenport Murchison Ranges	104



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4.2 SITES OF NATIONAL SIGNIFICANCE IN THE DAVENPORT MURCHISON RANGES BIOREGION/SUBREGION

Site: 20-4-3 Kurundi Creek

Level of significance: national

Location: 20º 29' S 134º 41' E; Southern Murchison Ranges

Area: 334 km^2 **Map sheet:** Bonney Well SF 53-02

Bioregions: Davenport Murchison Ranges (DAV 92.9%) & Tanami (TAN 7.1%)

Tenure: Pastoral Lease - Kurundi Station (93% of site); Freehold - Mungkarta Aboriginal Land Trust (2% of site) and Warumungu Aboriginal Land Trust (<1% of site); Proposed Davenport Murchison National Park (3% of site)

Description: Catchment of Kurundi Creek includes minor gorges and permanent waterholes in the upper catchment and run-on areas beneath the ranges. The geology includes Epenarra volcanics (felsic volcanics, volcanoclastic volcanics, basaltic lava) and extensive areas of Hatches Creek sandstones.

Notes: Notable plant records for this site include the nationally 'vulnerable' *Rhamphicarpa australiensis* and *Trachymene inflata* (one of only 3 records of this species also its type location).

Criteria satisfied: B1 b1 ii), A1 b i)

Taxa of Australian significance: *Rhamphicarpa australiensis* {3RC-}, *Trachymene inflata* {3RC- [N]}

Taxa of NT significance: *Distichostemon barklyanus* {3k only known in DAV from this site}, *Ophioglossum lusitanicum* {3rC-}, *Sclerolaena minuta* {3k only known in DAV from this site}, *Vittadinia pustulata* {3kC-}

Taxa of Southern NT (study area) significance: *Acacia hemsleyi* {(disjunct)}, *Fimbristylis nuda* {(disjunct & apparently rare)}, *Microcarpaea minima* {(disjunct & rare)}, *Schizachyrium pseudeulalia* {(disjunct)}

Taxa of bioregional significance: *Abutilon andrewsianum* {DAV (disjunct and apparently rare) only known in DAV from this site}, *Acacia perryi* {DAV (eastern range limit) [E] only known in DAV from this site}, *Crotalaria montana* {DAV (disjunct and apparently rare) only known in DAV from this site}, *Dendrophthoe odontocalyx* {DAV (disjunct)}, *Fuirena ciliaris* {DAV (disjunct)}, *Gomphrena cunninghamii* {DAV (disjunct)}, *Iphigenia indica* {DAV (disjunct)}, *Sida cleisocalyx* {DAV (apparently rare) only known in DAV from this site}, *Triodia intermedia* {DAV (disjunct and eastern range limit) [E] only known in DAV from this site}

Other taxa only known in DAV bioregion from this site: *Amaranthus pallidiflorus, Amphipogon caricinus var. sericeus, Boerhavia coccinea, Cajanus cinereus, Frankenia cordata, Hibiscus sturtii var. campylochlamys, Ptilotus incanus, Scaevola amblyanthera var. centralis, Setaria surgens, Tephrosia virens*

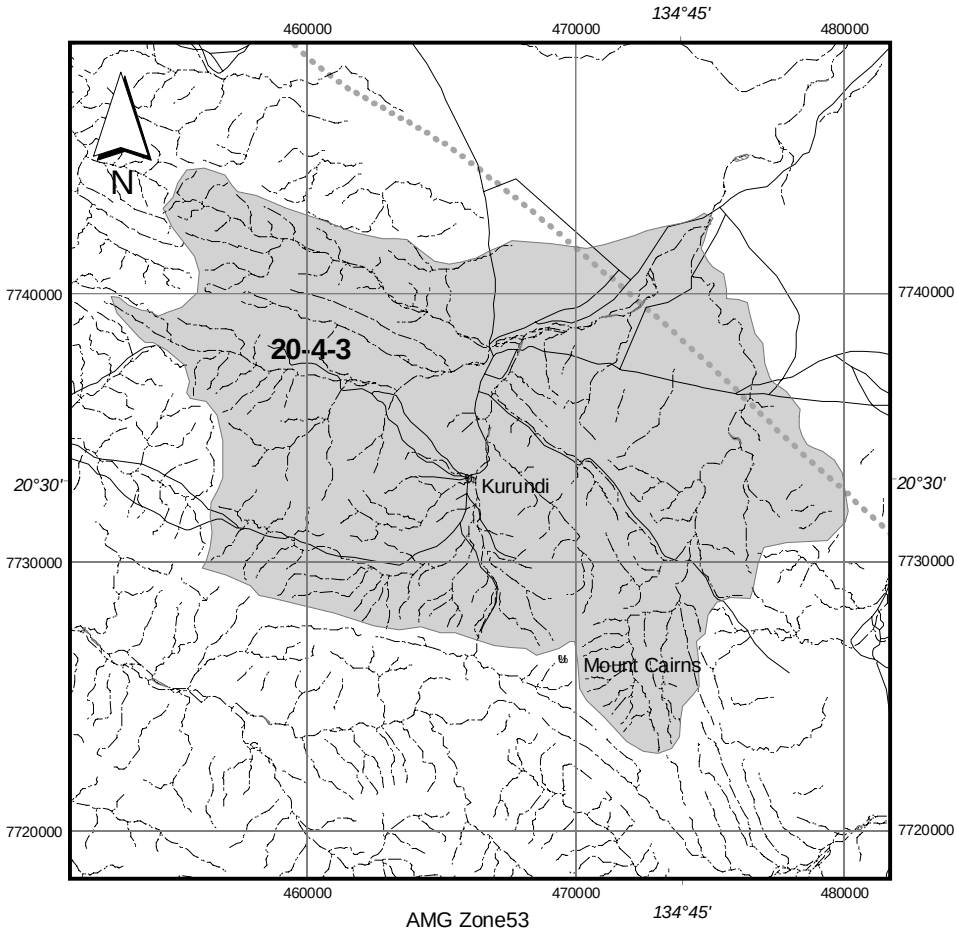
Type locations of the following were collected from the site: *Trachymene inflata* (1972)

Botanically Significant Waterholes at the site: Pingelly waterhole

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 43 (75 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 58 (24 %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.


134°45'
460000
470000
480000
N
7740000
20-4-3
20°30'
Kurundi
7730000
Mount Cairns
7720000
AMG Zone53

Site: 20-4-4 Gosse River and Edinburgh Creek

Level of significance: national

Location: 20º 10' S 134º 25' E; Northern Murchison Ranges

Area: 187 km^2 **Map sheet:** Bonney Well SF 53-02

Bioregions: Davenport Murchison Ranges (DAV 85.8%) & Tanami (TAN 14.2%)

Tenure: Freehold - Mungkarta Aboriginal Land Trust (94% of site), Mungkarta 2 Aboriginal Land Trust (<1% of site) and Warumungu Aboriginal Land Trust (5% of site)

Description: The site includes the upper catchment of the Gosse River including numerous permanent and semi-permanent in-stream waterholes. It also incorporates the catchment and floodout plains of Edinburgh Creek. The geology of this area is predominantly sandstones and volcanics of the Hatches Creek Group.

Notes: The occurrence of *Rhamphicarpa australiensis* - a nationally 'vulnerable' species is of particular note. This site supports a yet to be described *Acacia* taxon (P.K.Latz pers.observation).

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Rhamphicarpa australiensis* {3RC- [W]}, *Sedopsis filsonii* {3RC- [N] only known in DAV from this site}

Taxa of NT significance: *Brachyachne prostrata* {3r}, *Elacholoma hornii* {3rC- [N] only known in DAV from this site}, *Ophioglossum lusitanicum* {3rC-}

Taxa of Southern NT (study area) significance: *Bacopa floribunda* {(disjunct & apparently rare) only known in study area from this site}, *Cajanus acutifolius* {(disjunct & apparently rare)}, *Petalostigma banksii* {(disjunct) only known in DAV from this site}, *Schizachyrium pseudeulalia* {(disjunct)}

Taxa of bioregional significance: *Cyanthillium cinereum* s.lat. {DAV (disjunct)}, *Gomphrena cunninghamii* {DAV (disjunct)}, *Mitrasacme exserta* {DAV (apparently rare)}, *Polycarpaea involucrata* {DAV (disjunct) only known in DAV from this site}

Other taxa only known in DAV bioregion from this site: *Acacia estrophiolata*, *Alternanthera angustifolia*, *Cajanus marmoratus*, *Calandrinia stagnensis*, *Capparis mitchellii*, *Chamaecrista symonii*, *Cyperus bifax*, *Eragrostis setifolia*, *Galactia tenuiflora* s.lat., *Panicum effusum*, *Scleria rugosa*, *Sida cunninghamii*, *Spermacoce brachystema*, *Tephrosia simplicifolia*, *Tribulopis pentandra*, *Urochloa gilesii subsp. gilesii*, *Vigna lanceolata var. filiformis*

Botanically Significant Waterholes at the site: Annie Loch Rockhole

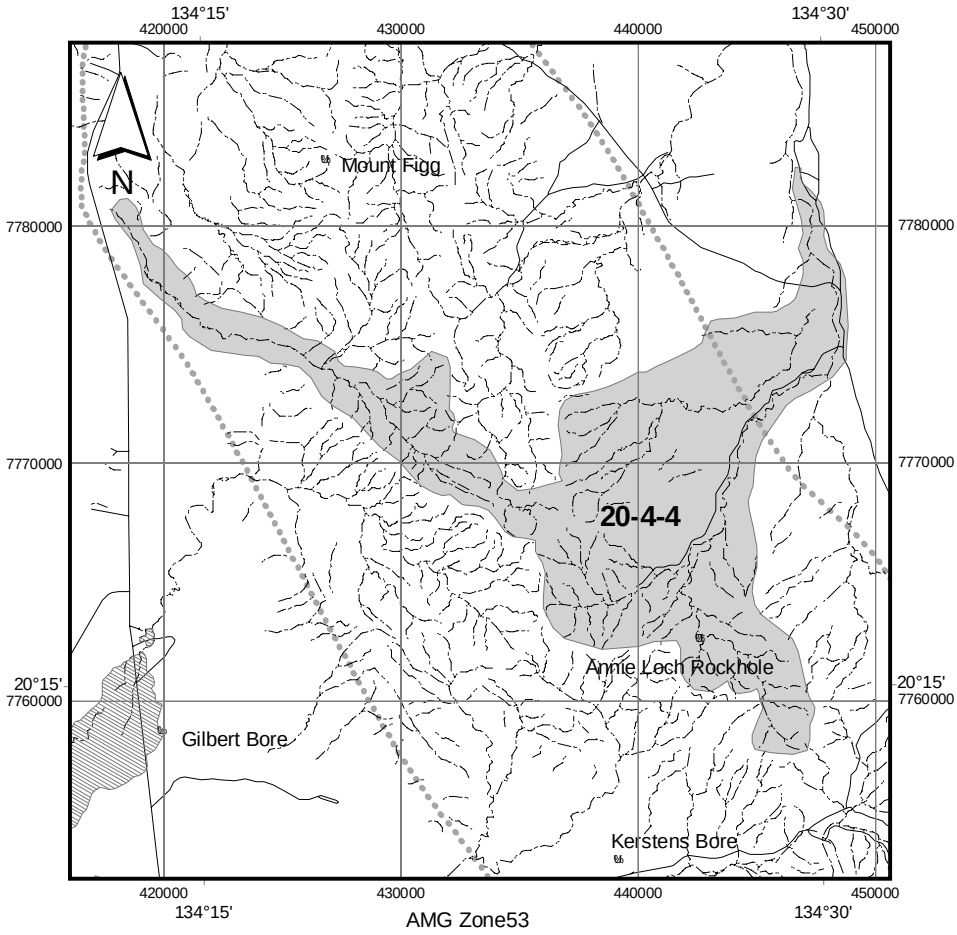
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 42 (1 < %): *Corymbia opaca* (Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 76 (1 < %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 58 (14 %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 43 (84 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.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Annie Lech Rockhole
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Gilbert Bore
Kerstens Bore
AMG Zone53

4.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE DAVENPORT MURCHISON RANGES BIOREGION/SUBREGION

Site: 20-5-1 Lower Frew River and Floodout

Level of significance: bioregional

Location: 20º 15' S 135º 27' E; North east of the Davenport Ranges.

Area: 535 km^2 **Map sheets:** Frew River SF 53-3 & Alroy SE 53-15

Bioregions: Davenport Murchison Ranges (DAV 74.4%) & Tanami (TAN 25.6%)

Tenure: Pastoral Lease - Epenarra Station (61% of site) and Kurundi Station (8% of site); Freehold - Wakaya Aboriginal Land Trust (12% of site); Crown Land - Vacant/uncommitted (17% of site)

Description: The site includes the elongated floodout of the Frew River and the numerous semi-permanent in-stream waterholes. The floodout terminates in the Alyawarr Desert.

Notes: Few collections have been made from this poorly known area.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Cullen walkingtonii* {3KC-}

Taxa of NT significance: *Cyperus oxycarpus* {3kC- [S] only known in DAV from this site}, *Potamogeton crispus* {3rC- only known in DAV from this site}

Taxa of Southern NT (study area) significance: *Acacia hemsleyi* {(disjunct)}, *Desmodium filiforme* {(disjunct)}, *Eragrostis exigua* {(disjunct) only known in DAV from this site}, *Vallisneria annua* {(disjunct)}

Taxa of bioregional significance: *Cyperus exaltatus* {DAV (disjunct) only known in DAV from this site}, *Euphorbia mitchelliana* {DAV (disjunct and apparently rare) only known in DAV from this site}, *Heliotropium ammophilum* {DAV (northern range limit) [N]}, *Sida cleisocalyx* {DAV (apparently rare)}

Other taxa only known in DAV bioregion from this site: *Alternanthera nodiflora*, *Aristida hygrometrica*, *Dysphania rhadinostachya subsp. inflata*, *Elatine gratioloides*, *Eremophila latrobei var. glabra*, *Pseudognaphalium luteoalbum*

Type locations of the following were collected from the site: *Eragrostis exigua* (1970)

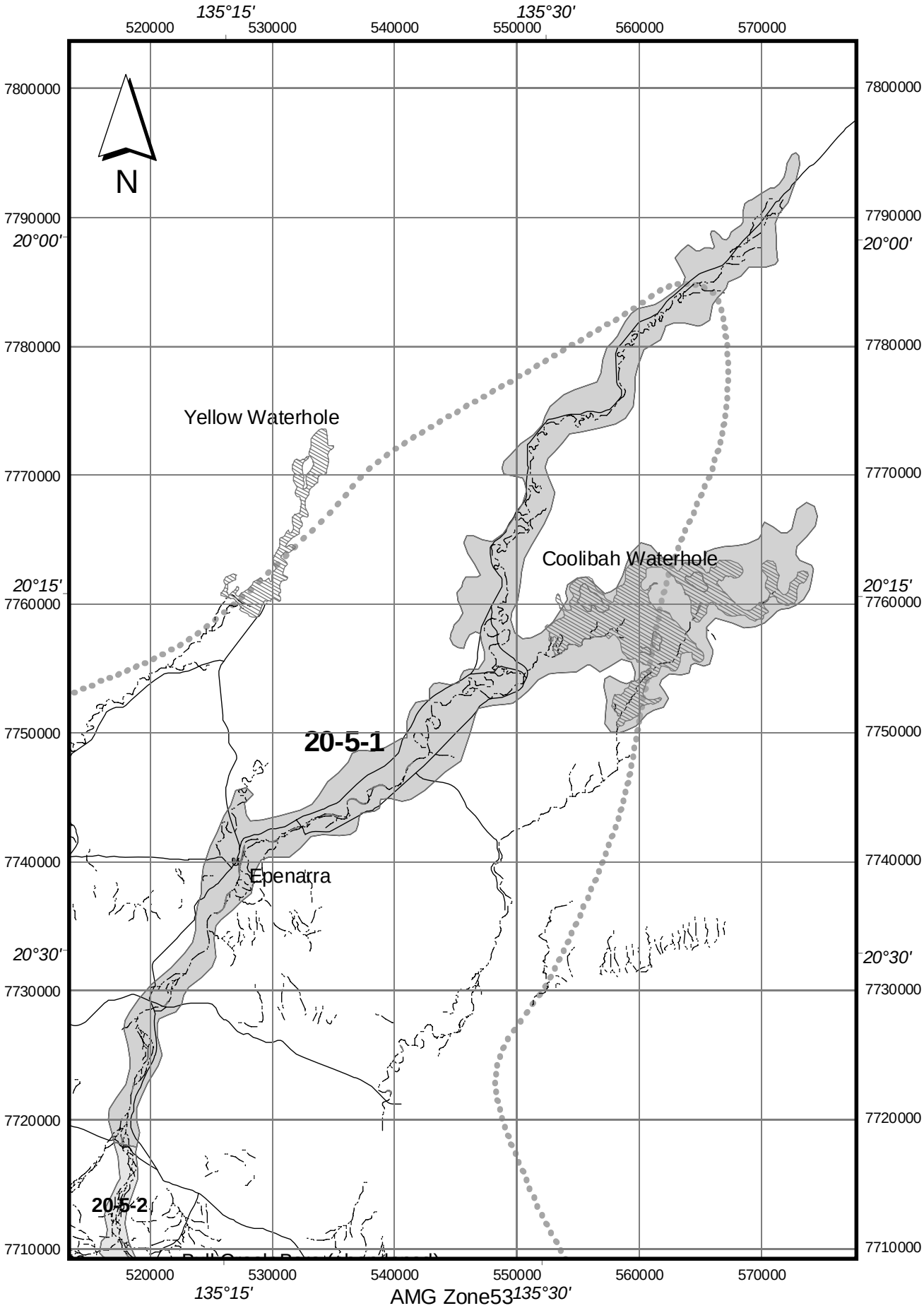
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 71 (2 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 27 (68 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 76 (20 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 42 (8 %): *Corymbia opaca* (Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.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7740000
20°30'
7730000
7720000
7710000
Yellow Waterhole
Coolibah Waterhole
20-5-1
Epenarra
20-5-2
AMG Zone53

Site: 20-5-2 Upper Frew River

Level of significance: bioregional

Location: 20º 56' S 135º 7' E; Davenport Ranges

Area: 702 km^2 **Map sheets:** Frew River SF 53-3, Elkedra SF 53-7 & Bonney Well SF 53-2

Bioregion: Davenport Murchison Ranges (DAV)

Tenure: Davenport Murchison National Park (proposed) (34% of site); Freehold - Anurrete Aboriginal Land Trust (37% of site); Pastoral Lease - Elkedra Station (13% of site), Kurundi Station (2% of site) and Murray Downs Station (10% of site)

Description: The site incorporates the entire upper catchment of the Frew River above Police Station Waterhole.

Notes: The Murchison and Davenport Ranges support numerous disjunctions of plant taxa more commonly found in the monsoon influenced regions to the north of the study area (in latitudes north of 18 degrees south). In addition, other plant taxa commonly found on the rocky ranges further south such as the Dulcie and Macdonnell Ranges reach their northerly limits in the Davenports. The ranges are a significant 'green' refuge enclosed within the arid Tanami bioregion.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Cullen walkingtonii* {3KC-}, *Striga squamigera* {3K [SE] only known in DAV from this site}

Taxa of NT significance: *Thaumastochloa pubescens* {3k only known in DAV from this site}

Taxa of Southern NT (study area) significance: *Acacia hemsleyi* {(disjunct)}, *Cajanus acutifolius* {(disjunct & apparently rare)}

Taxa of bioregional significance: *Corymbia sphaerica* {DAV (eastern range limit) [E] only known in DAV from this site}, *Dendrophthoe odontocalyx* {DAV (disjunct and southern range limit) [S]}, *Dysphania rhadinostachya subsp. rhadinostachya* {DAV (disjunct) only known in DAV from this site}, *Gomphrena cunninghamii* {DAV (disjunct)}, *Thysanotus exiliflorus* {DAV (northern range limit) [N] only known in DAV from this site}

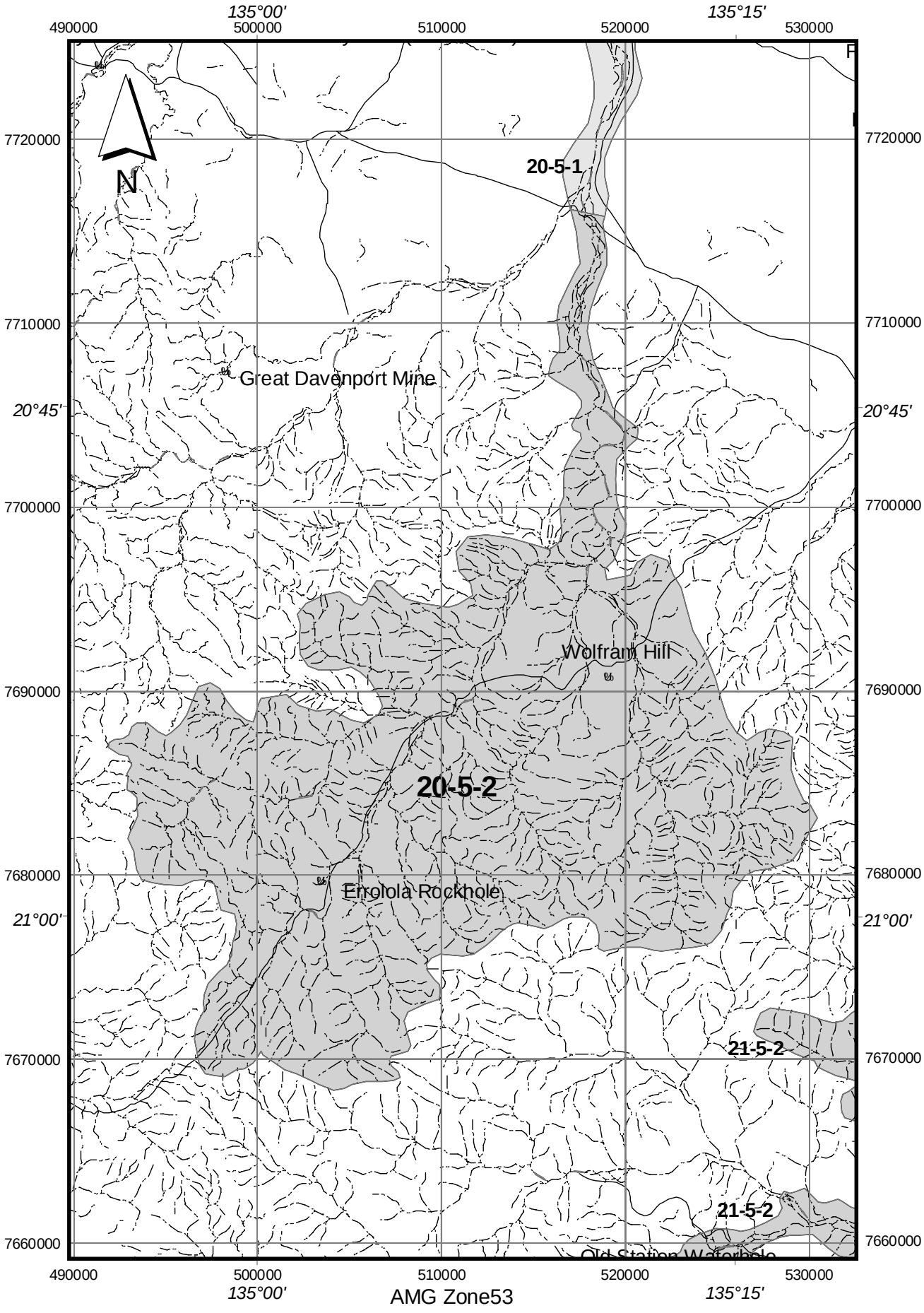
Other taxa only known in DAV bioregion from this site: *Atalaya hemiglauca*, *Bonamia deserticola*, *Brachycome ciliaris* complex, *Corchorus sidoides*, *Cullen patens*, *Enteropogon ramosus*, *Phyllanthus lacunellus*, *Themeda avenacea*

Type locations of the following were collected from the site: *Merremia davenportii* (1860s), *Solanum diversiflorum* (1860s)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 71 (1 < %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 43 (99 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.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7670000
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20°45'
21°00'
20-5-1
Great Davenport Mine
Wolfram Hill
20-5-2
Errolola Rockhole
21-5-2
21-5-2
AMG Zone53

Site: 21-5-2 Upper Elkedra River

Level of significance: bioregional

Location: 21º 5' S 135º 21' E; Southern Davenport Ranges

Area: 273 km^2 **Map sheet:** Elkedra SF 52-7

Bioregion: Davenport Murchison Ranges (DAV)

Tenure: Pastoral Lease - Elkedra Station (100% of site)

Description: This site includes the valley and fringing ridges of the upper Elkedra River. The site includes permanent and semi-permanent waterholes along the Elkedra River from Erlpunda waterhole in the east to Turkey Camp Yard in the west. The geology is primarily recent alluvium in the valley and quartz sandstone on the surrounding hills. The botanical values tend to be concentrated on the floor of the valley and permanent waterholes.

Notes: The site is the type locality for *Zornia albiflora*.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Cullen walkingtonii* {3KC-}, *Heliotropium subreniforme* {3K only known in DAV from this site}

Taxa of NT significance: *Centipeda A92472 Toko Range* {3kC- only known in DAV from this site}, *Eleocharis setifolia* {3r only known in study area from this site}, *Fuirena nudiflora* {3k only known in DAV from this site}, *Juncus aridicola* {3rC- only known in DAV from this site}, *Ophioglossum gramineum* {3r only known in NT from this site}, *Triumfetta centralis* {3k only known in DAV from this site}, *Yakirra muelleri* {3k}

Taxa of Southern NT (study area) significance: *Acacia hemsleyi* {(disjunct) [S]}, *Centipeda minima subsp. A59802 Elkedra* {(apparently disjunct & apparently rare) only known in study area from this site}, *Crotalaria novae-hollandiae subsp. novae-hollandiae* {(disjunct) only known in DAV from this site}, *Fimbristylis nuda* {(disjunct & apparently rare)}, *Microcarpaea minima* {(disjunct & rare)}, *Mitrasacme micrantha* {(disjunct) [S]}, *Panicum mindanaense* {(disjunct)}, *Vallisneria annua* {(disjunct)}

Taxa of bioregional significance: *Blumea diffusa* {DAV (disjunct) only known in DAV from this site}, *Chenopodium melanocarpum* {DAV (northern range limit) [N] only known in DAV from this site}, *Chenopodium truncatum* {DAV (northern range limit) [N] only known in DAV from this site}, *Crotalaria brevis* {DAV (disjunct) only known in DAV from this site}, *Eriachne melicacea* {DAV (southern range limit) [S]}, *Gomphrena cunninghamii* {DAV (disjunct)}, *Goodenia larapinta* {DAV (eastern range limit) [E] only known in DAV from this site}, *Iphigenia indica* {DAV (disjunct)}

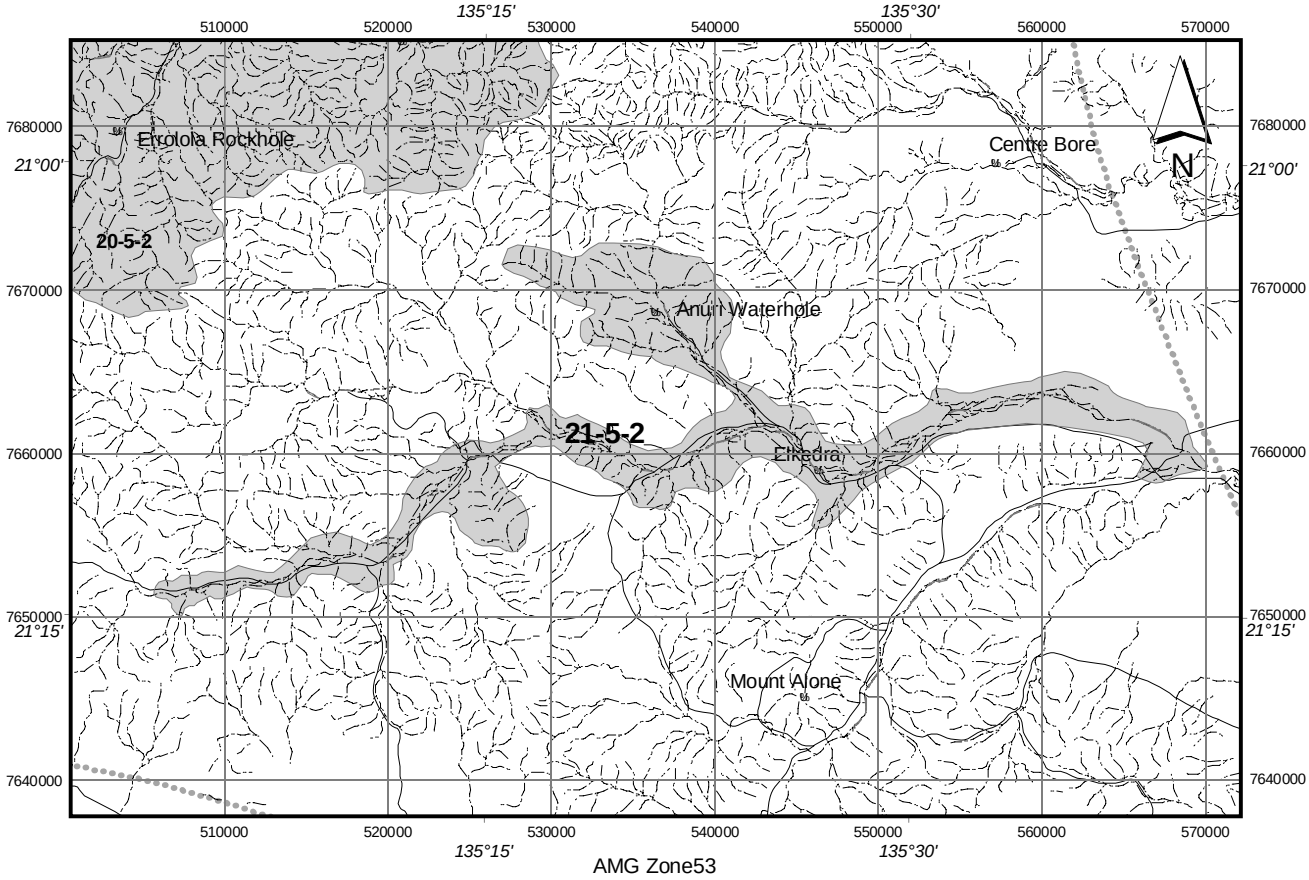
Other taxa only known in DAV bioregion from this site: *Calotis plumulifera*, *Eragrostis desertorum*, *Eragrostis parviflora*, *Euphorbia petala*, *Heliotropium pachyphyllum*, *Melhania oblongifolia*, *Phyllanthus fuernrohrii*, *Rhodanthe tietkensii*, *Sorghum plumosum var. plumosum*, *Stackhousia intermedia*

Type locations of the following were collected from the site: *Zornia albiflora* (1956)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 43 (75 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 27 (24 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.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Centre Bore
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20-5-2
Anuri Waterhole
21-5-2
Elkedra
Mount Alone
AMG Zone53

4.4 WATERHOLES OF BOTANICAL SIGNIFICANCE IN THE NT PORTION OF THE DAVENPORT MURCHISON RANGES BIOREGION/SUBREGION

Annie Loch Rockhole

Significance: national

Included within Gosse River and Edinburgh Creek site of significance, site no. 20-4-4

Reference coordinates (decimal degrees of latitude and longitude): -20.2º , 134.4º

Significant plant taxa: *Rhamphicarpa australiensis* {3RC-}

Pingelly waterhole

Significance: national

Included within Kurundi Creek site of significance, site no. 20-4-3

Reference coordinates (decimal degrees of latitude and longitude): -20.5º , 134.8º

Significant plant taxa: *Microcarpaea minima* {sthn NT (disjunct & rare)}, *Rhamphicarpa australiensis* {3RC-}, *Schizachyrium pseudeulalia* {sthn NT (disjunct)}

5. Finke Bioregion

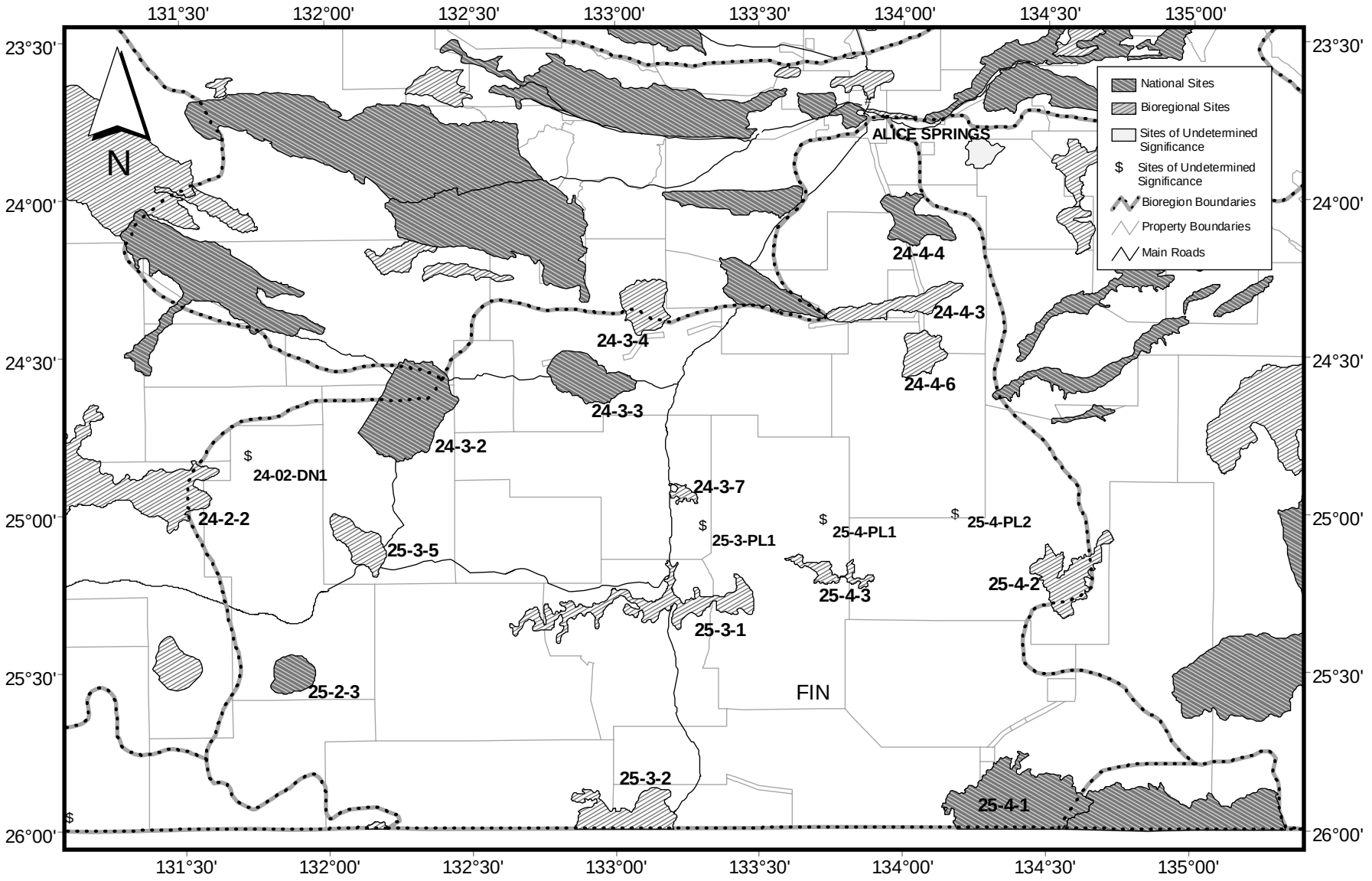
5.1 OVERVIEW OF THE NT PORTION OF THE FINKE BIOREGION

The Finke bioregion comprises an area of 73,800km^2, 74% (54,400km^2) of which is located in the Northern Territory. The remainder of the Finke bioregion occurs in South Australia. This bioregion includes most of the watershed of the Finke River, excluding its headwaters which are in the MacDonnell Ranges bioregion. It is a geomorphologically complex and varied area of low sandstone ranges, weathered tablelands, laterite capped mesa and buttes, saline depressions and sandplains. In the south of the bioregion to the south of Kulgera the landscape is dominated by rounded metamorphic hills.

A diverse range of vegetation types occur in the Finke bioregion due to the diverse geology, soils and landforms. Widely distributed vegetation types include hummock grasslands (dominated by *Triodia* spp), Acacia shrublands (dominated principally by *A.aneura, A kempeana, A. calcicola, A. ramulosa* or *A.ligulata)* and low saltbush (*Atriplex vesicaria*) or Bluebush (*Maireana astrotricha*) shrublands. A forthcoming biological survey of this bioregion should greatly add to the knowledge of its flora.

A total of 147 indigenous vascular plant taxa are currently considered to be of conservation significance in the NT portion of the Finke bioregion. These taxa are listed in volume 1, appendix 3.

Index to Sites in and adjacent to Finke bioregion (NT portion)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5.2 SITES OF NATIONAL SIGNIFICANCE IN THE NT PORTION OF THE FINKE BIOREGION

Site: 24-3-2 Wolluga Dunefields

Level of significance: national

Location: 24º 41' S 132º 17' E; Northern Henbury-Erldunda Plains

Area: 758 km^2 **Map sheet:** Henbury SG 53-1

Bioregions: Finke (FIN 69.8%) & Great Sandy Desert (GSD 23.8%) & MacDonnell Ranges (MAC 6.4%)

Tenure: Pastoral Lease - Angus Downs Station (79% of site); Freehold - Urrampinyi Iltjiltjarri Aboriginal Land Trust (20% of site), Ukaka Aboriginal Corp. (<1% of site)

Description: This large site is bounded in the north by the northern fall of the Levi Range and to the south by a series of low gypseus rises and associated claypans. The intervening dunefield is occasionally interrupted by minor outcroppings of Mereenie sandstone and gypsum.

Notes: The site is notable for the presence of a large population of *Microcorys macrediana*. This is the only known population of this species in the Northern Territory. The occasional exposures of Mereenie sandstone probably indicate that the sandsheet covering this area is quite shallow. This may go some way towards explaining the concentration of rare or otherwise significant plant taxa in this area. The site also includes the type localities of *Eucalyptus mannensis*, *Chenopodium truncatum* and *Wurmbea deserticola*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Daviesia arthropoda* {3KCa}, *Harnieria kempeana subsp. kempeana* {3RC- [S]}, *Microcorys macrediana* {3K [NE] only known in NT from this site}

Taxa of NT significance: *Acacia nyssophylla* {3k [N]}, *Amyema miraculosa subsp. boormanii* {3k}, *Austrostipa trichophylla* {3rC- only known in MAC from this site}, *Bulbine alata* {3k only known in MAC from this site}, *Calotis cymbacantha* {3kC-}, *Chthonocephalus pseudevax* {3r}, *Cuphonotus andraeanus* {3r only known in GSD from this site}, *Dodonaea microzyga var. microzyga* {3r only known in GSD from this site}, *Dysphania sphaerosperma* {3r}, *Eragrostis A51007 Limestone* {3k}, *Eremophila alternifolia* {3k}, *Eriochiton sclerolaenoides* {3k}, *Goodenia havilandii* {3rC- only known in GSD from this site}, *Goodenia occidentalis* {3rC-}, *Ixiolaena tomentosa* {3kC- only known in FIN from this site}, *Minuria multiseta* {3r}, *Newcastelia bracteosa* {3k}, *Osteocarpum salsuginosum* {3r}, *Pomax A89438 Sand Dunes* {3kC-}, *Poranthera microphylla* s.lat. {3rC-}, *Sclerolaena parviflora* {3r}, *Swainsona laxa* {3r only known in GSD from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Acacia abrupta* {MAC (eastern range limit) [E]}, *Brachychiton gregorii* {FIN (apparently rare)}, *Eremophila D41598 MacDonnell Ranges* {GSD (southern range limit) [S]}, *Eremophila paisleyi* {GSD (apparently rare)}, *Lechenaultia striata* {FIN (apparently rare and eastern range limit) [E]}

Other taxa only known in FIN bioregion (NT portion) from this site: *Calytrix carinata*, *Cyperus dactylotes*, *Goodenia mueckeana*, *Haloragis odontocarpa forma rugosa*

Other taxa only known in MAC bioregion from this site: *Brachycome iberidifolia*;

Other taxa only known in GSD bioregion (NT portion) from this site: *Goodenia berardiana*, *Nicotiana simulans*

Type locations of the following were collected from the site: *Chenopodium truncatum* (1968), *Eucalyptus mannensis* (1957), *Wurmbea deserticola* (1956)

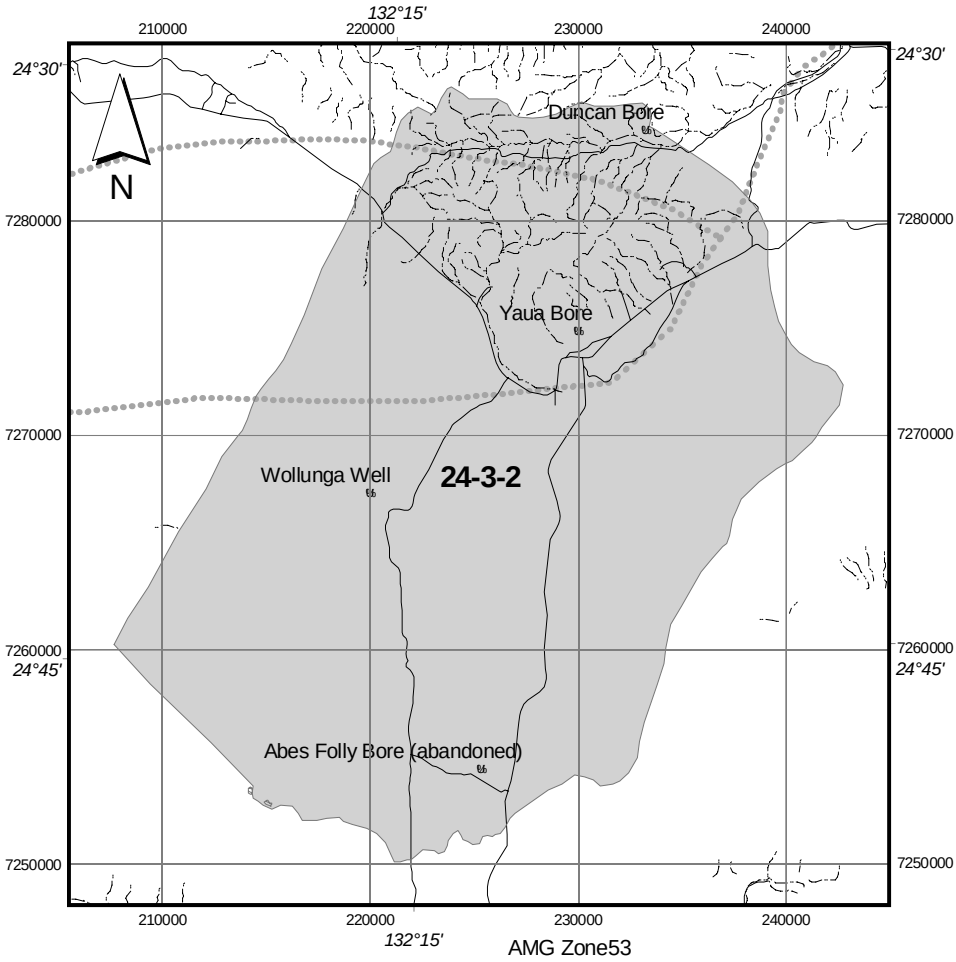
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 92 (1 < %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 82 (18 %): *Triodia basedowii* (Hard Spinifex)hummock grassland with *Acacia aneura* (Mulga) tall sparse-shrubland overstorey between dunes.

Map unit 87 (7 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 93 (73 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.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AMG Zone53

Site: 24-3-3 Bacon Ranges

Level of significance: national

Location: 24º 34' S 132º 54' E; Northern Henbury-Erldunda Plains

Area: 352 km^2 **Map sheet:** Henbury SG 53-1

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Henbury Station (94% of site); Freehold - Akanta Aboriginal Land Trust (5% of site)

Description: Includes the series of low ranges comprising most of the Bacon Range and the associated outlying hills, crags and mesas to the west. The site also includes the intervening stony or sandy plains. These hills are comprised of deeply weathered and eroded precambrian marine sediments principally shale, siltstone, limestone and dolomite.

Notes: The site supports several small populations of the nationally 'vulnerable' and unreserved *Acacia latzii*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Acacia latzii* {3V [NW]}

Taxa of NT significance: *Arabidella trisecta* {3kC-}, *Atriplex quadrivalvata var. quadrivalvata* {3r [N]}, *Dissocarpus biflorus var. biflorus* {3k}, *Erodium angustilobum* {3kC-}, *Goodenia havilandii* {3rC-}, *Maireana appressa* {3k}, *Maireana carnosa* {3rC-}, *Maireana schistocarpa* {3k}, *Pachycornia triandra* {3r}, *Sclerochlamys brachyptera* {3k}, *Sclerolaena longicuspis* {3r}, *Sclerostegia disarticulata* {3rC-}, *Tetragonia eremaea* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

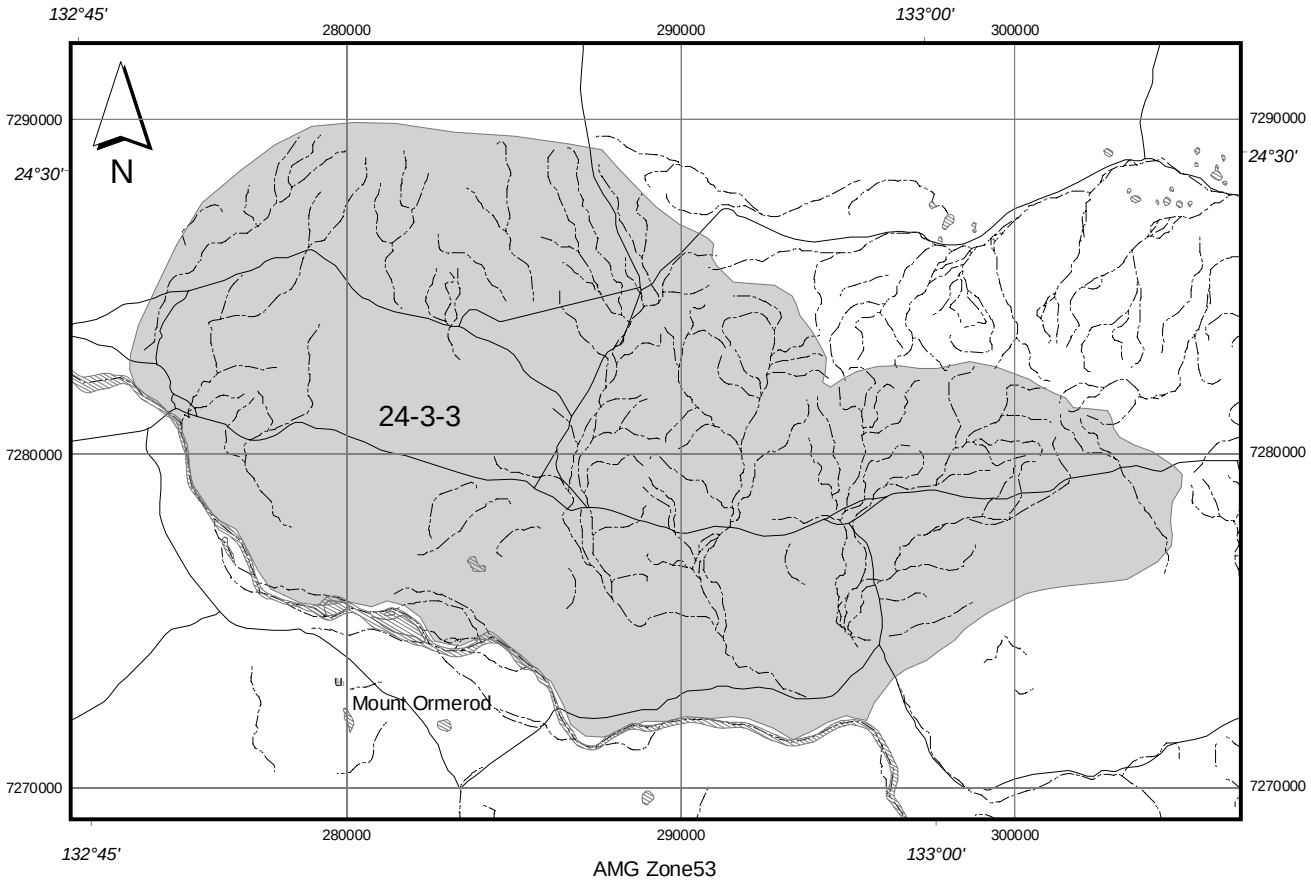
Map unit 93 (11 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 66 (4 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 108 (38 %): *Maireana astrotricha* (Southern Bluebush) low open-shrubland with ephemeral open-herb/grassland.

Map unit 83 (32 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 27 (13 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.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Site: 24-4-4 Ooraminna

Level of significance: national

Location: 24º 5' S 134º 2' E; Approximately 45km south of Alice Springs.

Area: 253 km^2 **Map sheet:** Rodinga SG 53-2

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Deepwell Station (71% of site), Orange Creek (9% of site), Owen Springs (7% of site); Crown Lease - Ghan Preservation Society (11% of site)

Description: Includes the outcropping sequence of sedimentary rocks associated with the Ooraminna anti-cline and the surrounding outwash plains underlain by porous sandstone geologies and minor exposures of the same. Of particular note is the prominence of Devonian sandstones in the outcropping rocks (ie Hermannsburg and Mereenie sandstones). To the south the site is bounded by a series of east-west oriented travertine outcrops.

Notes: This site supports a high number of rare and threatened plant taxa and possibly rare plant communities as evidenced by the presence of mature stands of *Brachychiton gregorii*, which grow on the sandplains to the east and west of the site. The site is of particular note for the presence of two of the three known sites for the vulnerable *Eremophila A48866 Rainbow Valley*. One of these sites, found recently, is the largest currently known and supports many hundreds of plants. The site also incorporates the type localities of both *Aristida arida* and *Cullen pallidum*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Eremophila A48866 Rainbow Valley* {2VCi [NE] only known in FIN from this site}, *Harnieria kempeana subsp. kempeana* {3RC- only known in FIN from this site}, *Sedopsis filsonii* {3RC- only known in FIN from this site}

Taxa of NT significance: *Calotis cymbacantha* {3kC- [N]}, *Corynotheca licrota* {3rC- [N]}, *Goodenia havilandii* {3rC-}, *Parietaria cardiostegia* {3r}, *Zygophyllum rowelliae* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Brachychiton gregorii* {FIN (apparently rare)}, *Eucalyptus mannensis* {FIN (eastern range limit) [E]}

Other taxa only known in FIN bioregion (NT portion) from this site: *Acacia coriacea subsp. sericophylla*, *Dicrastylis lewellinii*, *Eragrostis cumingii*, *Mollugo cerviana*, *Ozothamnus kempei*, *Panicum effusum*, *Pleurosorus rutifolius*, *Pluchea dunlopii*, *Vigna lanceolata var. latifolia*

Type locations of the following were collected from the site: *Aristida arida* (1956), *Cullen pallidum* (1955)

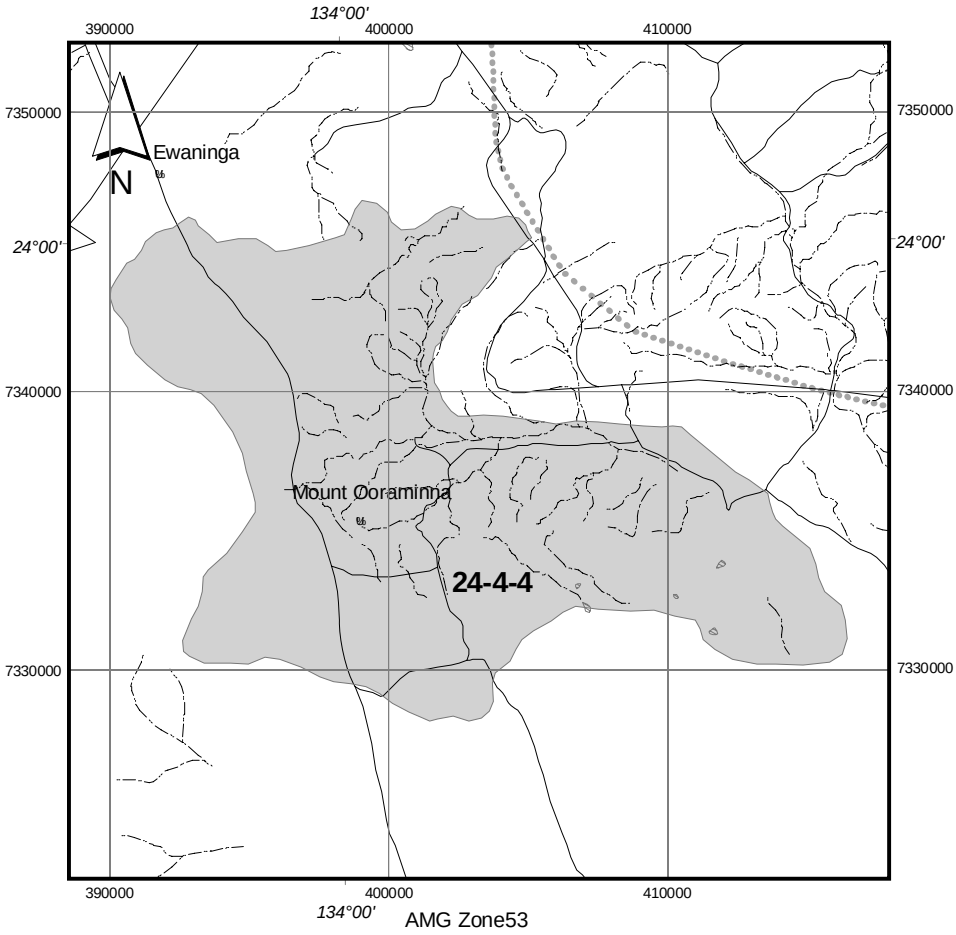
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 72 (1 < %): *Acacia kempeana* (Witchetty Bush) sparse-shrubland to tall sparse-shrubland with grassland understorey.

Map unit 66 (48 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 71 (23 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 83 (28 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.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AMG Zone53

Site: 25-2-3 Mount Conner

Level of significance: national

Location: 25º 31' S 131º 53' E; ca. 95 km ESE of Yulara.

Area: 163 km^2 **Map sheet:** Ayres Rock SG 52-8

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Curtain Springs Station (100% of site)

Description: This site is centred on Mount Conner, a large mesa, capped by resistant sandstone (a unit of the Winnall Beds), which rises some 300m above the sand plains. Partially encircling Mount Conner are two curved ridges of Inindia Sandstone - this system of ridges roughly delineates the site.

Notes: The site supports extensive stands of the 'rare' N.T. endemic *Acacia ammobia*. *A.ammobia* is a structural dominant over several thousand hectares to the west of Mount Conner. In addition, there are numerous seasonal swamps and depressions between Mount Conner and the outlying Inindida Sandstone ridges. A diversity of ephemeral wetland plants including the rarely seen *Eleocharis papillosa* have been recorded in the area.

Criteria satisfied: B1 b2 i), B1 b1 i)

Taxa of Australian significance: *Acacia ammobia* {3RC- [S]}, *Eleocharis papillosa* {3R [S]}, *Sauropus ramosissimus* {3KC-}, *Stylidium inaequipetalum* {3RCa}

Taxa of NT significance: *Cymbopogon dependens* {3kC-}, *Elacholoma hornii* {3rC-}, *Lawrencia viridi-grisea* {3r only known in FIN from this site}, *Maireana pentatropis* {3r}, *Malacocera biflora* {3r (border) only known in NT from this site}, *Sclerolaena birchii* {3k only known in FIN from this site}, *Swainsona acuticarinata* {3kC-}, *Vittadinia dissecta var. hirta* {3kC-}, *Zygophyllum ovatum* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Schoenoplectus laevis* {FIN (disjunct and apparently rare) only known in FIN from this site}

Other taxa only known in FIN bioregion (NT portion) from this site: *Acacia ayersiana*, *Amyema gibberula var. gibberula*, *Dicrastylis gilesii*, *Dicrastylis gilesii var. bagotensis*, *Hibiscus solanifolius*, *Pluchea dentex*, *Ptilotus obovatus var. griseus*, *Senecio laceratus*

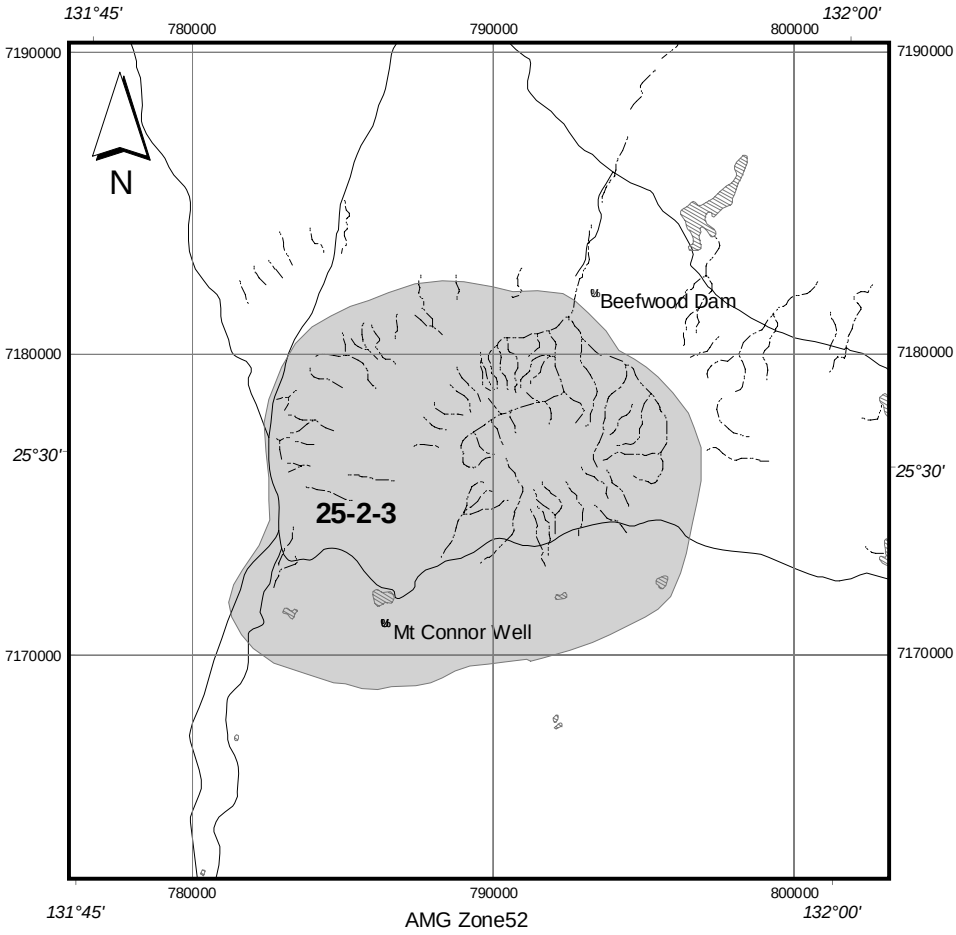
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 93 (39 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 66 (11 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 67 (35 %): *Acacia ammobia* tall open-shrubland with sparse-grassland understorey.

Map unit 82 (13 %): *Triodia basedowii* (Hard Spinifex)hummock grassland with *Acacia aneura* (Mulga) tall sparse-shrubland overstorey between dunes.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Site: 25-4-1 Beddome Range

Level of significance: national

Location: 25º 55' S 134º 24' E; ca. 90 km east of Kulgera.

Area: 853 km^2 **Map sheet:** Finke SG 53-6

Bioregions: Finke (FIN 95.5%) & STP (4.5%)

Tenure: Pastoral Lease - New Crown Station (82% of site), Umbeara Station (17% of site)

Description: The site comprises a low tableland to 400m ASL and includes the catchments of Duffield Creek and the upper catchment of Coglin Creek. The geology across the site is principally siltstones and shales of the Rumbalara formation, with minor exposures of sandstone. The site supports taxa and communities which are uncommon in the study area.

Notes: The site has had little grazing by stock throughout the last century, due to a lack of watering points but has had a serious and ongoing problem with rabbits. The site includes the largest and most vigorous stands of *Acacia latzii* and is therefore a major area for the conservation of this nationally vulnerable plant species.

Criteria satisfied: A1b i), B1 b2 i), B1 b1 i)

Taxa of Australian significance: *Acacia latzii* {3V}, *Zygophyllum crassissimum* {3KC-}

Taxa of NT significance: *Acacia symonii* {3r (border) [N,E] only known in NT from this site}, *Arabidella glaucescens* {3r}, *Atriplex nummularia subsp. omissa* {3k (border) [N] only known in FIN from this site}, *Atriplex quadrivalvata var. quadrivalvata* {3r}, *Atriplex quinii* {3r (border)}, *Bulbine alata* {3k}, *Calandrinia remota* {3kC-}, *Cyperus alterniflorus* {3r (border) only known in NT from this site}, *Enneapogon caerulescens var. caerulescens* {3r only known in FIN from this site}, *Eremophila serrulata* {3k (border)}, *Euphorbia stevenii* {3k only known in FIN from this site}, *Goodenia calcarata* {3r (border) only known in NT from this site}, *Heliotropium inexplicitum* {3k only known in FIN from this site}, *Ixiochlamys nana* {3kC-}, *Lepidium strongylophyllum* {3r}, *Maireana carnosa* {3rC-}, *Maireana ovata* {3r (border)}, *Pimelea simplex subsp. continua* {3r only known in FIN from this site}, *Sclerolaena longicuspis* {3r}, *Sclerolaena parallelicuspis* {3rC-}, *Sclerostegia disarticulata* {3rC-}, *Senecio glossanthus* {3r (border) only known in NT from this site}, *Threlkeldia inchoata* {3k only known in FIN from this site}, *Zygophyllum rowelliae* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in FIN bioregion (NT portion) from this site: *Amyema quandang var. quandang*, *Brachyachne ciliaris*, *Dichanthium sericeum subsp. humilius*, *Euphorbia drummondii entity B*, *Iseilema eremaeum*, *Ptilotus helipteroides var. minor*, *Setaria dielsii*, *Vittadinia sulcata*

Type locations of the following were collected from the site: *Acacia latzii* (1977)

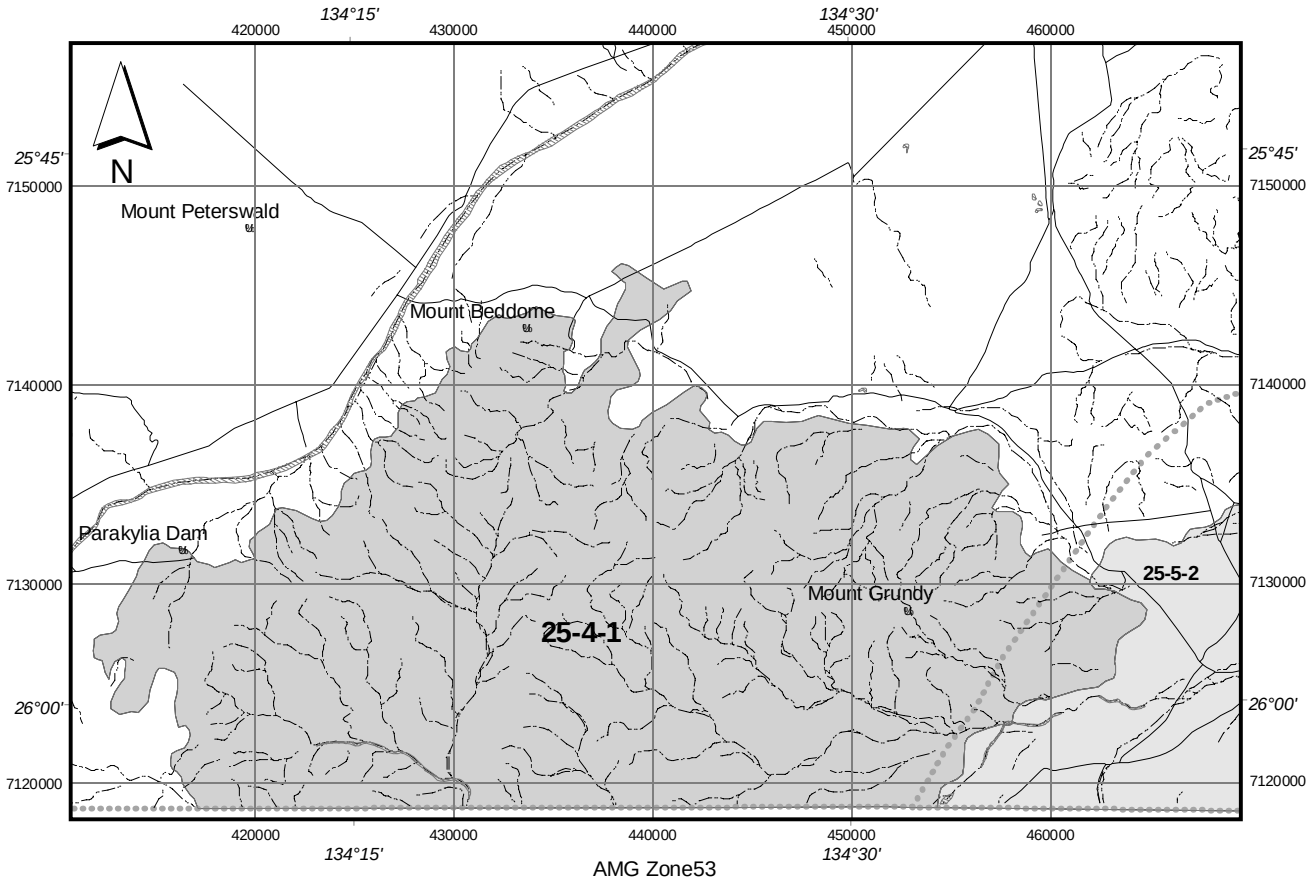
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 82 (1 < %): *Triodia basedowii* (Hard Spinifex)hummock grassland with *Acacia aneura* (Mulga) tall sparse-shrubland overstorey between dunes.

Map unit 64 (3 %): *Acacia georginae* (Gidyea) low open-woodland with herbland understorey.

Map unit 110 (24 %): *Atriplex vesicaria* (Bladder Saltbush) low sparse-shrubland with ephemeral open-herb/grassland.

Map unit 70 (70 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.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134°30'
450000
460000
N
25°45'
7150000
Mount Peterswald
Mount Beddome
7140000
Parakylia Dam
25-5-2
7130000
Mount Grundy
25-4-1
26°00'
7120000
AMG Zone53

5.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE NT PORTION OF THE FINKE BIOREGION

Site: 24-3-7 Fox Salt lakes

Level of significance: bioregional

Location: 24º 57' S 133º 14' E; Henbury-Erldunda Plains.

Area: 37 km^2 **Map sheet:** Henbury SG 53-1

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Palmer Valley Station (100% of site)

Description: This site incorporates a series of saline lakes to the north of Fox Dam.

Notes: The site supports a number of regionally significant vascular plant species.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Maireana appressa* {3k}, *Sida everistiana* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Triglochin hexagonum* {FIN (apparently rare and disjunct) only known in FIN from this site}

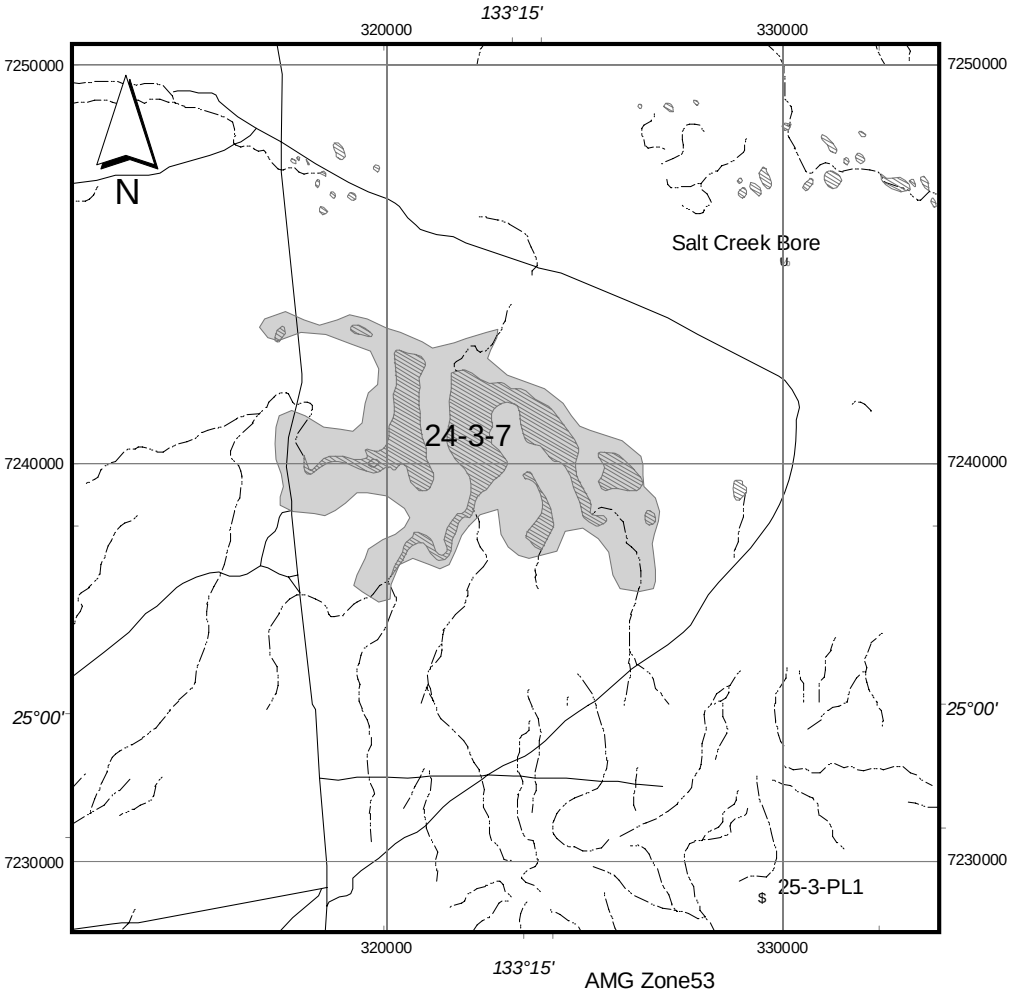
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 108 (58 %): *Maireana astrotricha* (Southern Bluebush) low open-shrubland with ephemeral open-herb/grassland.

Map unit 93 (2 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 83 (1 < %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 111 (38 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.


133°15'
320000
330000
7250000
7240000
7230000
25°00'
N
Salt Creek Bore
24-3-7
25-3-PL1
AMG Zone53

Site: 24-4-3 James Range East

Level of significance: bioregional

Location: 24º 21' S 133º 58' E; Low sandstone outlier of the Central Macdonnell Ranges to the south of Alice Springs.

Area: 239 km^2 **Map sheet:** Rodinga SG 53-2

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Deepwell Station (51% of site), Orange Creek Station (20% of site); Freehold - Mpwelarre Aboriginal Land Trust (21% of site); Other Crown Land (8% of site)

Description: Site includes the James Ranges east of James Holland Bore and associated run on areas. This is a low outlier of the Central Macdonnell Ranges. The high point of the range is Mount Peachy which rises to about 600 m ASL - only 100 m above the surrounding plains and dunefields. The northern fall of the ranges is composed of Devonian (Hermannsburg) sandstones, while the southern fall is primarily Cambrian and Ordovician marine sediments - dolomites, limestones and siltstones. There are also minor occurrences of Mereenie sandstone outcropping at the surface.

Notes: The most southerly record of the 'rare' and as yet undescribed *Cratystylis A36062 Glen Helen* occurs in these ranges.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Cratystylis A36062 Glen Helen* {3RC- [S]}, *Zygophyllum crassissimum* {3KC-}

Taxa of NT significance: *Calotis cymbacantha* {3kC-}, *Pachycornia triandra* {3r}, *Parietaria cardiostegia* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in FIN bioregion (NT portion) from this site: *Heliotropium pachyphyllum, Schizachyrium fragile, Streptoglossa decurrens*

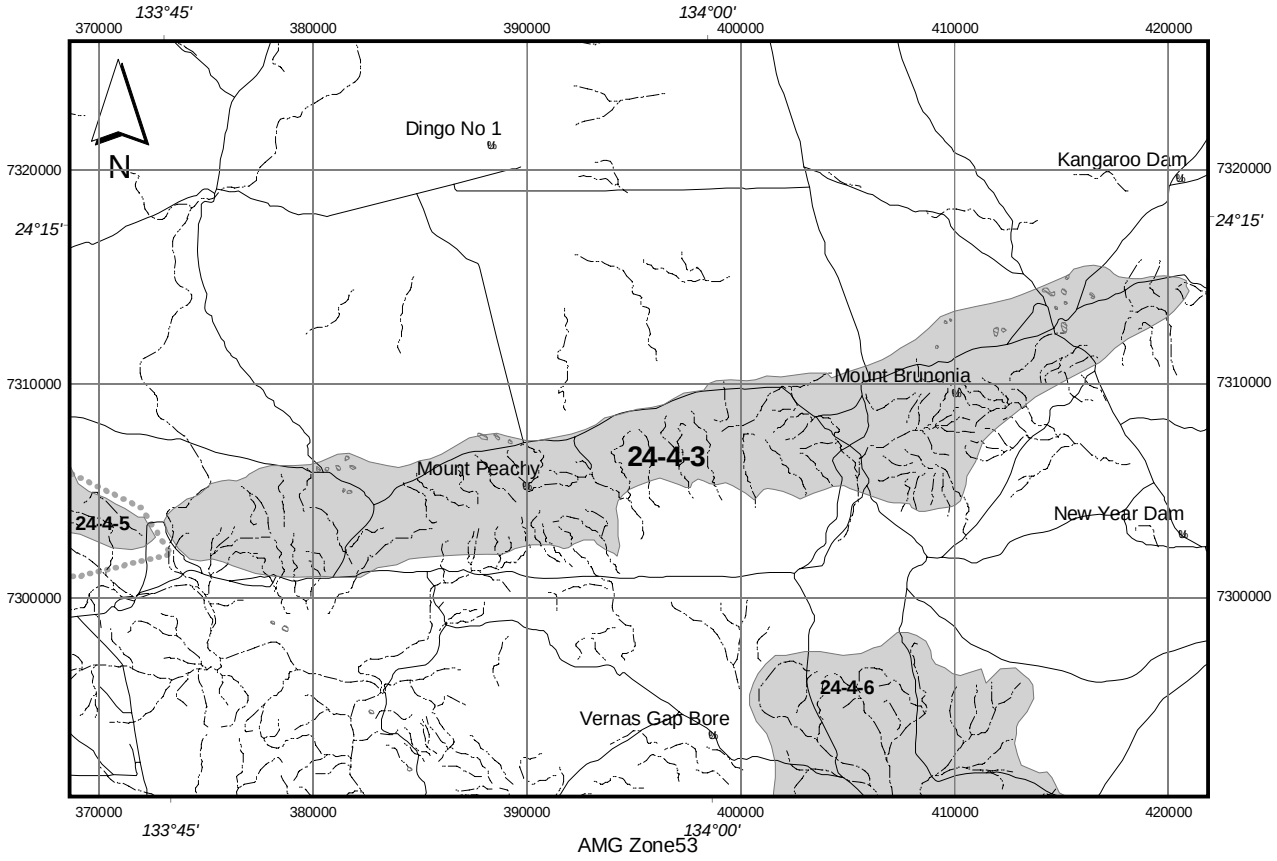
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 71 (4 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 83 (36 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 73 (1 < %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.

Map unit 87 (58 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.



Site: 24-4-6 Camel Creek

Level of significance: bioregional

Location: 24º 30' S 134º 4' E; Old Rodinga railway siding

Area: 175 km^2 **Map sheet:** Rodinga SG 53-02

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Maryvale Station (71% of site) and Deepwell (28% of site)

Description: The catchment of Camel Creek.

Notes: Interesting occurrences of uncommon chenopods, particularly *Pachycornia triandra*. Further survey of this area is warranted.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Pachycornia triandra* {3r}

Taxa of Southern NT (study area) significance: none

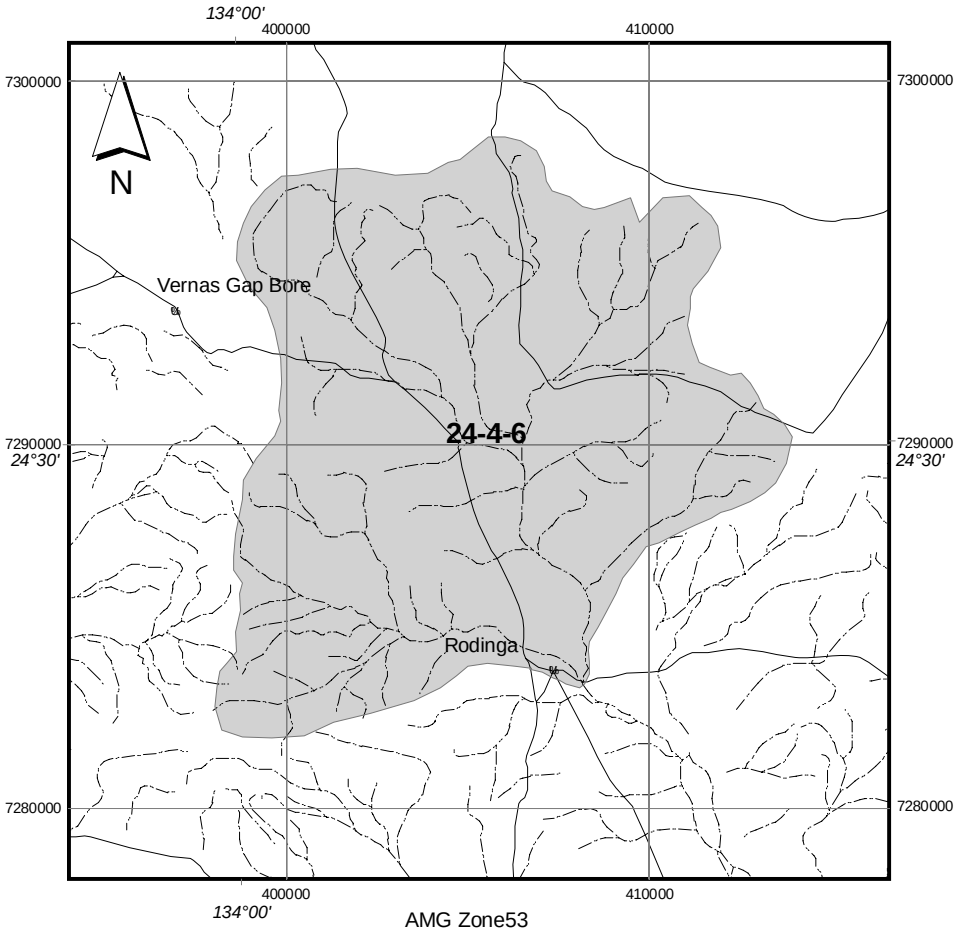
Taxa of bioregional significance: none

Other taxa only known in FIN bioregion (NT portion) from this site: *Hibiscus brachysiphonius*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 83 (1 < %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 73 (99 %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.



Site: 25-3-1 Karinga Creek

Level of significance: bioregional

Location: 25º 18' S 133º 6' E; Basement of the Amadeus Basin - Henbury/Erldunda Plains.

Area: 502 km^2 **Map sheet:** Kulgera SG 53-5

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Lyndavale (9% of site), Erldunda Station (68% of site) and Idracowra Station (21% of site)

Description: The site comprises the bed and terraces of Karinga Creek (and some tributaries) and the extensive chain of associated salinas and discharge basins. Apart from the extensive playa deposits, the geology of the site includes outcrops of silcrete and weathered talus, aeolian sand, alluvium and some minor exposures of Devonian shales, the basement geology in this area. Playa deposits include mineralised clays, gypsiferous sands (or kopi) and source bordering lunettes. This site has a diversity of hyper-saline, semi-saline and gypseous environments.

Notes: The site includes the type locality of *Angianthus cyathifer*.

Criteria satisfied: A1b ii), B1 b2 ii), B1 b1 ii)

Taxa of Australian significance: *Sclerolaena symoniana* {3KC-}

Taxa of NT significance: *Acacia nyssophylla* {3k}, *Bulbine alata* {3k}, *Dissocarpus biflorus var. biflorus* {3k}, *Dodonaea microzyga var. microzyga* {3r}, *Dysphania sphaerosperma* {3r}, *Eriochlamys behrii* {3k}, *Frankenia punctata* {3r [E]}, *Gunniopsis septifraga* {3r only known in FIN from this site}, *Halosarcia calyptrata* {3k}, *Kippistia suaedifolia* {3r}, *Maireana pentatropis* {3r}, *Maireana schistocarpa* {3k}, *Osteocarpum acropterum var. acropterum* {3k}, *Sclerochlamys brachyptera* {3k}, *Sclerolaena parallelicuspis* {3rC-}, *Tetragonia eremaea* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in FIN bioregion (NT portion) from this site: *Halosarcia halocnemoides, Halosarcia pergranulata subsp. elongata*

Type locations of the following were collected from the site: *Angianthus cyathifer* (1974)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 93 (10 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

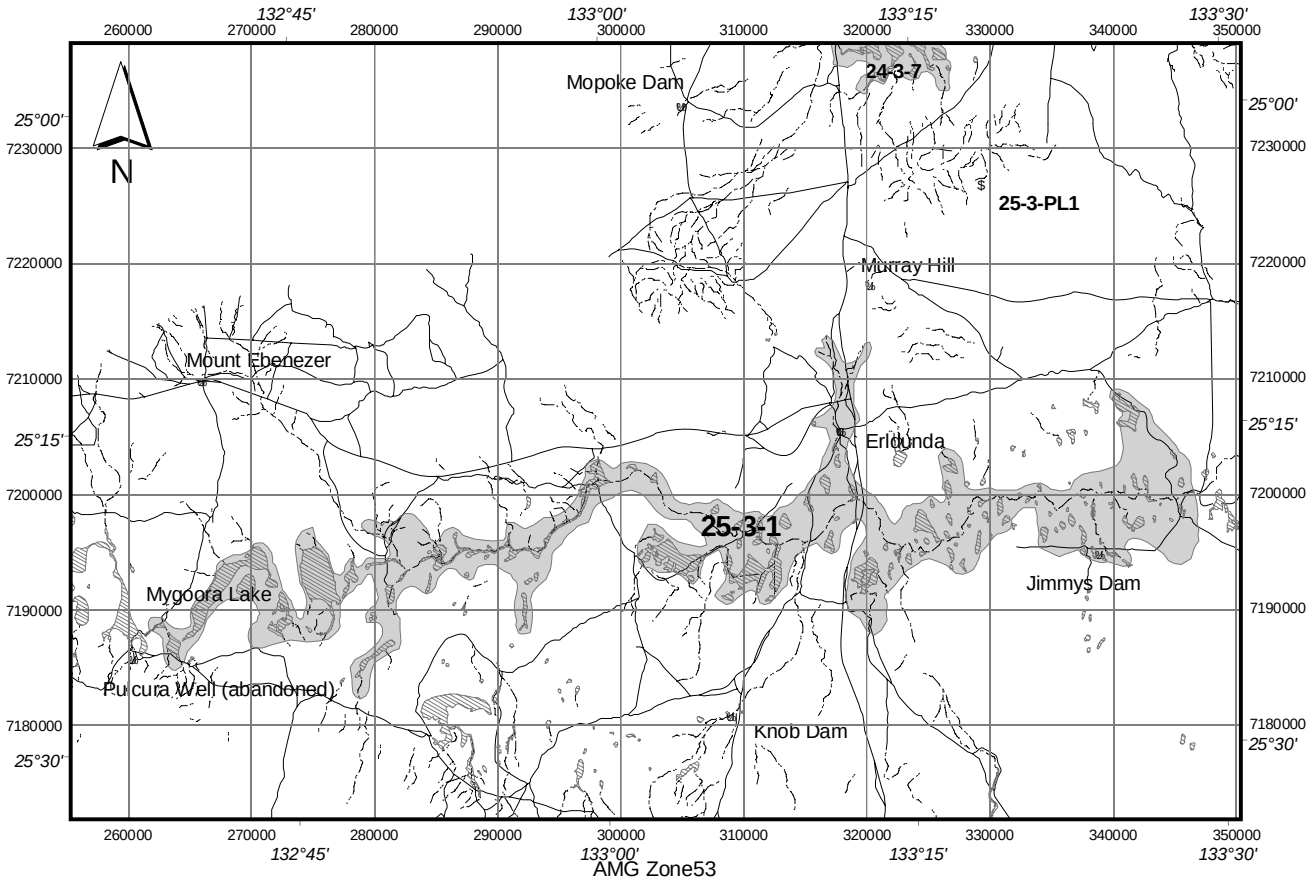
Map unit 108 (32 %): *Maireana astrotricha* (Southern Bluebush) low open-shrubland with ephemeral open-herb/grassland.

Map unit 111 (18 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 71 (6 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 83 (15 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 82 (17 %): *Triodia basedowii* (Hard Spinifex)hummock grassland with *Acacia aneura* (Mulga) tall sparse-shrubland overstorey between dunes.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25°00'
25°15'
25°30'
7230000
7220000
7210000
7200000
7190000
7180000
N
Mopoke Dam
24-3-7
25-3-PL1
Murray Hill
Mount Ebenezer
Erldunda
25-3-1
Jimmys Dam
Mygoora Lake
Pucura Well (abandoned)
Knob Dam
AMG Zone53

Site: 25-3-2 Ayres Range

Level of significance: bioregional

Location: 25º 57' S 133º 2' E; South East of Kulgera on the Northern Territory - South Australian border.

Area: 347 km^2 **Map sheet:** Kulgera SG 53-5

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Victory Downs Station (36% of site) and Mount Cavenaugh Station (61% of site); Other crown land (2% of site)

Description: The site comprises the Ayres Range and surrounding limestone and alluvial plains and minor outcropping granite, granodiorite and gneiss. The vegetation across the site is diverse, supporting low chenopod shrubland and Mulga woodlands.

Notes: Recent collecting in this area has highlighted the importance of this area.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Arabidella nasturtium* {3r only known in FIN from this site}, *Arabidella trisecta* {3kC-}, *Atriplex fissivalvis* {3r (border) [N,W] only known in FIN from this site}, *Chthonocephalus pseudevax* {3r}, *Cymbopogon dependens* {3kC-}, *Dissocarpus biflorus var. biflorus* {3k}, *Eremophila serrulata* {3k (border)}, *Eriochiton sclerolaenoides* {3k}, *Eriochlamys behrii* {3k}, *Maireana lobiflora* {3k}, *Malacocera tricornis* {3k}, *Sclerochlamys brachyptera* {3k}, *Sida everistiana* {3r}, *Sida intricata* {3r only known in NT from this site}, *Tetragonia eremaea* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

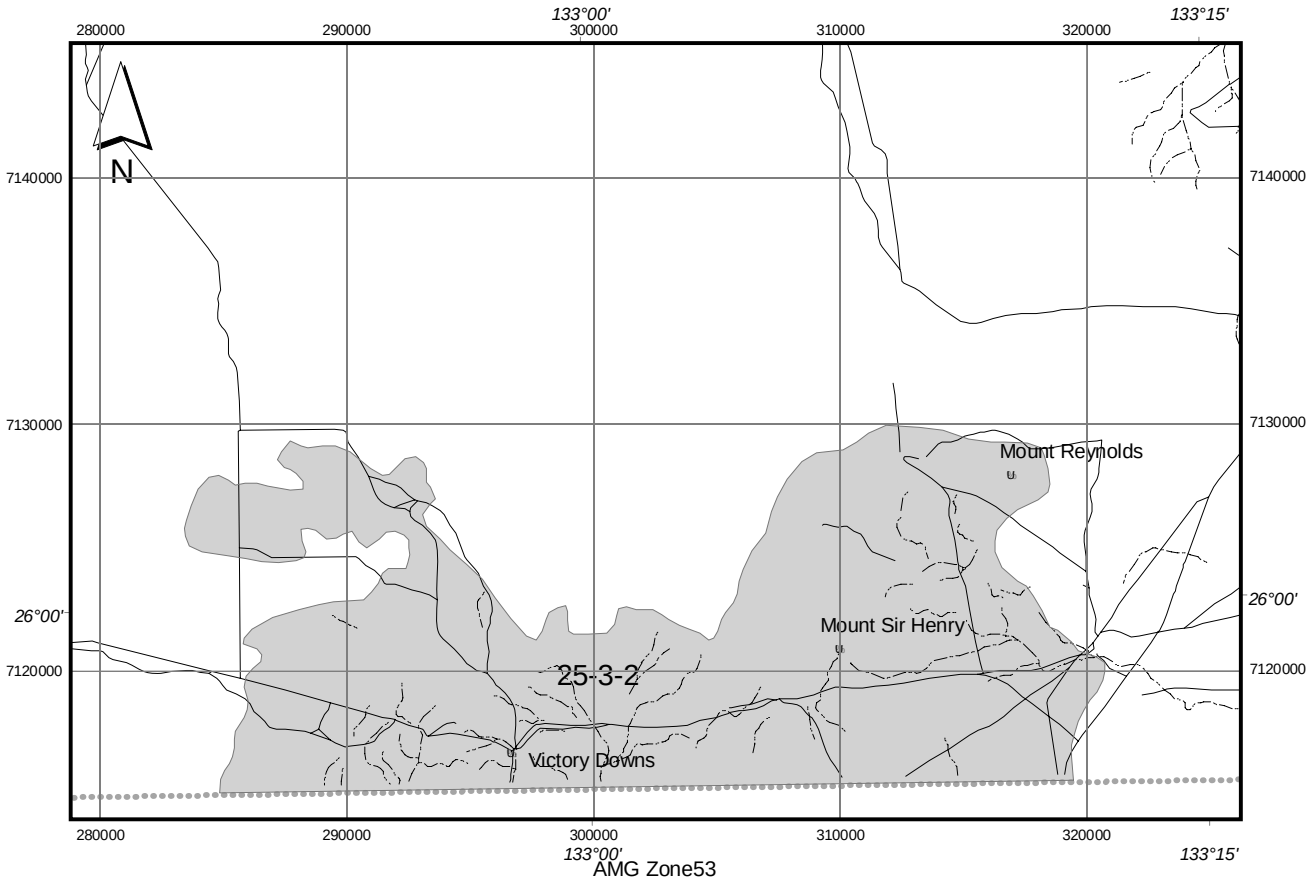
Other taxa only known in FIN bioregion (NT portion) from this site: *Eriachne pulchella subsp. pulchella, Gossypium sturtianum var. sturtianum, Grahamia australiana*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 71 (32 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 65 (1 < %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 60 (67 %): *Acacia aneura* (Mulga), *Hakea* (Needlewood) low open-woodland with herb/grassland understorey.


133°00′
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280000
290000
300000
310000
320000
N
7140000
7130000
7120000
26°00′
Mount Reynolds
Mount Sir Henry
25-3-2
Victory Downs
AMG Zone53

Site: 25-3-5 Kernot Range

Level of significance: bioregional

Location: 25º 6' S 132º 7' E; Isolated low range surrounded by sandplain - 15km south west of Angus Downs Station Homestead.

Area: 209 km^2 **Map sheet:** Kulgera SG 53-5

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Angas Downs Station (100% of site)

Description: The site is centred on the Kernot Range and includes the footslopes, surrounding plains and run-on areas. The main ridge-line of the range is composed of quartz sandstone. The site includes the weathered and partially lithified talus slopes beneath the range and minor outcrops of calcrete. Numerous claypans fringe the base of these hills.

Notes: Extensive stands of mature Mulga shrublands (*Acacia aneura*) can be found on the northern fall of the Kernot Ranges.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Acacia ammobia* {3RC- [NE]}, *Sauropus ramosissimus* {3KC-}

Taxa of NT significance: *Amyema miraculosa subsp. boormanii* {3k}, *Arabidella trisecta* {3kC-}, *Einadia nutans subsp. nutans* {3rC- only known in FIN from this site}, *Eremophila maculata var. brevifolia* {3r only known in FIN from this site}, *Gilesia biniflora* {3k}, *Ixiochlamys nana* {3kC-}, *Ophioglossum polyphyllum* {3rC- only known in FIN from this site}, *Streptoglossa cylindriceps* {3kC-}, *Zygophyllum ovatum* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in FIN bioregion (NT portion) from this site: *Centipeda minima subsp. A94915 NDhala Gorge*, *Hibiscus sturtii var. truncatus*, *Pomax rupestris*, *Synaptantha tillaeacea var. tillaeacea*

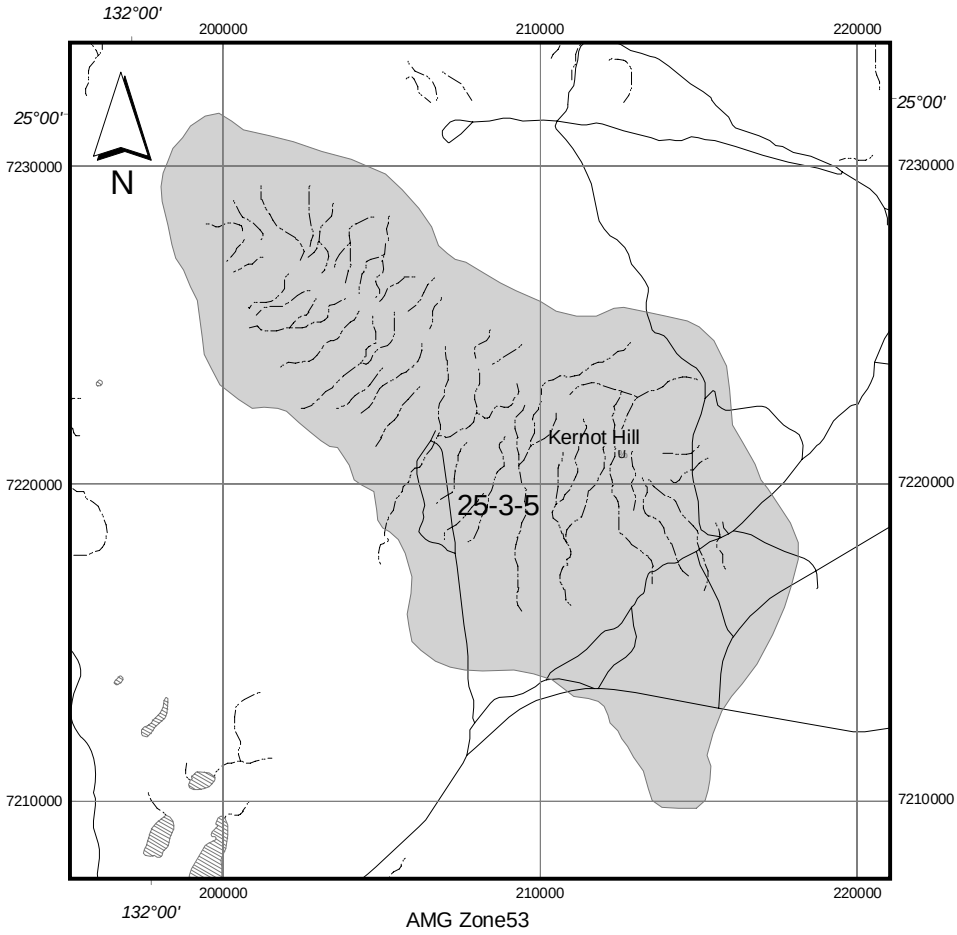
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 82 (34 %): *Triodia basedowii* (Hard Spinifex)hummock grassland with *Acacia aneura* (Mulga) tall sparse-shrubland overstorey between dunes.

Map unit 108 (26 %): *Maireana astrotricha* (Southern Bluebush) low open-shrubland with ephemeral open-herb/grassland.

Map unit 66 (20 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 93 (18 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.


132°00'
200000
210000
220000
25°00'
7230000
N
Kernot Hill
25-3-5
7220000
7210000
AMG Zone53

Site: 25-4-2 Rumbalara

Level of significance: bioregional

Location: 25º 12' S 134º 34' E; 40 km north of Finke settlement.

Area: 323 km^2 **Map sheet:** Finke SG 53-6

Bioregions: Finke (FIN 77.2%) & Simpson-Strzelecki Dunefields (SSD 22.8%)

Tenure: Pastoral Lease - Horseshoe Bend Station (98% of site) and New Crown Station (1% of site)

Description: The site is centred on the Rumbalara Range, a weathered landscape of mesa, butts, duricrusted hills and breakaways fringing the Simpson Desert. The range is composed of weathered shales, sandstones, tilites and mudstones.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Arabidella glaucescens* {3r [N] only known in SSD from this site}, *Chthonocephalus pseudevax* {3r}, *Eremophila battii* {3r}, *Lepidium strongylophyllum* {3r only known in SSD from this site}, *Peplidium foecundum* {3k}, *Sclerolaena parallelicuspis* {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Heliotropium filaginoides* {FIN (western range limit) [W] only known in FIN from this site}, *Sida argillacea* {SSD (apparently rare) only known in SSD from this site}

Other taxa only known in FIN bioregion (NT portion) from this site: *Eriachne pulchella*, *Ptilotus helipteroides var. helipteroides*, *Vittadinia arida*

Other taxa only known in SSD bioregion (NT portion) from this site: *Dysphania kalpari*, *Minuria integerrima*

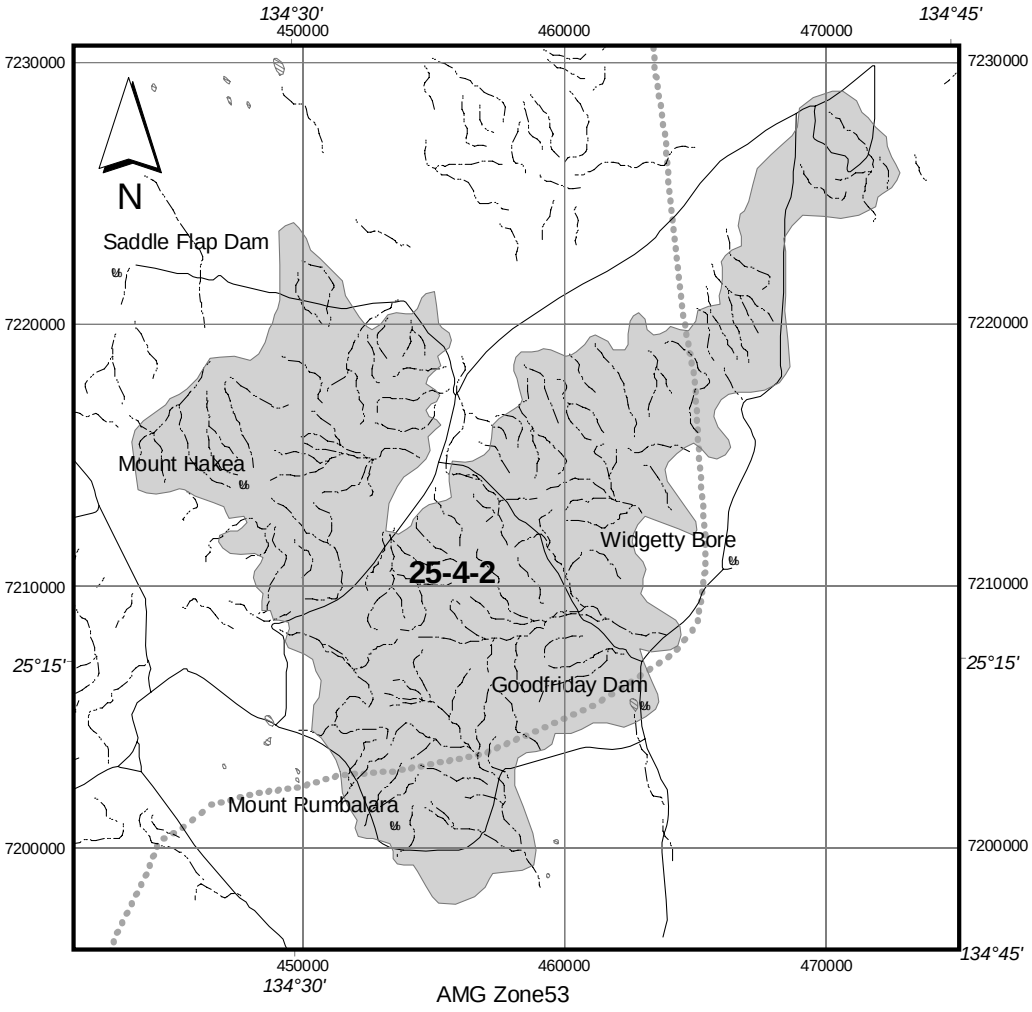
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 70 (72 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.

Map unit 83 (1 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 84 (13 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee) tall sparse-shrubland overstorey.

Map unit 85 (12 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.


134°30'
134°45'
450000
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7230000
7220000
7210000
7200000
25°15'
N
Saddle Flap Dam
Mount Hakea
Widgetty Bore
25-4-2
Goodfriday Dam
Mount Rumbalara
AMG Zone53

Site: 25-4-3 Poona

Level of significance: bioregional

Location: 25º 11' S 133º 45' E; ca. 30 km east of Erldunda just short of the termination of Karinga Creek.

Area: 105 km^2 **Map sheet:** Finke SG 53-6

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Horseshoe Bend Station (27% of site) and Idracowra Station (72% of site)

Description: This site encloses a series of saline lakes strewn along the course of a paleo-tributary of the Finke River. The site includes associated lunettes and the adjoining sandplain. See also site 25-3-1 (Karinga Creek).

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Eriochiton sclerolaenoides* {3k}, *Kippistia suaedifolia* {3r}

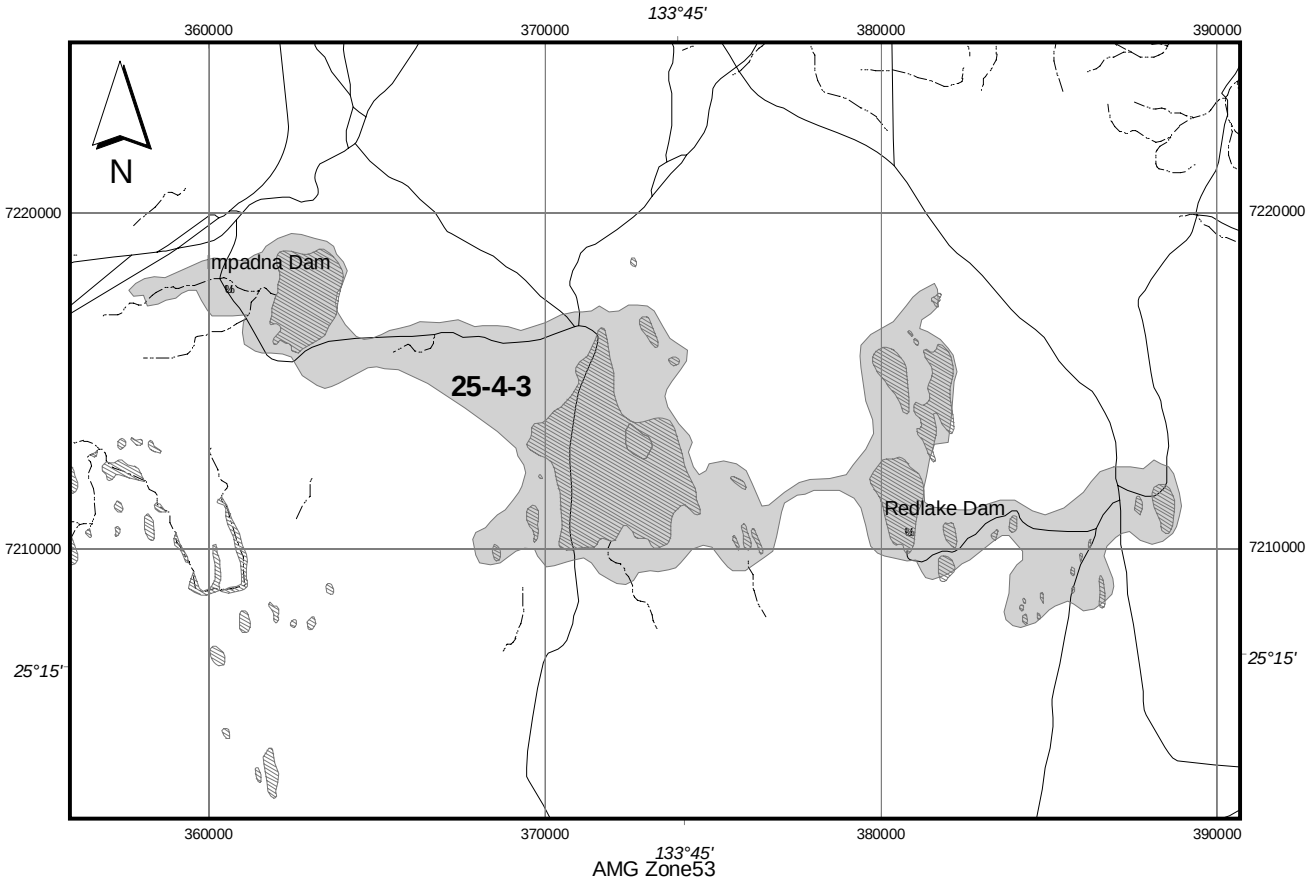
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Josephinia eugeniae* s.lat. {FIN (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 108 (57 %): *Maireana astrotricha* (Southern Bluebush) low open-shrubland with ephemeral open-herb/grassland.

Map unit 83 (42 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.



5.4 SITES OF UNDETERMINED SIGNIFICANCE IN THE NT PORTION OF THE FINKE BIOREGION

Site: 24-2-DN1 Golden Valley

Level of significance: undetermined

Location: 25º 57' S 131º 44' E; ENE of the eastern end of Lake Amadeus.

Area: only mapped as point location **Map sheet:** Lake Amadeus SG 52-04

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Curtain Springs Station

Description: Extensive area of ungrazed *Acacia aneura* and *Acacia ramulosa* shrublands (D.Nelson pers. comm.).

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 25-3-PL1 Mount Sunday

Level of significance: undetermined

Location: 25º 3' S 133º 19' E; ca. 5 km NNE of Erldunda.

Area: only mapped as point location **Map sheet:** Kulgera SG 53-5

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Palmer Valley Station

Description: This site highlights a small outcropping of Mereenie sandstone - the Mount Sunday Range.

Notes: Area requires further investigation.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 25-4-PL1 Reticulate Dunes on the Finke

Level of significance: undetermined

Location: 25º 2' S 133º 44' E; Just to the north of Idracowra homestead.

Area: only mapped as point location **Map sheet:** Finke SG 53-06

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Idracowra Station

Description: Reticulate dune system to the south of the Finke River.

Notes: This area is considered to be a potential site for rare plants or interesting plant communities.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 25-4-PL2 Confluence of Finke and Hugh Rivers

Level of significance: undetermined

Location: 25º 0' S 134º 11' E; The junction of the Finke and Hugh Rivers.

Area: only mapped as point location **Map sheets:** Finke SG 53-06 & Rodinga SG 53-02

Bioregion: Finke (FIN)

Tenure: Pastoral Lease - Maryvale Station.

Description: Dunefield enclosed by the Hugh and Finke Rivers.

Notes: This site supports long-unburnt vegetation. The area reputedly has good stands of *Acacia nyssophylla*.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

6. Great Sandy Desert Bioregion

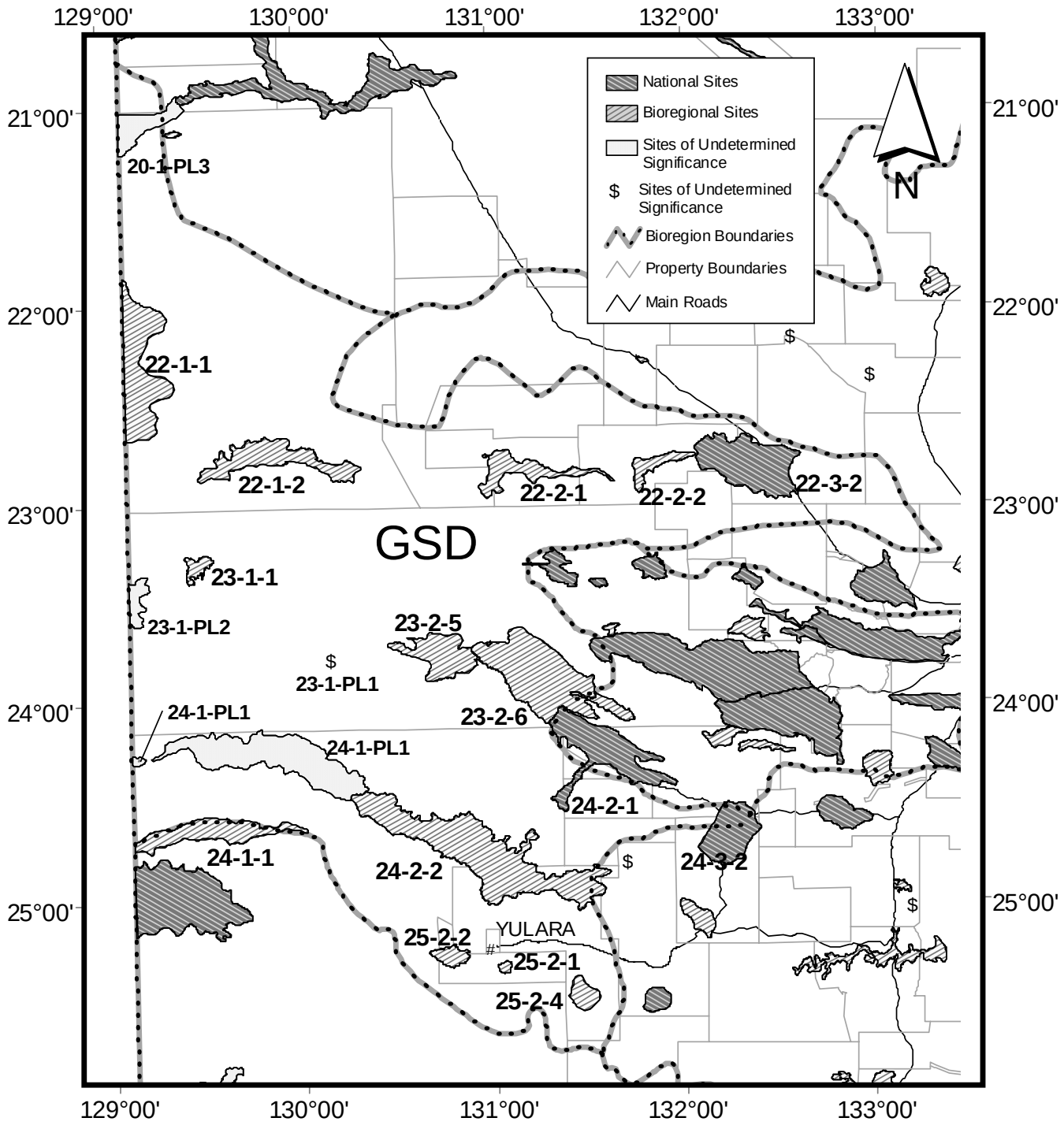
6.1 OVERVIEW OF THE NT PORTION OF THE GREAT SANDY DESERT BIOREGION

The Great Sandy Desert bioregion comprises an area of 394,600km^2, 26% (100,600km^2) of which is located in the Northern Territory. The extensive NT portion of this large bioregion is characterised by gently undulating stepped plains. Occasional outcrops of sandstone emerge from the sandplain as ranges or inselbergs and include the Kintore Range, the Cleland Hills, Uluru and Kata Tjuta. The predominant soils on the sandplains are earthy sands. Hummock (*Triodia* spp.) dominated grassland is prevalent over much of the bioregion typically forming woodland and shrubland associations with Desert Oak (*Allocasuarina decaisneana*) and various *Acacia* spp. (commonly *Acacia melleodora, A. ligulata* and *A. pruinocarpa*). The plains are also crossed by a series of ancient watercourses and drainage depressions. These deflated basins present as a series of saline playa lakes in-filled with more recent alluvium. These lakes are rarely filled and support samphire (*Halosarsia* spp. dominated vegetation) and Inland *Melaleuca* (*Melaleuca glomerata*) shrublands.

The climate of the NT portion of this bioregion is arid sub-tropical with rainfall patterns strongly influenced by the summer monsoon and coastal cyclones. In the south of the bioregion winter rainfalls may be significant from time to time. However, seasonal and annual rainfall is highly variable and extended periods of low rainfall are typical. Regular frosts are also a feature of winter months.

Apart from the notable exception of Uluru Kata Tjuta National Park, the botanical values of this bioregion are poorly known. In particular, the remote saline lake systems such as Lake Mackay, Lake Amadeus and Lake Neale have rarely been visited by western biologists. A total of 181 indigenous vascular plant taxa are currently considered to of conservation significance in the NT portion of the Great Sandy Desert bioregion. These taxa are listed in volume 1, appendix 3.

Index to Sites in and adjacent to Great Sandy Desert bioregion (NT portion)



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6.2 SITES OF NATIONAL SIGNIFICANCE IN THE NT PORTION OF THE GREAT SANDY DESERT BIOREGION

Site: 22-3-2 Lake Lewis

Level of significance: national

Location: 22º 49' S 132º 24' E; ca. 90 km south east of Yuendumu.

Area: 1326 km^2 **Map sheets:** Napperby SF 53-9 & Hermannsburg SF 53-13

Bioregion: Great Sandy Desert (GSD)

Tenure: Crown Freehold (31% of site), Pastoral Lease - Napperby Station (63% of site), Derwent Station (2% of site)

Description: This site is bounded in the south by the 'shoreline' of Lake Lewis and associated saline lakes. To the north, the boundary of the site extends out onto the alluvial plains to the north of the Stuart Bluff Range. Here there are numerous claypans and mineralised discharge areas. There are also what appear to be extinct mound springs in this area.

Notes: The botanical values are focused on the wetlands and low-lying areas of the site. The highly disjunct occurrence of *Swainsona laciniata* at this site is of particular importance. This is also the only known occurrence of this rare species in the NT. The site includes the type locations for *Triodia spicata*, *Eragrostis subtilis*, *Synaptantha tillaeacea var. hispidula*, *Centrolepis banksii*, *Schoenus centralis* and *Sclerolaena urceolata*.

Criteria satisfied: A1 a i), A1 b i), B1 b1 i), C1 b i)

Taxa of Australian significance: *Daviesia eremaea* {3K [N]}, *Eragrostis subtilis* {3K [SW] only known in GSD from this site}, *Schoenus centralis* {3K only known in GSD from this site}, *Stylidium inaequipetalum* {3RCa}, *Swainsona laciniata* {3K [NE] only known in NT from this site}

Taxa of NT significance: *Halosarcia halocnemoides subsp. tenuis* {3k}, *Lawrencia squamata* {3k}, *Paractaenum novae-hollandiae subsp. reversum* {3kC-}, *Streptoglossa cylindriceps* {3kC-}, *Swainsona cyclocarpa* {3k}

Taxa of Southern NT (study area) significance: *Fimbristylis nuda* {(disjunct & apparently rare) only known in GSD from this site}, *Sporobolus virginicus* {(disjunct)}

Taxa of bioregional significance: *Brachyachne convergens* {GSD (disjunct) only known in GSD from this site}, *Eleocharis atropurpurea* {GSD (disjunct and apparently rare) only known in GSD from this site}, *Eremophila glabra subsp. glabra* {GSD (northern range limit) [N]}, *Goodenia maideniana* {GSD (disjunct)}, *Grevillea eriostachya* {GSD (eastern range limit) [E]}, *Swainsona rostrata* {GSD (northern and western range limits) [NW] only known in GSD from this site}, *Swainsona tanamiensis* {GSD (disjunct and eastern range limit) [E]}, *Trema tomentosa var. viridis* {GSD (disjunct)}

Other taxa only known in GSD bioregion (NT portion) from this site: *Centrolepis banksii*, *Cressa cretica*, *Cyperus concinnus*, *Eragrostis basedowii*, *Euphorbia biconvexa*, *Goodenia fascicularis*, *Heliotropium curassavicum*, *Heteropogon contortus*, *Polycarpaea breviflora*, *Polycarpaea spirostylis*, *Schizachyrium fragile*, *Schoenoplectus dissachanthus*, *Schoenoplectus litoralis*, *Sphaeromorphaea australis*, *Stemodia florulenta*, *Tephrosia D53770 OT Station*, *Velleia connata*

Type locations of the following were collected from the site: *Eragrostis subtilis* (1972), *Schoenus centralis* (1975), *Sclerolaena urceolata* (1954), *Synaptantha tillaeacea var. hispidula* (1972)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 71 (22 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 93 (1 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 112 (29 %): Bare salt pan.

Map unit 27 (3 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

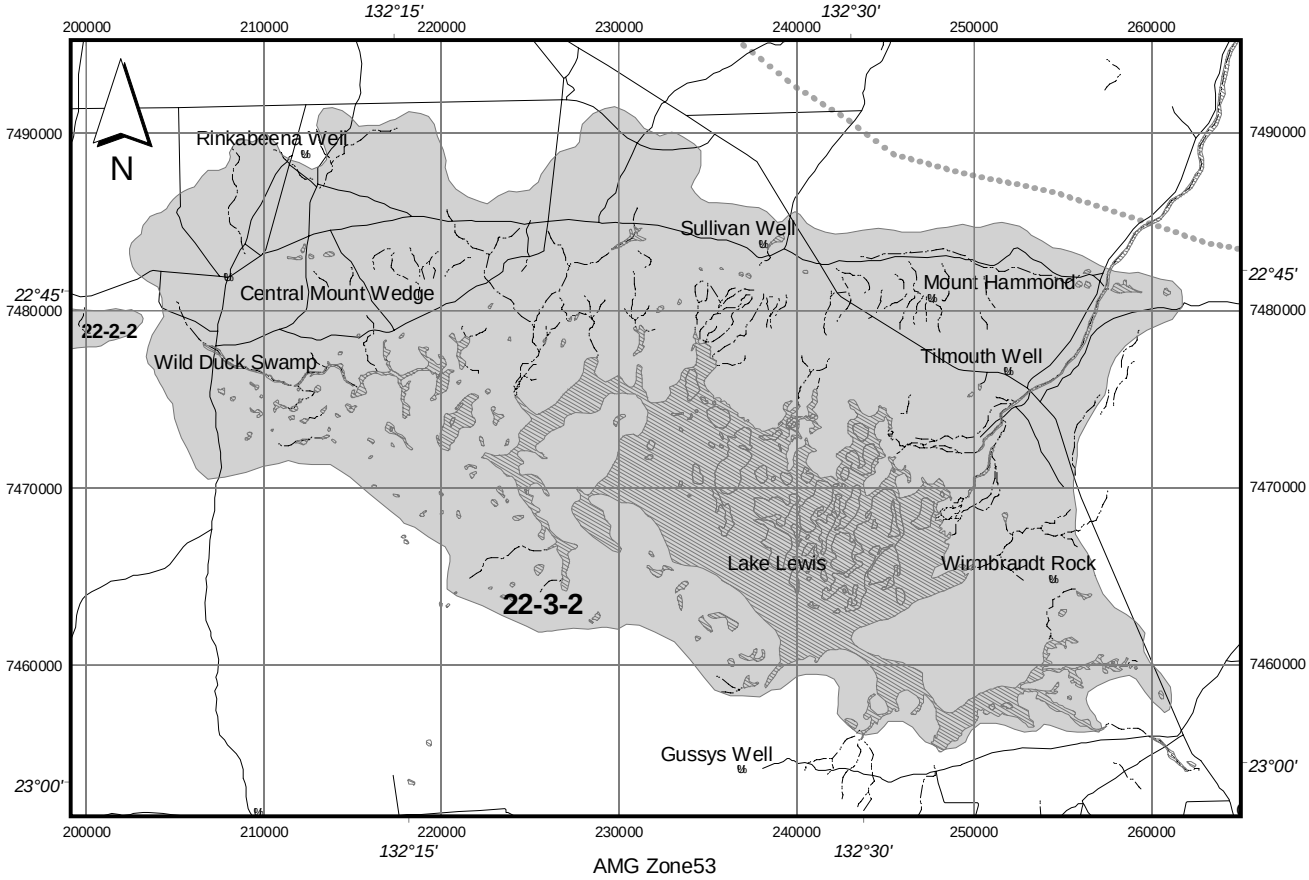
Map unit 58 (1 < %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 78 (6 %): *Triodia spicata* (Spike-flowered Spinifex) hummock grassland with *Grevillea wickhamii* (Holly *Grevillea*), *Acacia* sparse-shrubland overstorey.

Map unit 52 (20 %): *Melaleuca glomerata* (Inland Teatree) open-shrubland.

Map unit 65 (9 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 81 (6 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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Sullivan Well
Central Mount Wedge
Mount Hammond
22-2-2
Wild Duck Swamp
Tilmouth Well
Lake Lewis
Wirrnbrandt Rock
22-3-2
Gussys Well
AMG Zone53

6.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE NT PORTION OF THE GREAT SANDY DESERT BIOREGION

Site: 22-1-1 Lake MacKay

Level of significance: bioregional

Location: 22º 18' S 129º 5' E; Border of Western Australia and the Northern Territiory.

Area: 1394 km^2 **Map sheets:** Lake MacKay SF 52-11 & Highland Rocks SF 52-07

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Lake Mackay Aboriginal Land Trust (100% of site)

Description: Site includes the extensive series of saline lakes and discharge, straddling the Western Australian and Northern Territory borders. The site includes surrounding dunefields, sandplains and outcropping calcite, travertine and other evaporites.

Notes: The Lake Mackay basin requires further botanical exploration and general survey of plant communities. *Stackhousia D70123 Lake Mackay* is endemic to the site.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Sclerolaena symoniana* {3KC- [N]}, *Stackhousia D70123 Lake Mackay* {1K (border) endemic to/only known from this site}

Taxa of NT significance: *Acacia wiseana* {3r only known in GSD from this site}, *Atriplex flabelliformis* {3r (border) [E] only known in NT from this site}, *Calandrinia pleiopetala* {3rC- [W]}, *Dicrastylis doranii* {3k only known in GSD from this site}, *Enneapogon caerulescens var. caerulescens* {3r}, *Enneapogon intermedius* {3k only known in GSD from this site}, *Halosarcia calyptrata* {3k}, *Halosarcia halocnemoides subsp. tenuis* {3k}, *Heliotropium transforme* {3k (border) only known in NT from this site}, *Hibiscus arenicola* {3k}, *Swainsona cyclocarpa* {3k}, *Trianthema turgidifolia* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Eremophila willsii subsp. willsii* {GSD (northern range limit) [N]}, *Goodenia maideniana* {GSD (disjunct)}

Other taxa only known in GSD bioregion (NT portion) from this site: *Enchylaena tomentosa var. tomentosa*, *Flaveria australasica*, *Iseilema dolichotrichum*, *Ptilotus exaltatus var. exaltatus*, *Sclerolaena muelleri*, *Triodia hubbardii* {[W]}, *Triodia pungens var. pungens*

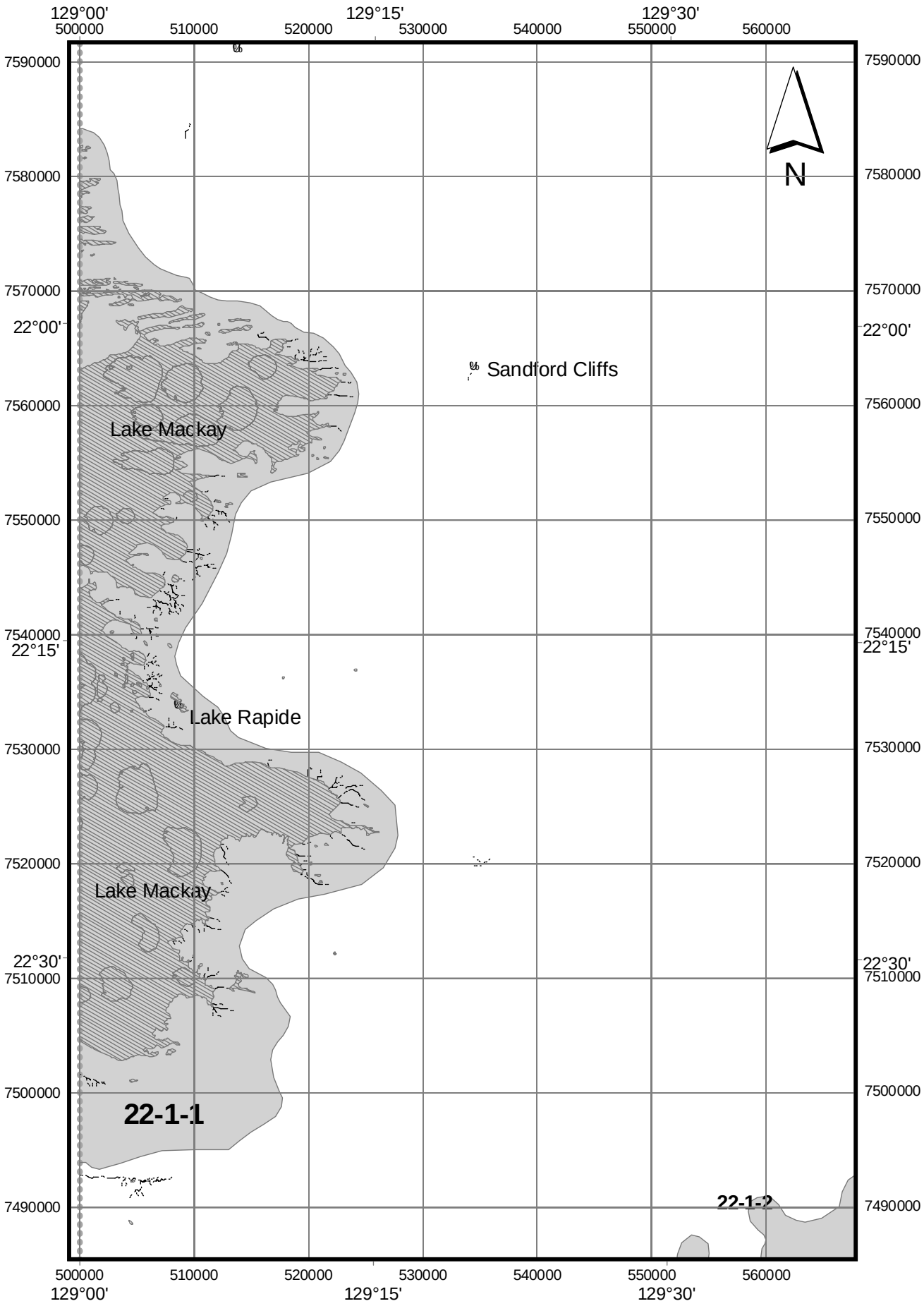
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 112 (55 %): Bare salt pan.

Map unit 111 (24 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 76 (17 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 86 (1 %): *Triodia pungens* (Soft Spinifex) or *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.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Lake Mackay
Lake Rapide
Lake Mackay
22-1-1
22-1-2

Site: 22-1-2 Kalipima

Level of significance: bioregional

Location: 22º 46' S 129º 49' E; Western Deserts approximately 70km north west of Kintore - Walungurru.

Area: 913 km^2 **Map sheet:** Lake MacKay SF 52-11

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Lake Mackay Aboriginal Land Trust (100% of site)

Description: Diverse area centred on saline and sub-saline lakes, claypans and swamps. Internally drained landscape with aeolian dunes, laterite and travertine rises.

Notes: This large area supports a diversity of plant communities and taxa.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Calandrinia pleiopetala* {3rC-}, *Cleome oxalidea* {3r only known in GSD from this site}, *Commicarpus australis* {3r}, *Gomphrena leptophylla* {3k only known in GSD from this site}, *Heliotropium glanduliferum* {3k}, *Lamarchea sulcata* {3k}, *Nicotiana rosulata subsp. rosulata* {3k only known in NT from this site}, *Streptoglossa cylindriceps* {3kC-}, *Trianthema turgidifolia* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Swainsona tanamiensis* {GSD (disjunct and southern range limit) [S]}

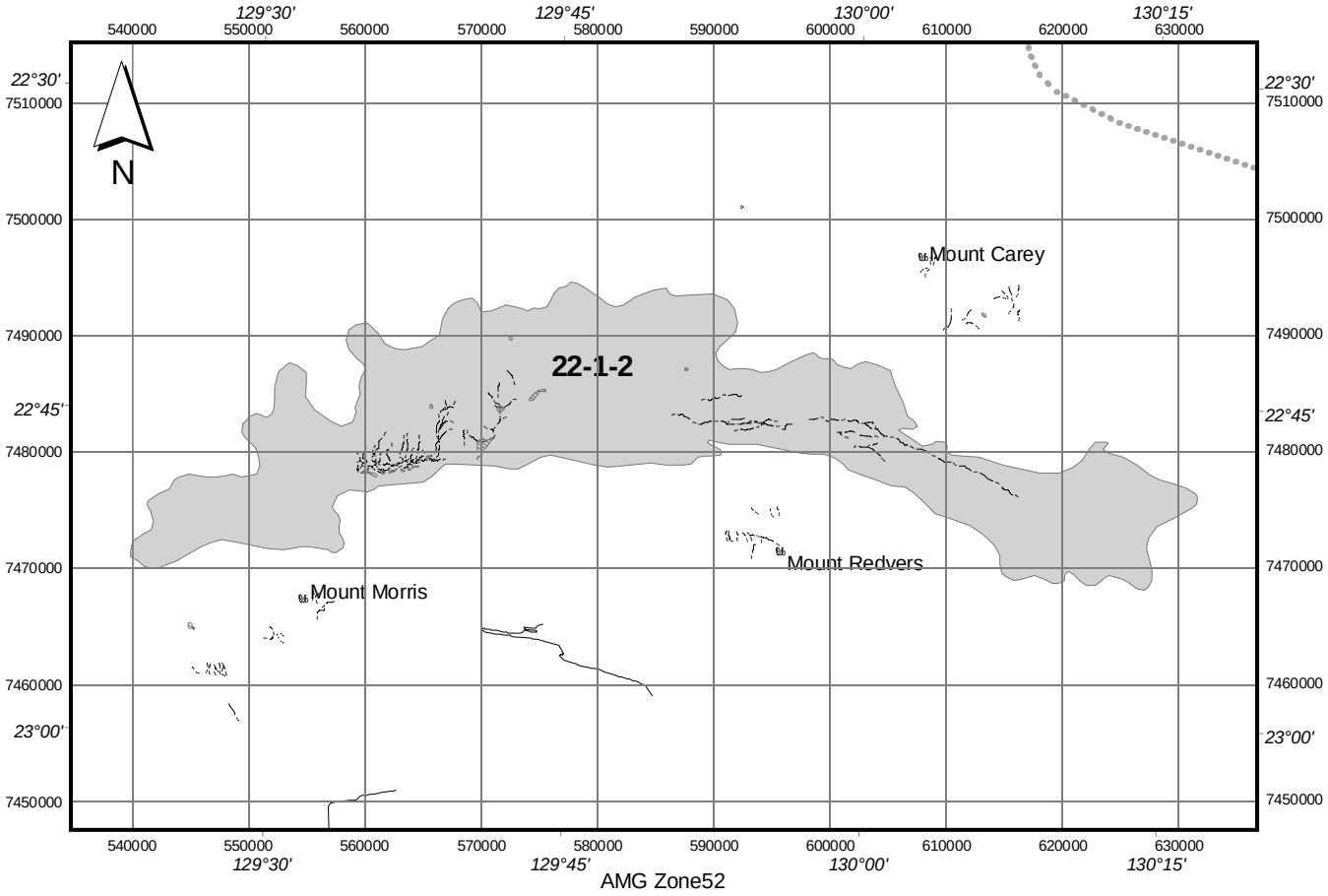
Other taxa only known in GSD bioregion (NT portion) from this site: *Dissocarpus paradoxus*, *Ptilotus astrolasius var. astrolasius*, *Sporobolus actinocladus*, *Tribulus eichlerianus* s.lat.

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (50 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 52 (28 %): *Melaleuca glomerata* (Inland Teatree) open-shrubland.

Map unit 86 (20 %): *Triodia pungens* (Soft Spinifex) or *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.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Mount Redvers
Mount Morris
AMG Zone52

Site: 22-2-1 Lake Bennett

Level of significance: bioregional

Location: 22º 51' S 131º 10' E; ca. 95 km south west of Yuendumu.

Area: 539 km^2 **Map sheet:** Mount Doreen SF 52-12

Bioregion: Great Sandy Desert (GSD)

Tenure: Crown Freehold (Central Mount Wedge) - (7% of site); Pastoral Lease - Newhaven Station (77% of site); Freehold - Yunkanjini Aboriginal Land Trust (14% of site)

Description: This site is delineated by an east west system of saline and sub-saline lakes and pans and the intervening travertine plains, sandplains and minor dunefields. The largest of the lakes is Lake Bennett.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Daviesia eremaea* {3K}, *Goodenia anfracta* {3KC- [N] only known in GSD from this site}

Taxa of NT significance: *Halosarcia indica subsp. bidens* {3k only known in GSD from this site}, *Heliotropium diversifolium* {3k}, *Lawrencia squamata* {3k}, *Paractaenum novae-hollandiae subsp. reversum* {3kC-}, *Swainsona cyclocarpa* {3k}, *Trianthema turgidifolia* {3k}

Taxa of Southern NT (study area) significance: *Sporobolus virginicus* {(disjunct)}

Taxa of bioregional significance: *Dicrastylis lewellinii* {GSD (western range limit) [W]}, *Goodenia maideniana* {GSD (disjunct)}, *Swainsona tanamiensis* {GSD (disjunct and southern range limit) [S]}

Other taxa only known in GSD bioregion (NT portion) from this site: *Rhagodia spinescens*

Type locations of the following were collected from the site: *Triodia salina* (1972)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 111 (23 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 78 (1 %): *Triodia spicata* (Spike-flowered Spinifex) hummock grassland with *Grevillea wickhamii* (Holly *Grevillea*), *Acacia* sparse-shrubland overstorey.

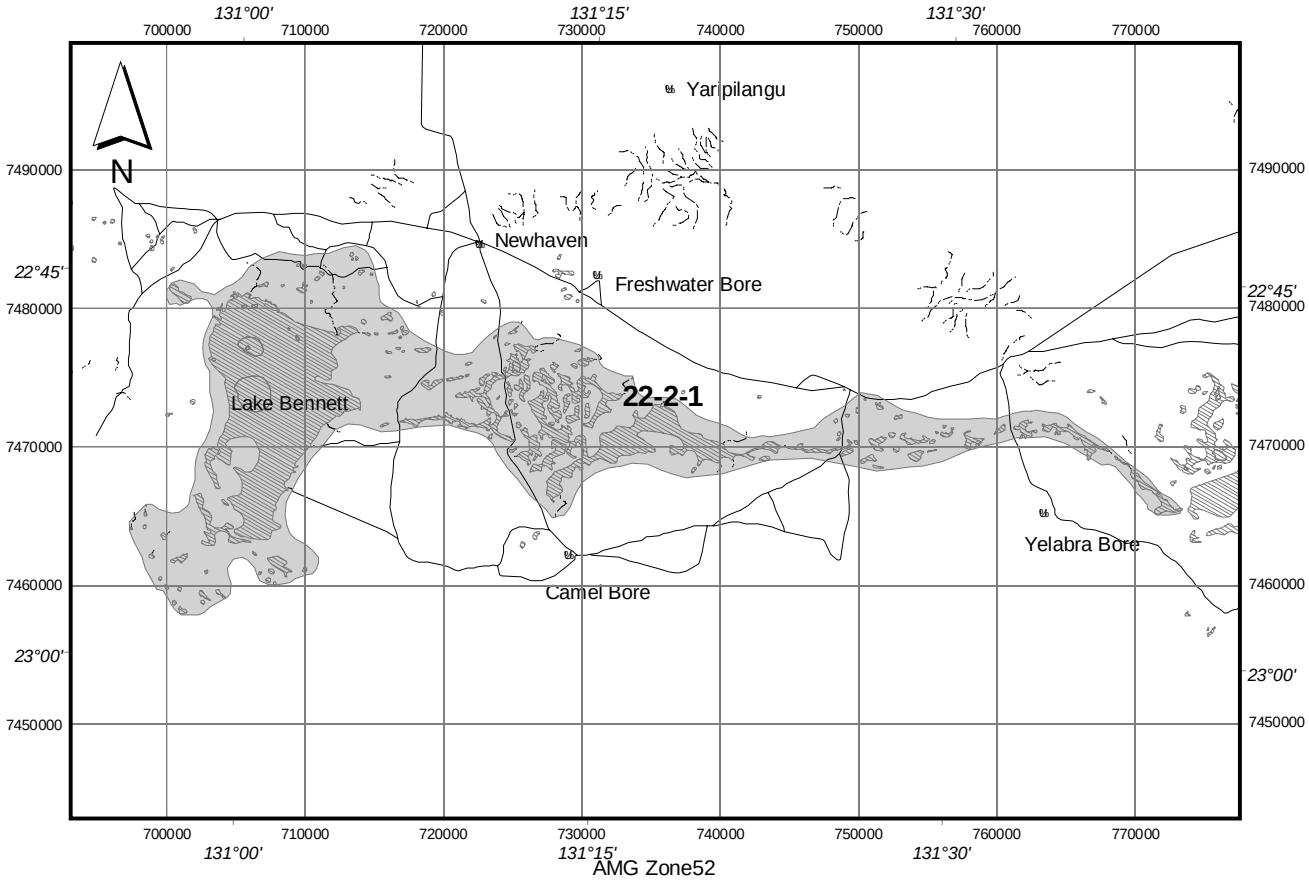
Map unit 71 (1 < %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 72 (5 %): *Acacia kempeana* (Witchetty Bush) sparse-shrubland to tall sparse-shrubland with grassland understorey.

Map unit 93 (1 < %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 112 (27 %): Bare salt pan.

Map unit 81 (41 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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22-2-1
Yelabra Bore
Camel Bore
AMG Zone52

Site: 22-2-2 Central Mount Wedge

Level of significance: bioregional

Location: 22º 49' S 131º 53' E; ca. 5 km south of Yuendumu.

Area: 232 km^2 **Map sheet:** Mount Doreen SF 52-12

Bioregion: Great Sandy Desert (GSD)

Tenure: Crown Freehold (Central Mount Wedge) (100% of site)

Description: This site incorporates the Stuart Bluff Range, which rises in places (notably central Mount Wedge) to over 1000 m - some 400-500 m above the surrounding plains. The site includes alluvial fans and run on areas associated with the range. The western border of the site is formed be the 'shoreline' of a sub-linear saline lake system to the west of central Mount Wedge. The Stuart Bluff Range is composed of quartzite and contains several deep gorges.

Notes: This site supports a diversity of contrasting habitats within a relatively discrete area.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Eragrostis crateriformis* {3k [E] only known in NT from this site}, *Halosarcia halocnemoides subsp. tenuis* {3k}, *Heliotropium epacrideum* {3k}, *Lawrencia squamata* {3k}, *Swainsona cyclocarpa* {3k}, *Triumfetta johnstonii* {3k only known in GSD from this site}, *Triumfetta maconochieana* {3k only known in GSD from this site}

Taxa of Southern NT (study area) significance: *Adiantum hispidulum var. hispidulum* {(disjunct) only known in GSD from this site}

Taxa of bioregional significance: *Goodenia maideniana* {GSD (disjunct)}, *Swainsona tanamiensis* {GSD (disjunct and southern range limit) [S]}, *Trema tomentosa var. viridis* {GSD (disjunct)}

Other taxa only known in GSD bioregion (NT portion) from this site: *Maireana integra*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 78 (51 %): *Triodia spicata* (Spike-flowered Spinifex) hummock grassland with *Grevillea wickhamii* (Holly *Grevillea*), *Acacia* sparse-shrubland overstorey.

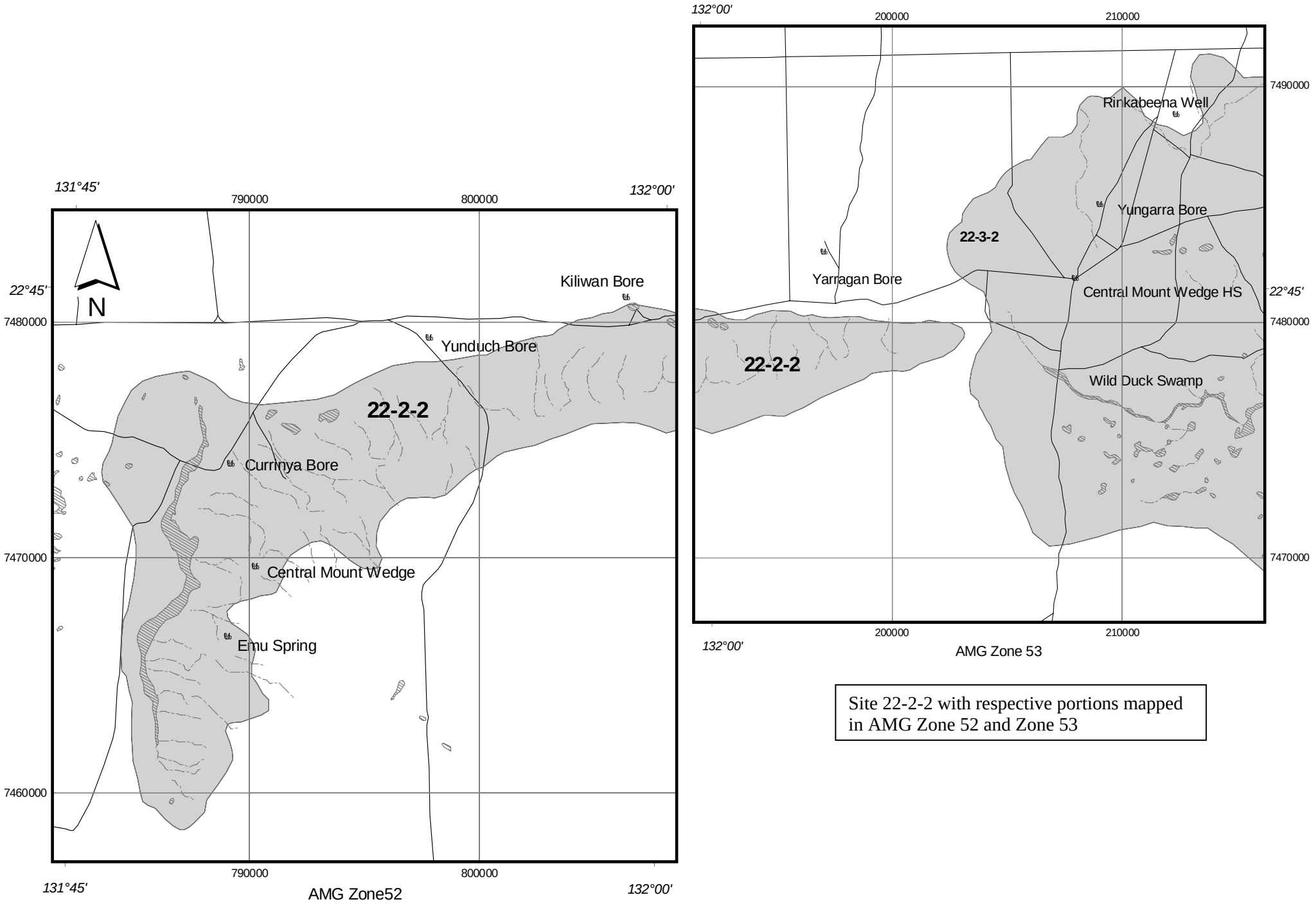
Map unit 81 (1 < %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 65 (32 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 93 (12 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 71 (1 < %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 72 (2 %): *Acacia kempeana* (Witchetty Bush) sparse-shrubland to tall sparse-shrubland with grassland understorey.



Site 22-2-2 with respective portions mapped in AMG Zone 52 and Zone 53

Site: 23-1-1 Kintore Range

Level of significance: bioregional

Location: 23º 18' S 129º 23' E; Western Deserts.

Area: 134 km^2 **Map sheet:** Mount Rennie SF 52-15

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Haasts Bluff Aboriginal Land Trust (100% of site)

Description: This site includes the Kintore Ranges and associated alluvial fans and plains. This isolated range is composed of Heavitree quartzite. The valleys and plains on the south eastern fall of the ranges are underlain by basalt bedrock - an unusual geological substrate in central Australia.

Notes: This range is rarely visited and is poorly known. Many of the few collections made here are of phytogeographic significance. Additional collecting and survey is likely to yield additional rare and threatened species. In particular, the eastern side of the range with its volcanic geology is worth further investigation.

Criteria satisfied: A1 a ii), B1 b1 ii)

Taxa of Australian significance: *Acacia abbreviata* {3R [SW] only known in GSD from this site}

Taxa of NT significance: *Acacia grasbyi* {3rC- only known in GSD from this site}, *Lamarchea sulcata* {3k}

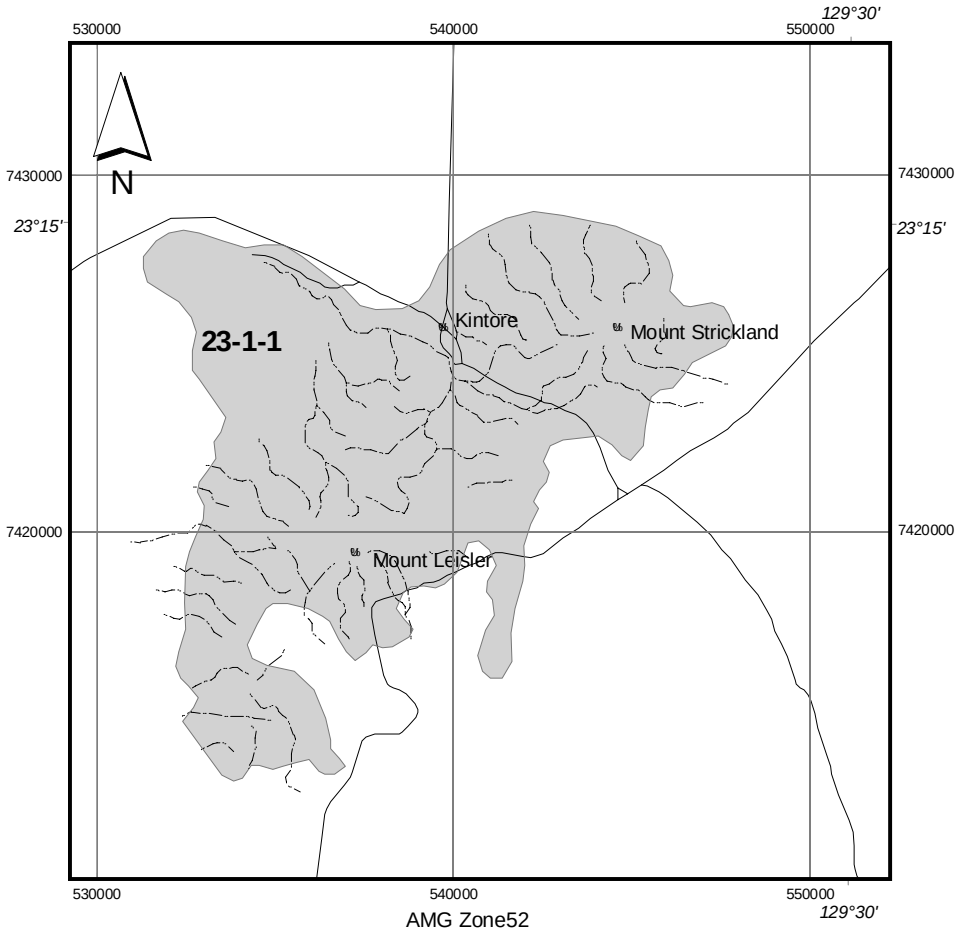
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Corymbia deserticola subsp. mesogeotica* {GSD (western and southern range limits) [SW]}, *Eucalyptus odontocarpa* {GSD (southern range limit) [S]}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 81 (29 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 90 (70 %): *Triodia irritans* (Porcupine Grass) open-hummock grassland.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AMG Zone52

Site: 23-2-5 Cleland Hills

Level of significance: bioregional

Location: 23º 46' S 130º 42' E; Approximately 100 km north west of Watarrka.

Area: 702 km^2 **Map sheet:** Mount Liebig SF 52-16

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Haasts Bluff Aboriginal Land Trust (100% of site)

Description: This site includes the Cleland Hills, (a low, western outlier of the George Gill Range) and the intervening and surrounding sandplains and dunefields. Much of this range is composed of Mereenie sandstone, a geology strongly correlated with the occurrence of rare plants due its capacity to hold water.

Notes: This is an important and currently poorly known region on the western fringe of the Macdonnell Ranges bioregion. The shallow sand plains with porous sandstone bedrock support rare plants and unique and potentially restricted plant communities. Further study of this area is needed.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Sauropus ramosissimus* {3KC-}, *Teucrium grandiusculum subsp. grandiusculum* {3KC- only known in GSD from this site}

Taxa of NT significance: *Commicarpus australis* {3r}, *Isolepis australiensis* {3kC- only known in GSD from this site}, *Lamarchea sulcata* {3k}, *Laxmannia arida* {3r}, *Ophioglossum polyphyllum* {3rC-}, *Poranthera triandra* {3rC- only known in GSD from this site}, *Rulingia rotundifolia* {3r only known in GSD from this site}, *Sida A83689 Golden calyces* {3kC-}, *Stenanthemum A81040 Docker River* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Acacia olgana* {GSD (disjunct and northern range limit) [N]}, *Goodenia larapinta* {GSD (western range limit) [W]}, *Lomandra leucocephala subsp. robusta* {GSD (disjunct)}, *Mukia A50961 Glen Helen Station* {GSD (southern range limit) [S]}

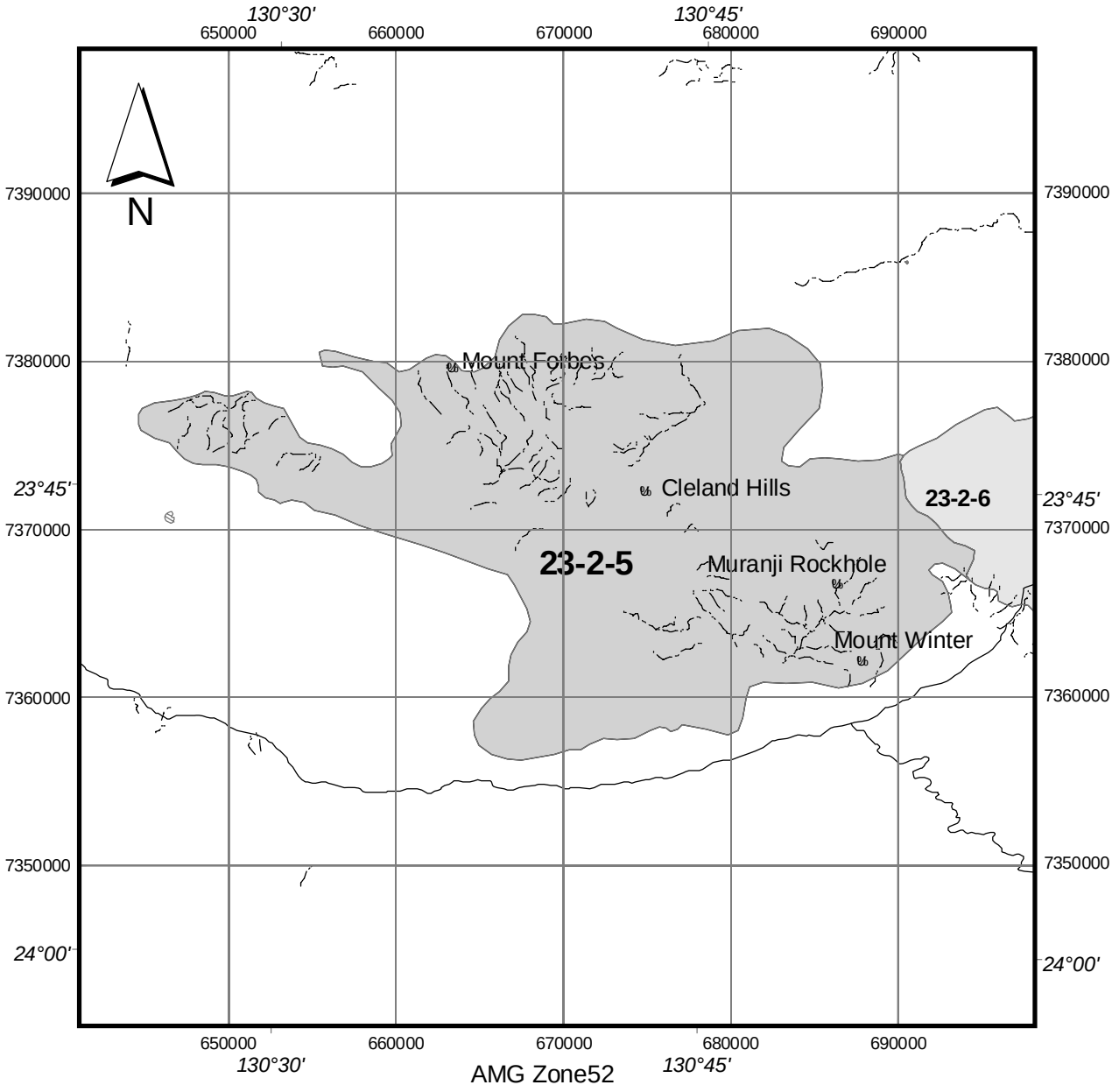
Other taxa only known in GSD bioregion (NT portion) from this site: *Acacia chippendalei*, *Anemocarpa saxatilis*, *Baeckea polystemonea*, *Ixiochlamys cuneifolia*, *Lysiana spathulata*, *Lysiana spathulata subsp. parvifolia*, *Pleurosorus subglandulosus*, *Pluchea dentex*, *Potamogeton tricarinatus*, *Trachymene gilleniae* {[W]}, *Triodia longiceps*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 92 (36 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 93 (62 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 81 (1 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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Cleland Hills
23-2-6
23-2-5
Muranji Rockhole
Mount Winter
AMG Zone52

Site: 23-2-6 Lay Cock's Sandplain

Level of significance: bioregional

Location: 23º 52' S 131º 14' E; ca. 60 km north west of Watarrka.

Area: 1854 km^2 **Map sheets:** Mount Liebig SF 52-16 & Lake Amadeus SG 52-4

Bioregions: Great Sandy Desert (GSD 93.7%) & MacDonnell Ranges (MAC 6.3%)

Tenure: Freehold - Haasts Bluff Aboriginal Land Trust (100% of site)

Description: This site comprises an area of sandplain fringed by low ranges. The sand sheet in places is thin and habitats for plants maybe strongly influenced by the hydrological characteristics of the underlying sandstone. The site is bounded in the west by a low rise or scarp associated with an exposure of Cleland sandstone known as the Watson Range. To the east the site is bounded by but also includes an extensive but partially sand covered exposure of Mereenie sandstone - a geology strongly correlated with the occurrence of rare plants due its capacity to hold water. This range is known as the Glen Edith Hills.

Notes: This is an important and currently poorly known region on the western fringe of the Macdonnell Ranges bioregion. The site includes a number of important sandstone outcrops which support rare plants and potentially rare plant communities. Of particular note is the Tarn of Auber, a rocky knoll comprised of Mereenie sandstone, which is well known for the presence of rare plant populations. It is one of the few areas within the site to have been visited by botanical collectors. Botanical values are not uniform across the site and boundaries have been extrapolated employing physiographic and geological boundaries. The site includes the type locality for *Logania centralis*.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Comesperma viscidulum* {3KC-}, *Daviesia arthropoda* {3KCa}, *Euphorbia sarcostemmoides* {3KCa}, *Logania centralis* {3KC- only known in GSD from this site}, *Sauropus ramosissimus* {3KC-}

Taxa of NT significance: *Acacia helmsiana* {3k [E]}, *Calotis cuneifolia* {3k only known in GSD from this site}, *Commicarpus australis* {3r only known in MAC from this site}, *Dodonaea microzyga var. microzyga* {3r}, *Dysphania sphaerosperma* {3r}, *Eragrostis A51007 Limestone* {3k [W]}, *Eragrostis sterilis* {3rC-}, *Glischrocaryon aureum var. angustifolium* {3rC-}, *Gompholobium simplicifolium* {3r only known in GSD from this site}, *Goodenia glandulosa* {3rC- only known in GSD from this site}, *Grevillea pterosperma* {3r only known in GSD from this site}, *Kippistia suaedifolia* {3r only known in GSD from this site}, *Laxmannia arida* {3r}, *Newcastelia bracteosa* {3k only known in GSD from this site}, *Ophioglossum lusitanicum* {3rC-}, *Sclerolaena parviflora* {3r}, *Sida A83689 Golden calyces* {3kC-}, *Stenanthemum A81040 Docker River* {3k}, *Xanthorrhoea thorntonii* {3rCa only known in GSD from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Aristida arida* {MAC (western range limit) [W]}, *Eucalyptus gongylocarpa* {GSD (northern range limit) [N]}, *Haloragis odontocarpa forma octoforma* {MAC (apparently rare) only known in NT from this site}, *Lechenaultia striata* {GSD (northern range limit) [N]}, *Polycarpaea involucrata* {GSD (disjunct)}, *Prostanthera althoferi subsp. longifolia* {GSD (northern range limit) [N] only known in GSD from this site}, *Ptychosema anomalum* {GSD (northern range limit) [N]}

Other taxa only known in GSD bioregion (NT portion) from this site: *Acacia bivenosa*, *Chenopodium truncatum*, *Dodonaea lanceolata var. lanceolata*, *Glossocardia bidens*, *Ptilotus parvifolius var. parvifolius*, *Solanum esuriale*

Type locations of the following were collected from the site: *Logania centralis* (1984)

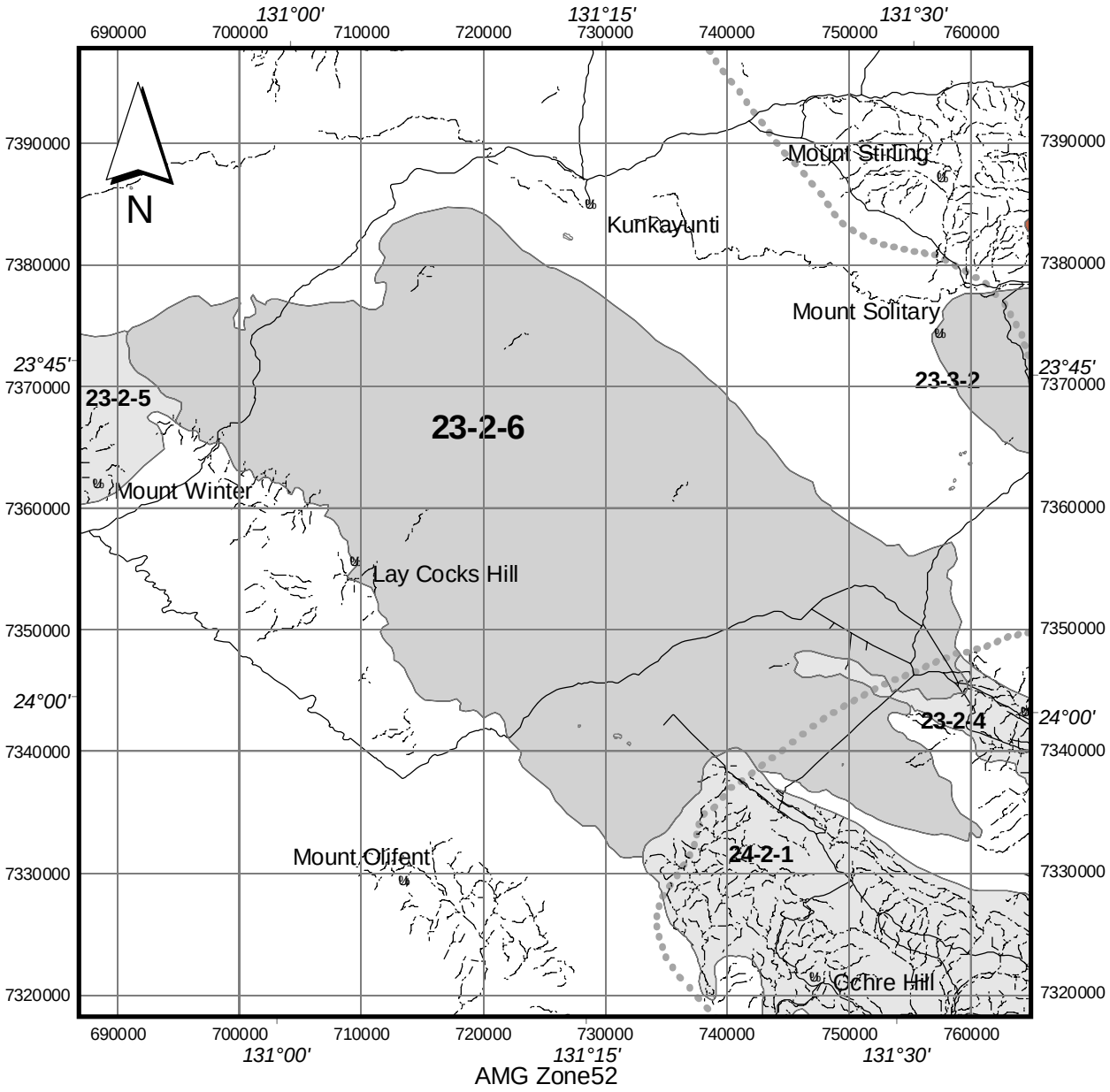
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 93 (90 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 30 (3 %): *Eucalyptus gongylocarpa* (Marble Gum) open-woodland with open-hummock grassland understorey.

Map unit 73 (3 %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.

Map unit 92 (1 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.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Mount Stirling
Kunkayunti
Mount Solitary
23-3-2
23-2-5
23-2-6
Mount Winter
Lay Cocks Hill
23-2-4
24-2-1
Mount Olifent
Ochre Hill
AMG Zone52

Site: 24-2-2 Lake Amadeus

Level of significance: bioregional

Location: 24º 46' S 130º 55' E; Amadeus Basin north of Yulara.

Area: 2756 km^2 **Map sheets:** Lake Amadeus SG 52-4 & Bloods Range SG 52-3

Bioregions: Great Sandy Desert (GSD 96.6%) & Finke (FIN 3.4%)

Tenure: Freehold - Petermann Aboriginal Land Trust (61% of site), Katiti Aboriginal Land Trust (61% of site), Land Settlement Aboriginal Corp. (<1% of site); Pastoral Lease - Curtain Springs Station (<1% of site)

Description: Includes the large saline lake systems - Lake Neale and Lake Amadeus and fringing lunettes and sand plains.

Notes: Extensive and remote site which remains poorly known to western botanists and plant ecologists. Numerous records of interesting plant taxa have been obtained from limited botanical exploration. The southern shores of both lakes support extensive Marble Gum woodlands - an unusual vegetation type in the Northern Territory.

Criteria satisfied: A1 a ii), A1 b ii), B1 b2 ii), B1 b1 ii)

Taxa of Australian significance: *Daviesia eremaea* {3K}, *Sauropus ramosissimus* {3KC-}, *Sclerolaena symoniana* {3KC-}, *Stylidium inaequipetalum* {3RCa}

Taxa of NT significance: *Acacia prainii* {3k}, *Amyema miraculosa subsp. boormanii* {3k}, *Brachyachne prostrata* {3r only known in GSD from this site}, *Calandrinia disperma* {3k only known in GSD from this site}, *Centipeda D18576 Andado* {3k only known in FIN from this site}, *Enneapogon caerulescens var. caerulescens* {3r}, *Eremophila alternifolia* {3k}, *Eriochiton sclerolaenoides* {3k}, *Eriochlamys behrii* {3k only known in GSD from this site}, *Frankenia punctata* {3r [N] only known in GSD from this site}, *Gunniopsis quadrifida* {3r only known in GSD from this site}, *Gunniopsis septifraga* {3r only known in GSD from this site}, *Halosarcia calyptrata* {3k}, *Halosarcia pruinosa* {3r only known in GSD from this site}, *Isolepis australiensis* {3kC- only known in FIN from this site}, *Lawrencia viridi-grisea* {3r only known in GSD from this site}, *Maireana appressa* {3k only known in GSD from this site}, *Maireana pentatropis* {3r only known in GSD from this site}, *Minuria multiseta* {3r only known in GSD from this site}, *Osteocarpum salsuginosum* {3r only known in GSD from this site}, *Paractaenum novae-hollandiae subsp. reversum* {3kC-}, *Swainsona cyclocarpa* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Atriplex velutinella* {GSD (western range limit) [W] only known in GSD from this site}, *Eremophila paisleyi* {GSD (apparently rare)}

Other taxa only known in GSD bioregion (NT portion) from this site: *Bergia trimera*, *Harmsiodoxa blennodioides*, *Trigonella suavissima*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

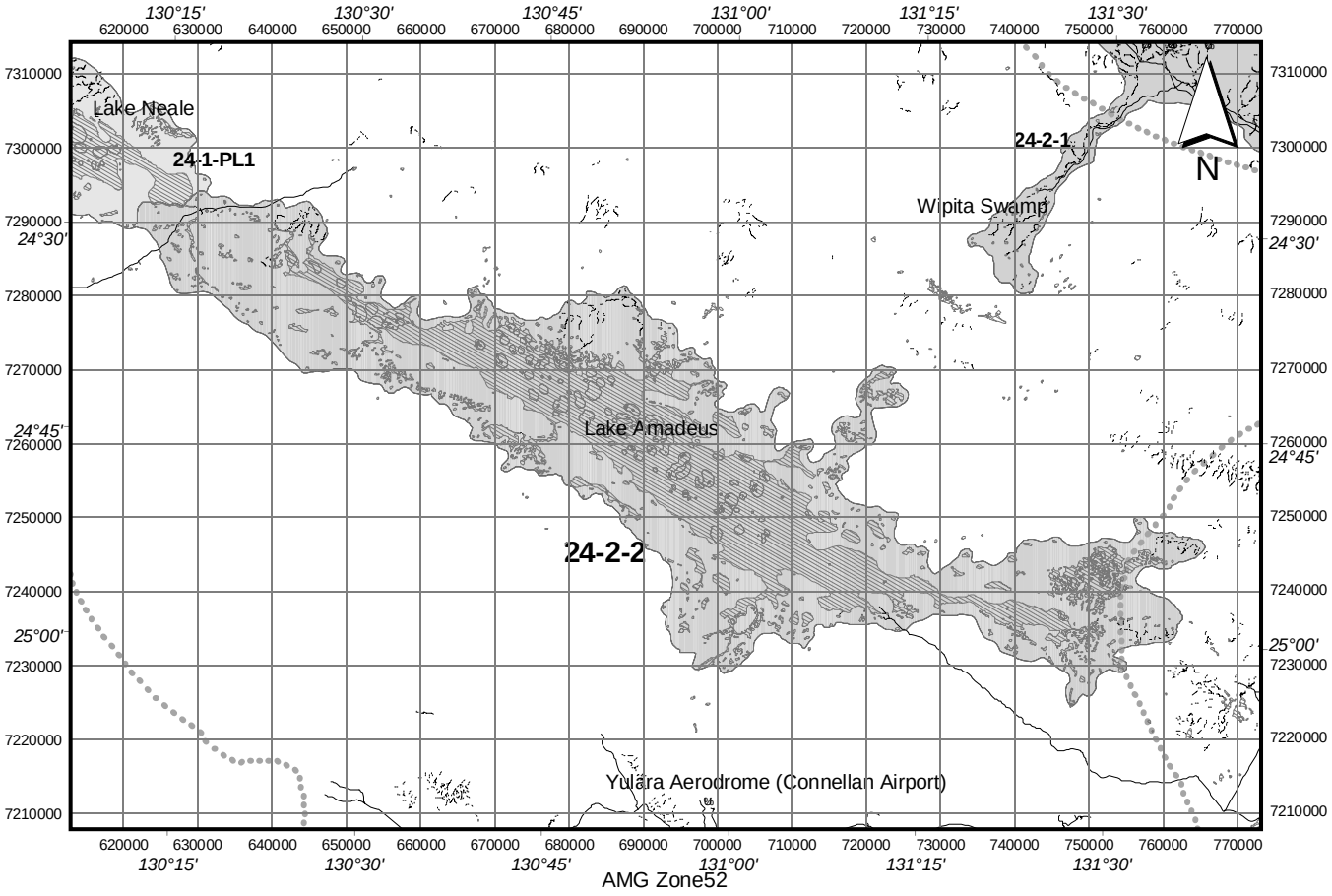
Map unit 30 (46 %): *Eucalyptus gongylocarpa* (Marble Gum) open-woodland with open-hummock grassland understorey.

Map unit 111 (3 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 81 (1 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 93 (9 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 112 (38 %): Bare salt pan.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Lake Neale
24-1-PL1
24-2-1
N
Wipita Swamp
Lake Amadeus
24-2-2
Yulara Aerodrome (Connellan Airport)
AMG Zone52

Site: 25-2-1 Uluru

Level of significance: bioregional

Location: 25º 20' S 131º 2' E; Amadeus or Great Sandy Desert

Area: 37 km^2 **Map sheet:** Ayres Rock SG 52-8

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Uluru Kata Tjuta Aboriginal Land Trust (leased and reserved under the Commonwealth National Parks Act)

Description: The site includes Uluru (a large outcropping of arkose surrounded by extensive dunefields) and surrounding waterholes, watercourses and run-on areas.

Notes: Important areas for the conservation of plants comprise the numerous waterholes at the base of the rock, the transient rockpools on the summit and the extensive and periodically well watered run-on areas and creek floodouts. The botanical significance of Uluru and surrounding areas, is at least partially enhanced as a result of sustained plant collecting over an extended period of time. The site includes the type localities of *Einadia nutans subsp. eremaea* and *Acacia ayersiana*.

Criteria satisfied: A1a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Acacia ammobia* {3RC-}, *Stylidium inaequipetalum* {3RCa}

Taxa of NT significance: *Calandrinia remota* {3kC- only known in GSD from this site}, *Chloris pumilio* {3kC- only known in GSD from this site}, *Chthonocephalus pseudevax* {3r only known in GSD from this site}, *Eragrostis sterilis* {3rC- [W]}, *Erodium angustilobum* {3kC- only known in GSD from this site}, *Juncus continuus* {3rC- only known in GSD from this site}, *Pomax A89438 Sand Dunes* {3kC-}, *Swainsona acuticarinata* {3kC- only known in GSD from this site}, *Vittadinia dissecta var. hirta* {3kC- only known in GSD from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Setaria surgens* {GSD (southern range limit) [S]}

Other taxa only known in GSD bioregion (NT portion) from this site: *Canthium attenuatum*, *Centipeda thespidioides*, *Drosera burmanni*, *Euchiton sphaericus*, *Heliotropium moorei*, *Senecio magnificus*, *Stackhousia intermedia*, *Triodia pungens var. parvidentata* {[W]}, *Zygophyllum prismatothecum*

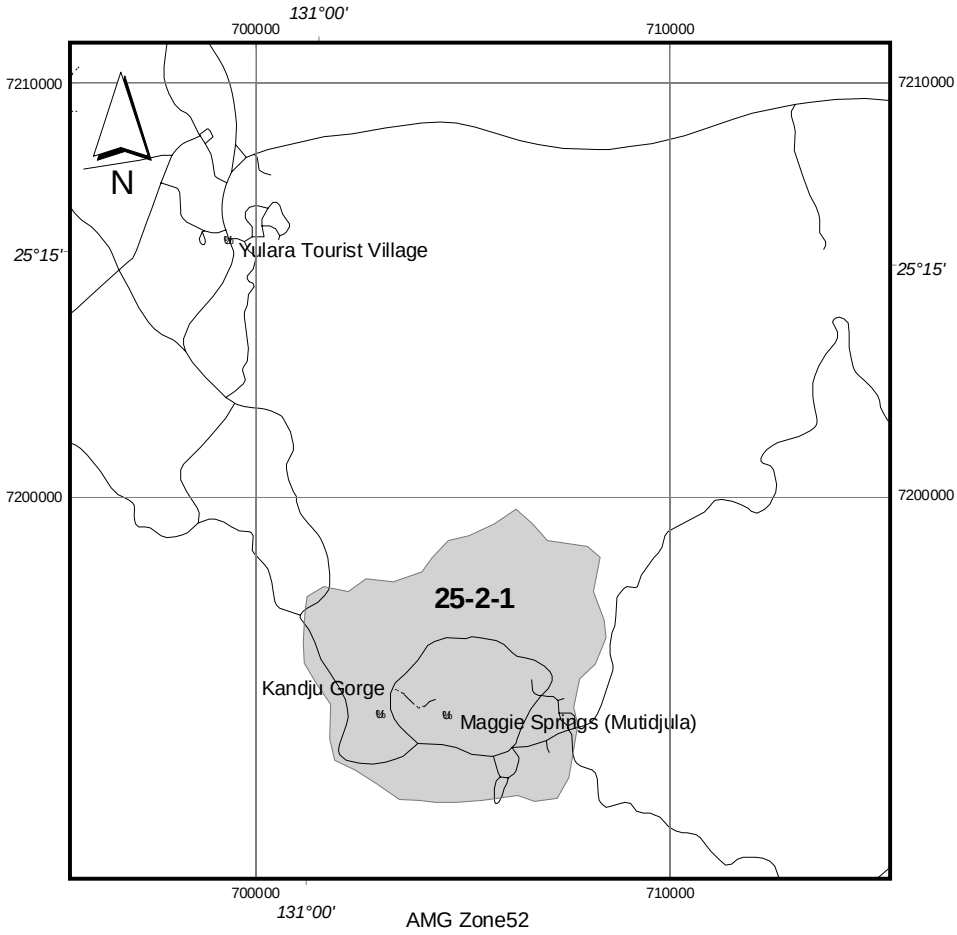
Type locations of the following were collected from the site: *Einadia nutans subsp. eremaea* (1973)

Botanically Significant Waterholes at the site: Maggie Springs

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 93 (36 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 82 (63 %): *Triodia basedowii* (Hard Spinifex)hummock grassland with *Acacia aneura* (Mulga) tall sparse-shrubland overstorey between dunes.


131°00'
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25-2-1
Kandju Gorge
Maggie Springs (Mutidjula)
AMG Zone52

Site: 25-2-2 Kata Tjuta

Level of significance: bioregional

Location: 25º 17' S 130º 44' E; Amadeus or Great Sandy Desert - ca. 25 km WSW of Yulara.

Area: 165 km^2 **Map sheet:** Ayres Rock SG 52-8

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Katiti Aboriginal Land Trust (12% of site), Petermann Aboriginal Land Trust (10% of site), Uluru Kata Tjuta Aboriginal Land Trust (leased and reserved under the Commonwealth National Parks Act) (76% of site)

Description: The site is centred on the series of conglomerate inselbergs which comprise Kata Tjuta. These have weathered to form unusual dome like structures. The site includes these structures and the surrounding run-on areas and watercourses which drain Kata Tjuta following rain. Large expanses of impervious rock drain onto relatively sheltered valleys and floodouts where moisture may persist for extended periods.

Notes: Kata Tjuta is an important area in the history of botanical exploration in Australia's arid zone. It is the type locality for several plant taxa including *Ptilotus exaltatus var. pallidus*, *Eriachne scleranthoides*, *Ptilotus obovatus var. griseus*, *Wurmbea centralis* and *Wurmbea centralis subsp. centralis* (see below for complete listing).

Criteria satisfied: A1a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Acacia ammobia* {3RC-}, *Eriachne scleranthoides* {2RCa [SE]}, *Wurmbea centralis subsp. centralis* {3RC- [N]}

Taxa of NT significance: *Heliotropium inexplicitum* {3k}, *Hibbertia glaberrima* {3rCa only known in GSD from this site}, *Isotropis centralis* {3rC-}, *Maireana lanosa* {3rC-}, *Olearia arida* {3k only known in NT from this site}, *Ophioglossum polyphyllum* {3rC-}, *Senna artemisioides subsp. glaucifolia* {3r only known in GSD from this site}, *Sida A59261 Kathlene Springs* {3kC-}, *Sida calyxhymenia* {3r}, *Swainsona tenuis* {3kC-}, *Vittadinia pustulata* {3kC- only known in GSD from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Gomphrena canescens subsp. canescens* {GSD (disjunct and southern range limit) [S]}, *Indigofera leucotricha* {GSD (disjunct)}, *Isotropis wheeleri* {GSD (western range limit) [W] only known in GSD from this site}, *Nicotiana excelsior* {GSD (apparently rare) only known in GSD from this site}

Other taxa only known in GSD bioregion (NT portion) from this site: *Amaranthus mitchellii*, *Aristida obscura*, *Chenopodium desertorum subsp. rectum*, *Codonocarpus cotinifolius*, *Cyperus victoriensis*, *Eragrostis parviflora*, *Lepidium oxytrichum*, *Maireana planifolia*, *Marsilea exarata*, *Panicum laevinode*, *Phyllanthus lacunellus*, *Ptilotus exaltatus var. pallidus* {[N] only known in NT from this site}, *Ptilotus obovatus var. griseus*, *Ptilotus sessilifolius var. elderi*, *Rulingia magniflora*, *Stemodia viscosa*, *Triodia irritans*

Type locations of the following were collected from the site: *Dicrastylis gilesii var. gilesii* (1870s), *Eriachne scleranthoides*, *Haloragis gossei* (1870s), *Lechenaultia striata* (1870s), *Paraceterach reynoldsii*, *Prostanthera wilkieana* (1873), *Ptilotus exaltatus var. pallidus*, *Ptilotus obovatus var. griseus* (1959), *Ptychosema anomalum* (1870s), *Rhodanthe tietkensii*, *Rulingia magniflora* (1870s), *Schoenia ayersii* (1873), *Wurmbea centralis subsp. centralis* (1955)

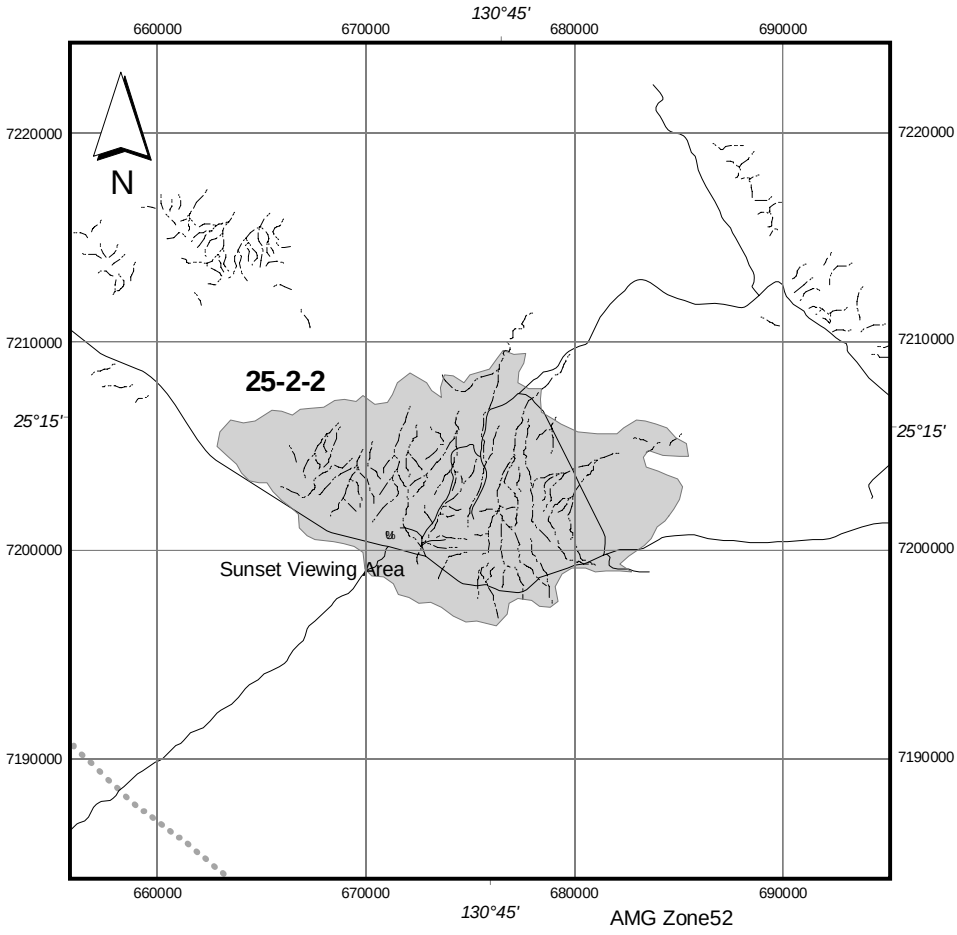
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 90 (59 %): *Triodia irritans* (Porcupine Grass) open-hummock grassland.

Map unit 93 (10 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 65 (6 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 82 (23 %): *Triodia basedowii* (Hard Spinifex)hummock grassland with *Acacia aneura* (Mulga) tall sparse-shrubland overstorey between dunes.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25-2-2
Sunset Viewing Area
AMG Zone52

Site: 25-2-4 *Acacia ammobia* Shrublands

Level of significance: bioregional

Location: 25º 29' S 131º 28' E; On the dunefields between Mount Conner and Uluru.

Area: 205 km^2 **Map sheet:** Ayres Rock SG 52-08

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Katiti Aboriginal Land Trust (100% of site)

Description: The site follows the boundary of the *Acacia ammobia* dominated shrubland as mapped by Wilson et. al. (1991). This is a rare and relatively restricted plant community. This community occurs on reticulate dunes systems in deep sand.

Notes: Further detailed survey is required to more accurately establish the boundaries of this plant community.

Criteria satisfied: B1 b1 ii), B1 b2 ii)

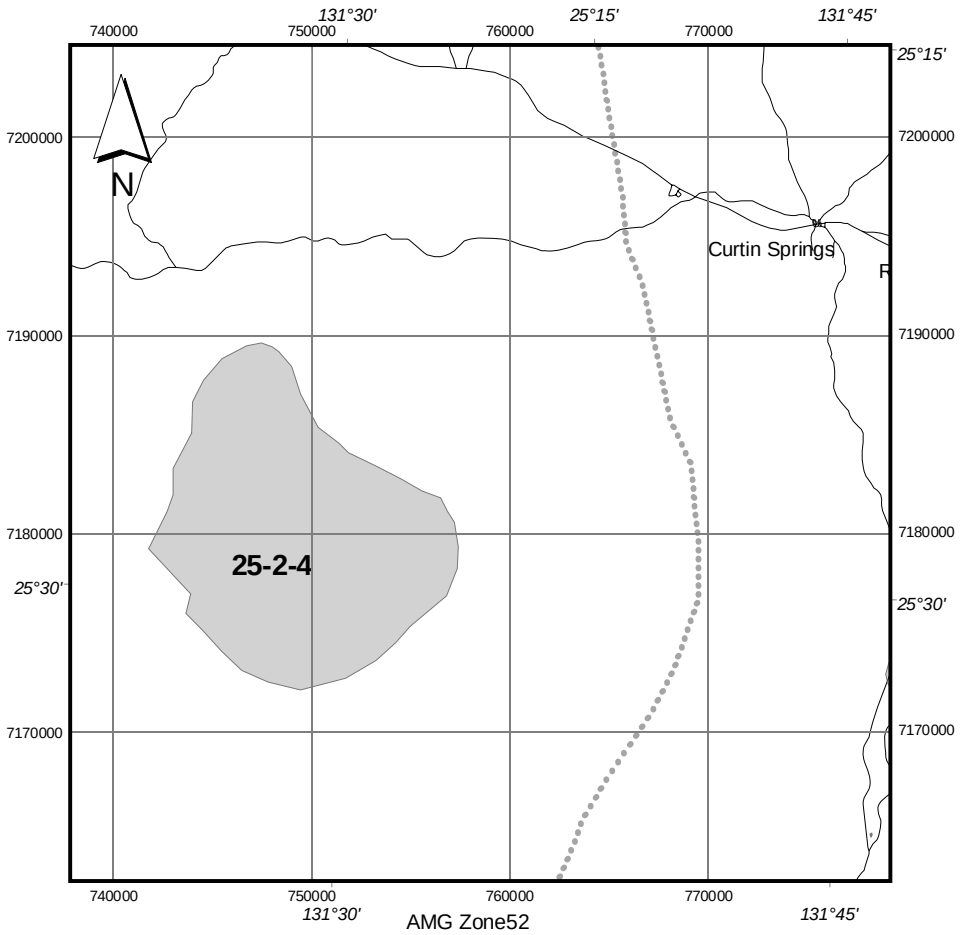
Taxa of Australian significance: none

Taxa of NT significance: *Lobelia gibbosa var. gibbosa* {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):
Map unit 67 (100 %): *Acacia ammobia* tall open-shrubland with sparse-grassland understorey.



6.4 SITES OF UNDETERMINED SIGNIFICANCE IN THE NT PORTION OF THE GREAT SANDY DESERT BIOREGION

Site: 20-1-PL3 Lake White

Level of significance: undetermined

Location: 21º 4' S 129º 8' E; ca. 10 km SSW of Tanami Settlement.

Area: 441 km^2 **Map sheets:** The Granites SF 52-03 & Highland Rocks SF

Bioregions: Great Sandy Desert (GSD 78%) & Tanami (TAN 22%)

Tenure: Freehold - Lake Mackay Aboriginal Land Trust (89% of site) and Yiningarra Aboriginal Land Trust (10% of site)

Description: Concentration of large discharge basins in the Great Sandy Desert Bioregion.

Notes: Few botanical specimens have been collected from this region of the Northern Territory. This site requires further botanical exploration and survey.

Taxa of Australian significance: none

Taxa of NT significance: *Gonocarpus eremophilus* {3k}, *Swainsona cyclocarpa* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in GSD bioregion (NT portion) from this site: *Pterocaulon serrulatum var. serrulatum, Sida A90679 Limestone, Streptoglossa adscendens*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (1 < %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 86 (61 %): *Triodia pungens* (Soft Spinifex) or *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Map unit 111 (38 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Site: 23-1-PL1 Yingurrdu

Level of significance: undetermined

Location: 23º 47' S 130º 7' E; Western deserts ca. 70 km south east of Kintore.

Area: only mapped as point location **Map sheet:** Mount Rennie SF 52-15

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Haasts Bluff Aboriginal Land Trust

Description: This general area has been identified for further botanical collecting and survey. It presents as a shallow sandplain underlain by porous sandstones (principally Mereenie sandstone). The area appears to have numerous claypans and soaks.

Notes: The has been no botanical survey in this potentially interesting area.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 23-1-PL2 Lake Macdonald

Level of significance: undetermined

Location: 23º 28' S 129º 3' E; Western Deserts on the Western Australian/Northern Territory border.

Area: 205 km^2 **Map sheet:** Mount Rennie SF 52-15

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Haast Bluff Aboriginal Land Trust (100% of site)

Description: Site includes the system of saline lakes and salinas which comprise Lake Macdonald.

Notes: Negligible botanical collecting has been undertaken in this remote saline lake system.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 112 (44 %): Bare salt pan.

Map unit 81 (7 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 86 (48 %): *Triodia pungens* (Soft Spinifex) or *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Site: 24-1-PL1 Lake Neale

Level of significance: undetermined

Location: 24º 16' S 129º 2' E; Basement of the Amadeus basin.

Area: 1876 km^2 **Map sheet:** Bloods Range SG 52-03

Bioregion: Great Sandy Desert (GSD)

Tenure: Freehold - Petermann Aboriginal Land Trust (100% of site)

Description: This site includes Lake Neale and the extensive system of smaller saline lakes extending to the Western Australian border. The site is mapped as two discrete polygons.

Notes: No botanical records have been collected from this region of the Northern Territory. This site requires botanical exploration and survey.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 84 (1 < %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee) tall sparse-shrubland overstorey.

Map unit 111 (55 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 30 (19 %): *Eucalyptus gongylocarpa* (Marble Gum) open-woodland with open-hummock grassland understorey.

Map unit 65 (9 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 93 (15 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

6.5 WATERHOLES OF BOTANICAL SIGNIFICANCE IN THE NT PORTION OF THE GREAT SANDY DESERT BIOREGION

Maggie Springs

Significance: bioregional

Included within Uluru site of significance, site no. 25-2-1

Reference coordinates (decimal degrees of latitude and longitude): -25.4º , 131º

Significant plant taxa: *Eragrostis sterilis* {3rC-}, *Juncus continuus* {3rC-}, *Stylidium inaequipetalum* {3RCa}

7. MacDonnell Ranges Bioregion

7.1 OVERVIEW OF THE MACDONNELL RANGES BIOREGION

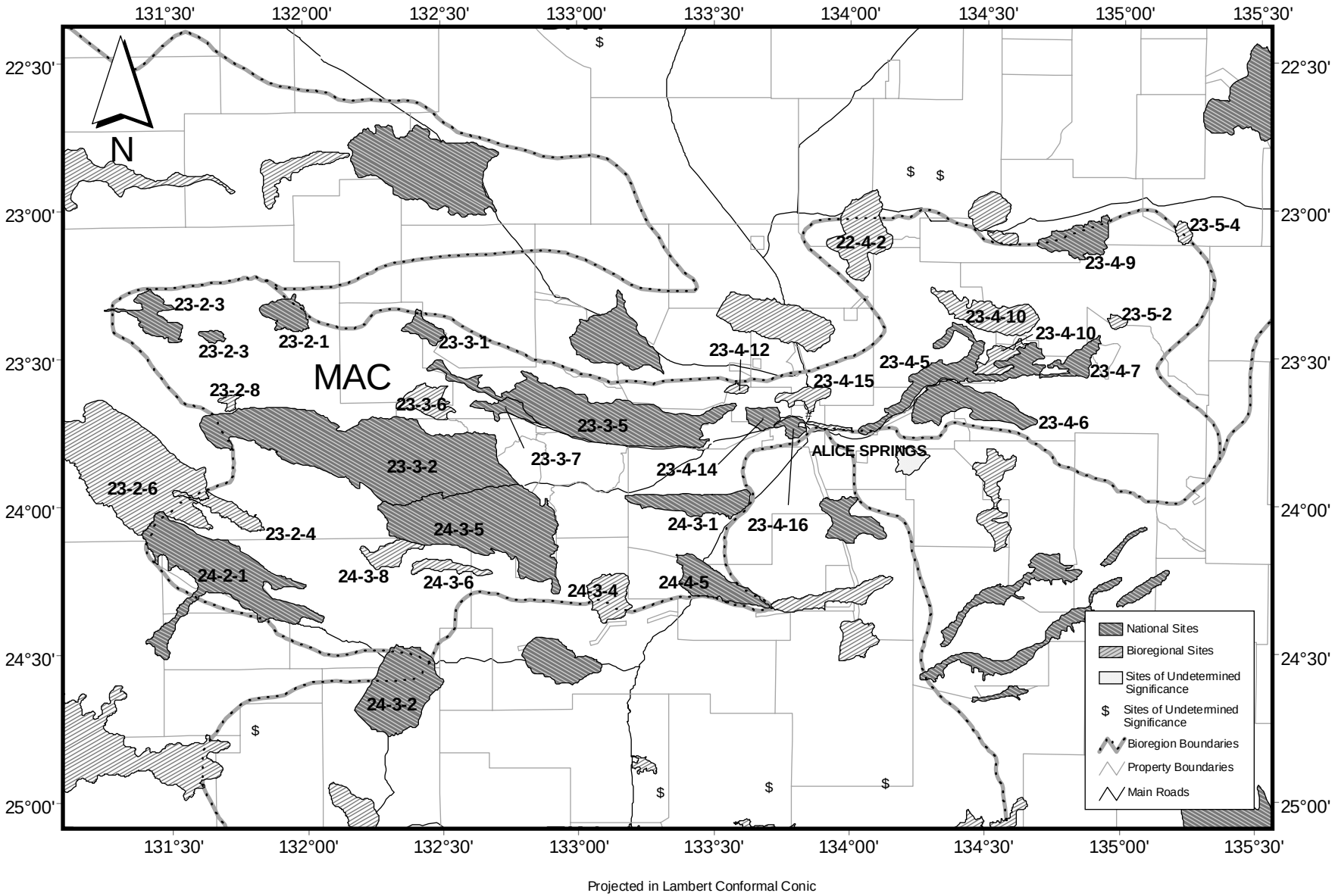
The MacDonnell Ranges bioregion comprises an area of 38,600km^2, all of which is located in the Northern Territory. It is predominantly a large geologically diverse upland comprising thick bands of east west oriented ranges. These ranges include the Heavitree, Chewings, Waterhouse, MacDonnell, Ooraminna, James, George Gill, Fergusson, Harts and Gardiner Ranges and associated outliers. Two large geological units are incorporated within the bioregion, the sedimentary rocks of the Amadeus Basin and the largely crystalline metamorphic rocks which characterise the Arunta Block. The ranges enclose several broad plains such as Missionary Plain in the western half of the bioregion and Paddys and Todd Plains in the east. Soils in areas of low relief range from earthy sands to deep loamy alluvium. Numerous spectacular gorges and valleys have been formed by faulting and denudation. The bioregion has a rich flora and supports a range of vegetation types, the most common being hummock grasslands (dominated by *Triodia* spp) and Acacia shrublands/woodlands (dominated principally by *Acacia aneura* and/or *A.kempeana)*.

The climate of the MacDonnell Ranges bioregion can be characterised as arid sub-tropical. However the presence of the ranges has an ameliorative effect especially in areas of low relief where run-off is concentrated and/or where the topography confers shelter from wind and sun. Frosts are common in winter at lower elevations.

The botanical values of this bioregion are relatively well known and comparatively well documented. However, much of this work has focussed on conservation reserves and adjoining areas. Many areas have had little attention, of particular note are the western James Ranges and Missionary Plain.

A total of 268 indigenous vascular plant taxa are currently considered to be of conservation significance in the MacDonnell Ranges bioregion. These taxa are listed in volume 1, appendix 3.

Index to Sites in and adjacent to MacDonnell Ranges bioregion



Projected in Lambert Conformal Conic

7.2 SITES OF NATIONAL SIGNIFICANCE IN THE MACDONNELL RANGES BIOREGION

Site: 23-2-1 Mount Edward

Level of significance: national

Location: 23º 20' S 131º 52' E; Between Papunya and Haast Bluff

Area: 171 km^2 **Map sheet:** Mount Liebig SF 52-16

Bioregions: MacDonnell Ranges (MAC 92.6%) & Burt Plain (BRT 7.4%)

Tenure: Freehold - Haasts Bluff Aboriginal Land Trust (100% of site)

Description: This site includes Mount Edward, a steep quartzite mountain, and associated colluvial slopes. The site also includes the catchment of Beantree creek on the north side of Mt. Edward.

Notes: This site supports populations of a number of rare and threatened plants. This site has only been visited a few times by botanists and further survey is required to detail the values of this site. The site includes the type location of *Gymnanthera cunninghamii*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Callistemon pauciflorus* {3RC- [N]}, *Macrozamia macdonnellii* {3VCa}, *Olearia macdonnellensis* {3VCi [NW]}, *Samolus eremaeus* {3KC-}, *Wrixonia schultzii* {3VC- [NW]}

Taxa of NT significance: *Brachyachne prostrata* {3r only known in MAC from this site}, *Gymnanthera cunninghamii* {3r only known in MAC from this site}, *Hibbertia glaberrima* {3rCa}, *Isotropis centralis* {3rC-}, *Sida A90797 Rainbow Valley* {3kC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Baeckea polystemonea* {MAC (northern and eastern range limits) [N]}, *Prostanthera sericea* {MAC (northern range limit) [N]}

Other taxa only known in MAC bioregion from this site: *Acacia adoxa var. adoxa*

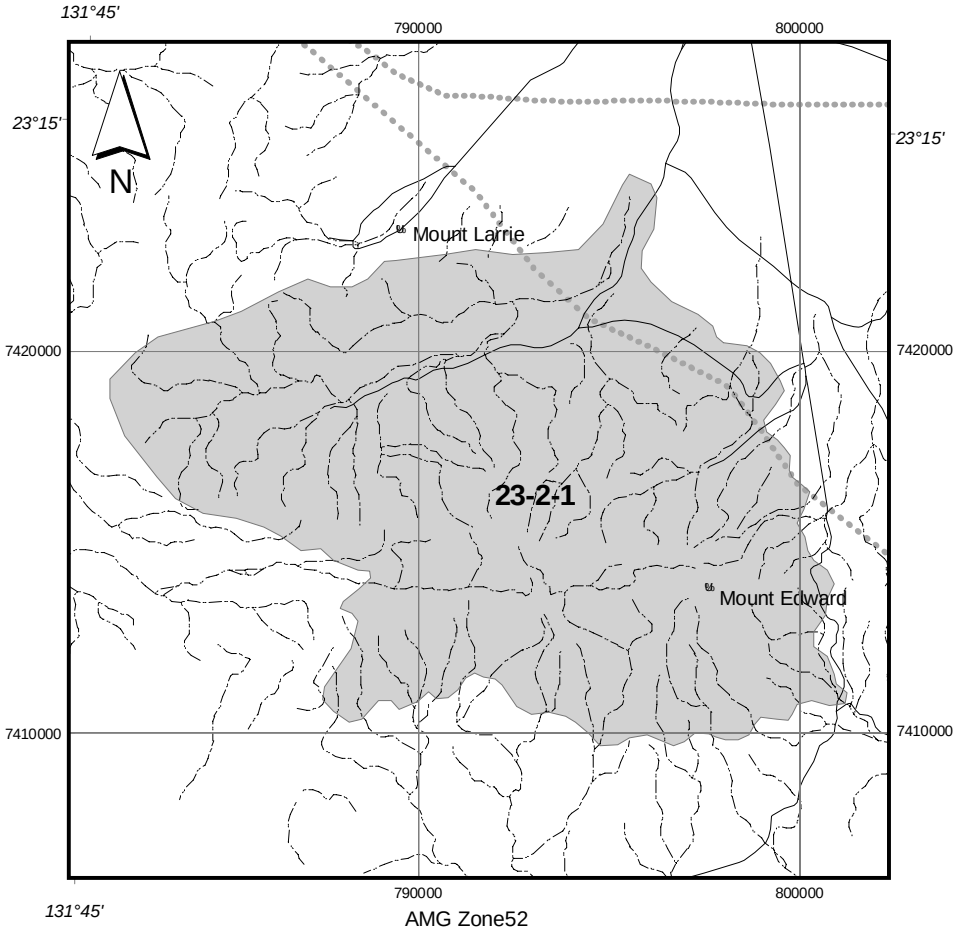
Type locations of the following were collected from the site: *Gymnanthera cunninghamii* (1978)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 71 (5 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 43 (84 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 65 (11 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.


131°45'
790000
800000
23°15'
N
Mount Larrie
7420000
23-2-1
Mount Edward
7410000
AMG Zone52

Site: 23-2-3 Talipata/Mount Liebig

Level of significance: national

Location: 23º 22' S 131º 28' E; Far western Macdonnell Range ca. 60 km west of Papunya.

Area: 262 km^2 **Map sheet:** Mount Liebig SF 52-26

Bioregions: MacDonnell Ranges (MAC 99.4%) & Great Sandy Desert (GSD 0.6%)

Tenure: Freehold - Haasts Bluff Aboriginal Land Trust (100% of site)

Description: This site includes outlying mountain areas of Heavitree quartzite in the far west of the Macdonnell Ranges bioregion. The site consists of two discrete polygons, the boundaries of which incorporate Mount Palmer, Mount Crawford and Mount Liebig and the intervening plains and run-on areas. These ranges rise to over 1000 m ASL, which at some points are up to 500 m above the surrounding plains.

Notes: Talipata gorge has permanent springs and waterholes and these support many restricted plant taxa and highly disjunct, small populations of several mesic species. The site includes the type location for *Nephrolepis arida* and *Goodenia faucium*.

Criteria satisfied: A1 a i), A1 b i), A1 c i), A2 e i) , B1 b1 i)

Taxa of Australian significance: *Callistemon pauciflorus* {3RC- [N]}, *Goodenia faucium* {2R [NSEW] endemic to/only known from this site}, *Hakea grammatophylla* {3RC- [W]}, *Nephrolepis arida* {3KC- only known in study area from this site}, *Neurachne tenuifolia* {3RCa [NW]}, *Pluchea A87409 Ormiston* {3K [NW]}, *Scaevola graminea* {3R [SW] only known in MAC from this site}, *Schoenus centralis* {3K only known in MAC from this site}, *Teucrium grandiusculum subsp. grandiusculum* {3KC- [N]}

Taxa of NT significance: *Corchorus walcottii* {3k}, *Glycine clandestina* s.lat. {3rC-}, *Hibbertia glaberrima* {3rCa}, *Histiopteris incisa* {3rC-}, *Juncus continuus* {3rC-}, *Monotaxis luteiflora* {3r}, *Scaevola humilis* {3k only known in NT from this site}, *Swainsona disjuncta* {3k only known in MAC from this site}, *Triumfetta johnstonii* {3k only known in MAC from this site}, *Triumfetta maconochieana* {3k only known in MAC from this site}

Taxa of Southern NT (study area) significance: *Adiantum hispidulum var. hispidulum* {(disjunct)}, *Lindsaea ensifolia subsp. ensifolia* {(rare)}, *Triumfetta micracantha* {(apparently rare) [S] only known in MAC from this site}

Taxa of bioregional significance: *Acacia minutifolia* {MAC (disjunct)}, *Acacia strongylophylla* {MAC (northern range limit)} *Baeckea polystemonea* {MAC (northern range limit) [N]}, *Gompholobium polyzygum* {MAC (disjunct)}, *Paratephrosia lanata* {MAC (southern range limit) [S]}, *Prostanthera sericea* {MAC (northern range limit) [N]}, *Stackhousia A90542 Mt Liebig* {MAC (apparently rare) only known in MAC from this site}, *Trema tomentosa var. viridis* {MAC (disjunct)}, *Vittadinia virgata* {MAC (southern range limit) [S] only known in MAC from this site}

Other taxa only known in MAC bioregion from this site: *Acacia inaequilatera, Diplopeltis stuartii var. stuartii, Grevillea eriostachya, Heliotropium glabellum, Hibiscus leptocladus, Hibiscus sturtii var. platychlamys, Indigofera monophylla, Tribulus macrocarpus*

Type locations of the following were collected from the site: *Goodenia faucium* (1957), *Nephrolepis arida* (1984)

Botanically Significant Waterholes at the site: Talipata Springs

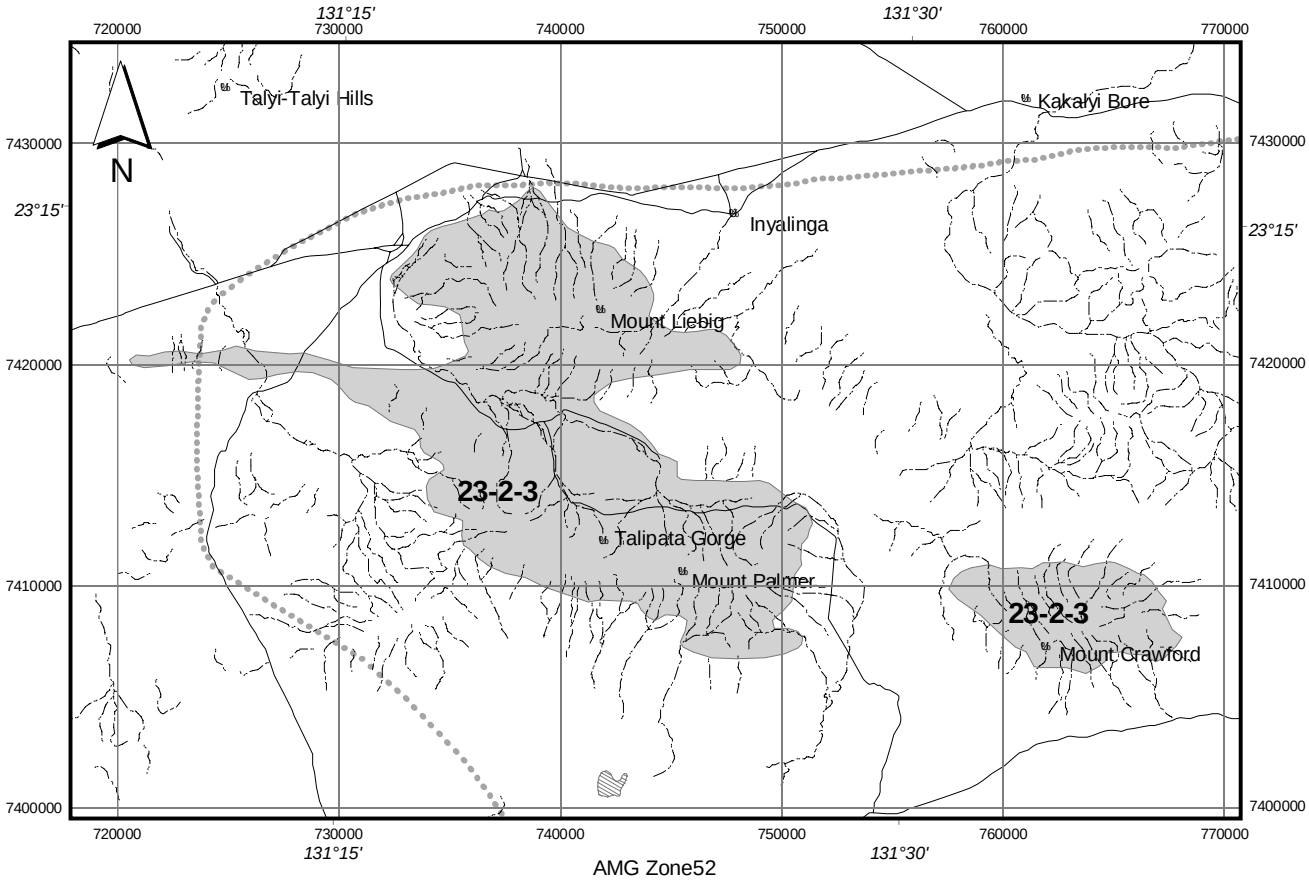
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (10 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 59 (17 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.

Map unit 71 (3 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 43 (68 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.


131°15'
131°30'
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23°15'
N
Talyi-Talyi Hills
Kakalyi Bore
Inyalinga
Mount Liebig
23-2-3
Talipata Gorge
Mount Palmer
23-2-3
Mount Crawford
AMG Zone52

Site: 23-3-1 Mount Zeil

Level of significance: national

Location: 23º 23' S 132º 24' E; Mount Zeil is approximately 55 km east of Haast Bluff.

Area: 104 km^2 **Map sheet:** Hermannsburg SF 53-13

Bioregions: MacDonnell Ranges (MAC 97.1%) & Burt Plain (BRT 2.9%)

Tenure: West Macdonnell Ranges National Park (48% of site); Pastoral Lease - Glen Helen Station (43% of site), Narwietooma Station (8% of site)

Description: This site includes the Mount Zeil massif, an isolated block composed of metamorphosed (gneissic) granite and a few minor ranges to the north of the site, which are composed of crystalline metamorphics (mainly granulite and gneiss).

Notes: This site supports many rare plants and some remarkably disjunct populations of plant taxa including *Cassinia laevis* and *Babbingtonia behrii*.

Criteria satisfied: A1 a i), A1 b i), A1 c i) , B1 b1 i)

Taxa of Australian significance: *Austrostipa centralis* {3RC-}, *Austrostipa feresetacea* {3RC- [NW]}, *Gossypium nelsonii* {3RC- [W]}, *Samolus eremaeus* {3KC-}

Taxa of NT significance: *Babingtonia behrii* {3r only known in NT from this site}, *Caesia A88425 Mt Zeil* {3r only known in NT from this site}, *Cassinia laevis* {3r only known in NT from this site}, *Clematis microphylla var. microphylla* {3rC-}, *Corchorus walcottii* {3k [E]}, *Glycine clandestina* s.lat. {3rC-}, *Hibbertia glaberrima* {3rCa}, *Maireana lobiflora* {3k}, *Sida A90797 Rainbow Valley* {3kC-}, *Spartothamnella puberula* {3rC-}

Taxa of Southern NT (study area) significance: none

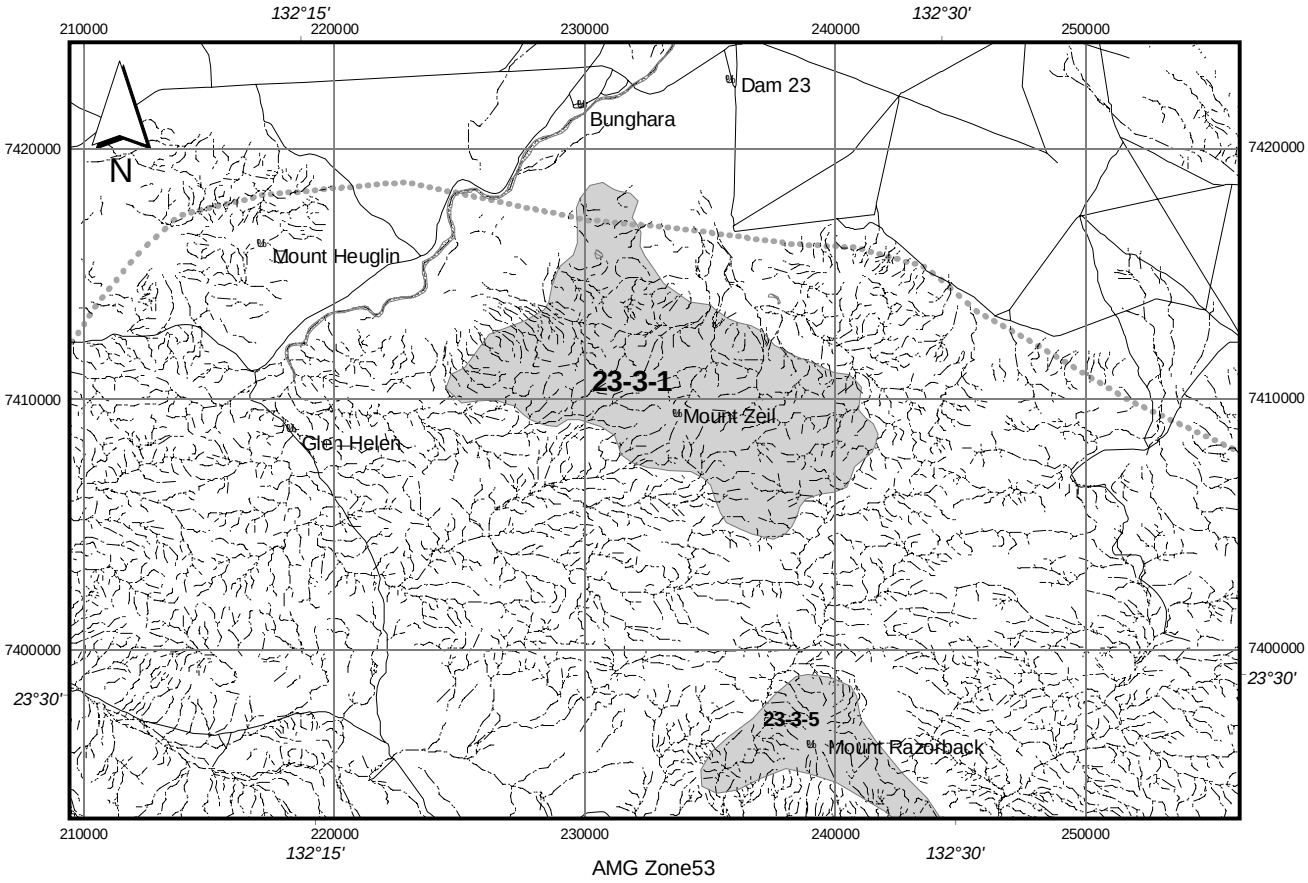
Taxa of bioregional significance: *Corymbia eremaea subsp. oligocarpa* {MAC (western range limit) [W]}, *Solanum eardleyae* {MAC (northern range limit) [N]}, *Vittadinia sulcata* {MAC (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (1 < %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 87 (97 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 27 (2 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.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210000
220000
230000
240000
250000
7420000
7410000
7400000
23°30'
N
Dam 23
Bunghara
Mount Heuglin
23-3-1
Mount Zeil
Glen Helen
23-3-5
Mount Razorback
AMG Zone53

Site: 23-3-2 Missionary Plain

Level of significance: national

Location: 23º 49' S 132º 11' E; ca. 50 km west of Hermannsberg

Area: 2568 km^2 **Map sheets:** Hermannsburg SF 53-13, Mount Liebig SF 52-16 & Henbury SG 53-1

Bioregions: MacDonnell Ranges (MAC 96.6%) & Great Sandy Desert (GSD 3.4%)

Tenure: Freehold - Various Aboriginal Land Trusts (ABT), Haasts Bluff ABT (59% of site), Ltalaltuma ABT (31% of site) and Ntaria ABT (4% of site), Rodna ABT (3% of site); Tnorala (Gosse Bluff) Conservation Reserve (1% of site); West Mac. Nat. Park (<1%of site)

Description: This site includes the western part of Missionary Plain, an extensive undulating sandplain bounded by the Macdonnell Ranges to the north and the Krichauff and Gardiner Ranges to the south. This plain is covered by a thin mantle of sand which covers mainly Devonian sandstones, which outcrop occasionally. The site has extensive areas of duricrust and alluvium which is associated with the creeks and rivers. The site includes the spectacular meteorite impact feature known as Gosses Bluff (Tnorala).

Notes: This site is poorly known and botanical values may not be uniform across the site. Most of the records of interesting taxa are currently from accessible places such as Mount Katapata and Gosses Bluff. Shallow sand plains such as Missionary Plain which are 'perched' in the ranges have consistently different floristics than sandplains and dunefields with deeper sand. Such areas require further study. Describing and mapping the plant communities which occur in these areas should be a priority.

Criteria satisfied: A1 bi), B1 b1 i)

Taxa of Australian significance: *Austrostipa aquarii* {3RC-}, *Comesperma viscidulum* {3KC-}, *Daviesia arthropoda* {3KCa}, *Logania centralis* {3KC-}, *Neurachne tenuifolia* {3RCa [S]}, *Pityrodia loricata* {3K [E] only known in NT from this site}

Taxa of NT significance: *Agrostis avenacea* {3rC-}, *Calotis kempei* {3k}, *Elacholoma hornii* {3rC-}, *Eremophila ovata* {3k [W] only known in GSD from this site}, *Ixiolaena tomentosa* {3kC-}, *Laxmannia arida* {3r}, *Pimelea microcephala subsp. microcephala* {3r}, *Sclerolaena parviflora* {3r}, *Spartothamnella puberula* {3rC-}, *Vittadinia dissecta var. hirta* {3kC-}, *Vittadinia pustulata* {3kC-}, *Xanthorrhoea thorntonii* {3rCa}

Taxa of Southern NT (study area) significance: *Adiantum hispidulum var. hispidulum* {(disjunct)}, *Bothriochloa bladhii subsp. bladhii* {(disjunct)}

Taxa of bioregional significance: *Alectryon oleifolius subsp. elongatus* {MAC (disjunct)}, *Aristida biglandulosa* {MAC (western range limit) [W]}, *Atriplex humifusa* {MAC (western range limit) [W]}, *Eremophila christophori* {MAC (western range limit) [W]}, *Lechenaultia striata* {GSD (northern range limit) [N]}, *Lomandra leucocephala subsp. robusta* {MAC (disjunct)}, *Polycarpaea involucrata* {MAC (disjunct), GSD (disjunct)}, *Vittadinia sulcata* {MAC (disjunct)}

Other taxa only known in MAC bioregion from this site: *Goodenia modesta*, *Peplidium aithocheilum*, *Podolepis A96227 Wollunga Well*

Other taxa only known in GSD bioregion (NT portion) from this site: *Paspalidium constrictum*

Type locations of the following were collected from the site: *Anemocarpa saxatilis* (1956), *Corymbia eremaea subsp. oligocarpa* (1972)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 92 (1 < %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 81 (29 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

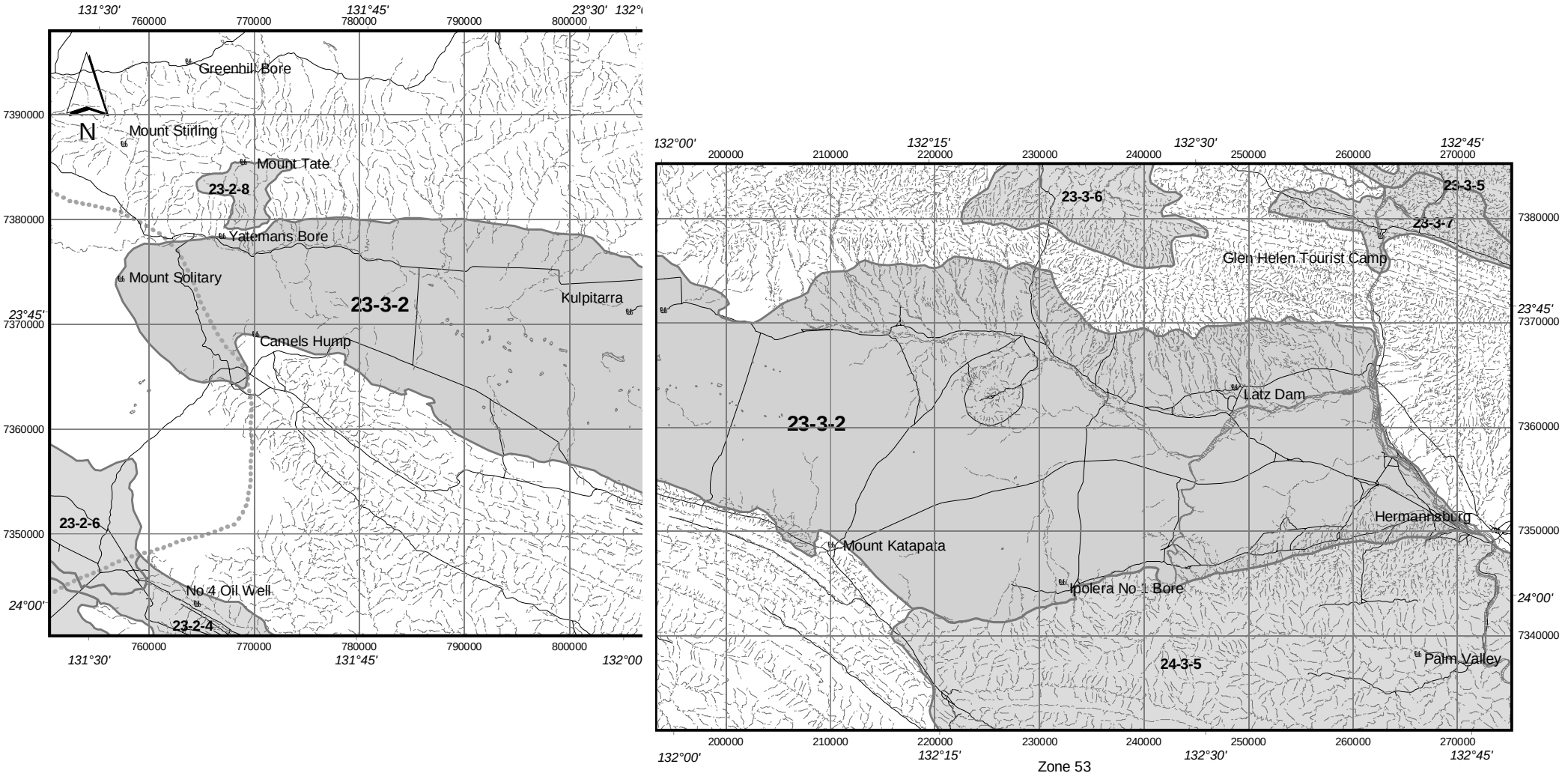
Map unit 93 (39 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 71 (17 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 87 (1 < %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 68 (10 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna, Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 65 (2 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.



Site 23-3-2 with respective portions mapped in AMG Zones 52 and Zone 53

Site: 23-3-5 Chewings Range

Level of significance: national

Location: 23º 42' S 133º 4' E; Central and Western Macdonnell Ranges (west of Alice Springs)

Area: 1299 km^2 **Map sheets:** Hermannsburg SF 53-13 & Alice Springs SF 53-14

Bioregion: MacDonnell Ranges (MAC)

Tenure: West Macdonnell Ranges National Park (51% of site); Freehold - Roulmaulpma (5% of site), Iwupatatka (5% of site) and Rodna (<1% of site) Aboriginal Land Trusts; Pastoral Lease - Owen Springs (35% of site), Glen Helen & Hamilton Downs (both <1%).

Description: This site is broadly delineated by the outcropping of the meta-sandstone geologies in the western Macdonnell Ranges. The site trends east-west and is bounded in the north by the northern fall of the Chewings range - a prominent ridge of quartzite which rises steeply above the surrounding landscape. The range rises to a high point of 1,389 m ASL at Mount Giles and continues from Ormiston Pound in the west to Simpsons Gap in the east. The site is bounded in the south by the southern fall of the Heavitree Range another steep ridge of quartzite (composed of Heavitree quartzite). The site also includes the entire exposure of Heavitree quartzite which extends to the west of Ormiston Pound and includes several high peaks including Mount Sonder (1,380 m ASL) and terminates at Mount Razorback (1,274 m ASL). Between these ranges lies Ormiston Pound and the Alice Valley, which are broad undulating valleys with low rocky hills and alluvial fans and plains. Here the geology is predominantly crystalline metamorphic with minor occurrences of granite.

Notes: This site is undoubtedly of great botanical significance. The site supports numerous rare and significant plants and rare plant communities. Pitts (1994) identifies several plant communities of highly limited distribution. Of particular importance are:sparse shrublands dominated by *Acacia macdonnellensis*, *Eucalyptus eremaea* and *E. gillenii*; and open woodlands dominated by *Callitris glaucophylla* and *Acacia macdonnellensis* which occur on the highest and steepest parts (invariably on quartzite) of the west Macdonnell Ranges. These communities are of limited extent and support numerous rare, threatened and otherwise significant plant taxa. Four plant species of national significance are endemic to this site; *Acacia dolichophylla*, *Actinotus schwartzii*, *Hakea standleyensis* and *Wrixonia schultzii*, while other species of national conservation significance are either largely confined to this area; *Leucopogon sonderensis* and *Hibbertia* A86497 *Chewings Range* or have their main stronghold in this site; *Neurachne tenuifolia*. The site is also of particular biogeographic interest, having many disjunct populations of plant taxa. Many of these records occur in the Chewings and Heavitree Ranges where the tributaries of the Hugh and Finke Rivers have carved out deep shaded gorges often with pools and waterholes. In addition, the Chewings Range has several important permanent springs which support many highly disjunct species and rare plant communities. Of particular note is the occurrence of a restricted stand of *Callistemon pauciflora* shrubland with a *Dicranopteris linearis* understorey, which occurs near Giles Spring. Many of these predominantly mesic plant taxa may be relictual, persisting at these locations from wetter periods in the climatic history of central Australia (Maconochie 1981). Among the more interesting of these disjunct species are *Adiantum capillus-veneris*, *Carex fascicularis* and *Christella dentata* (all known from small populations near permanent springs in the Chewings Range), which occur at no other location in the study area.

Criteria satisfied: A1 a i), A1 b i), A1 c i), A1 d i), A2 e i), A3 c i), B1 b1 i), B1 b2 i), C1 B i).

Taxa of Australian significance: *Acacia dolichophylla* {2RC- [NSEW] endemic to/only known from this site}, *Actinotus schwarzii* {3VCa [NSEW]}, *Austrostipa feresetacea* {3RC- [S]}, *Callistemon pauciflorus* {3RC-}, *Comesperma viscidulum* {3KC- [E]}, *Eucalyptus lucens* {3RC- [N]}, *Euphorbia sarcostemmoides* {3KCa}, *Gossypium nelsonii* {3RC-}, *Hakea grammatophylla* {3RC-}, *Hakea standleyensis* {3RC- [NSE]}, *Harnieria kempeana subsp. kempeana* {3RC- [N]}, *Hibbertia A86497 Chewings Range* {3RC- [NE]}, *Kohautia australiensis* {3KC-}, *Leucopogon sonderensis* {3RC- [NE] only known in MAC from this site}, *Lomandra patens* {3RCa}, *Macrozamia macdonnellii* {3VCa}, *Neurachne tenuifolia* {3RCa [S]}, *Olearia macdonnellensis* {3VCi [S]}, *Pluchea A87409 Ormiston* {3K [S]}, *Samolus eremaeus* {3KC-}, *Sauropus ramosissimus* {3KC-}, *Sedopsis filsonii* {3RC-}, *Wrixonia schultzii* {3VC- [SE]}

Taxa of NT significance: *Adiantum capillus-veneris* {3vCi only known in study area from this site}, *Agrostis avenacea* {3rC-}, *Arthropodium strictum* {3rC- [N]}, *Carex fascicularis* {3rC- only known in NT from this site}, *Clematis microphylla var. microphylla* {3rC-}, *Cymbopogon dependens* {3kC-}, *Doodia caudata var. caudata* {3rC-}, *Einadia nutans subsp. nutans* {3rC-}, *Enneapogon intermedius* {3k}, *Eremophila elderi* {3k}, *Glycine clandestina* s.lat. {3rC-}, *Hibbertia glaberrima* {3rCa}, *Histiopteris incisa* {3rC-}, *Juncus continuus* {3rC-}, *Oxalis radicosa* {3kC-}, *Sclerolaena parviflora* {3r}, *Senecio cunninghamii var. serratus* {3r}, *Sida everistiana* {3r only known in MAC from this site}, *Spartothamnella puberula* {3rC-}, *Tricoryne elatior* s.lat. {3rC-}

Taxa of Southern NT (study area) significance: *Adiantum hispidulum var. hispidulum* {(disjunct)}, *Bothriochloa bladhii subsp. bladhii* {(disjunct)}, *Christella dentata* {(threatened) only known in study area from this site}, *Cymbopogon refractus* {(disjunct & apparently rare) only known in study area from this site}, *Dicranopteris linearis var. linearis* {(threatened) only known in study area from this site}, *Lindsaea ensifolia subsp. ensifolia* {(rare)}, *Psilotum nudum* {(rare)}, *Zornia muriculata subsp. angustata* {(disjunct) only known in MAC from this site}

Taxa of bioregional significance: *Alectryon oleifolius subsp. elongatus* {MAC (disjunct)}, *Aristida latzii* {MAC (western range limit) [W]}, *Convolvulus remotus* {MAC (disjunct)}, *Crassula colorata var. acuminata* {MAC (northern range limit) [N]}, *Cyanthillium cinereum* s.lat. {MAC (disjunct)}, *Cyperus exaltatus* {MAC (disjunct)}, *Cyperus polystachyos* {MAC (disjunct)}, *Eucalyptus orbifolia subsp. orbifolia* {MAC (disjunct) [N]}, *Gastrolobium brevipes* {MAC (eastern range limit) [E]}, *Glycine falcata* {MAC (disjunct) only known in MAC from this site}, *Kennedia prorepens* {MAC (disjunct and apparently rare)}, *Melaleuca trichostachya* {MAC (disjunct and western range limit) [W]}, *Nicotiana excelsior* {MAC (northern range limit) [N]}, *Persicaria lapathifolia* {MAC (disjunct)}, *Pteris tremula* {MAC (rare)}, *Radyera farragei* {MAC (disjunct)}, *Rulingia magniflora* {MAC (northern range limit) [N]}, *Trema tomentosa var. viridis* {MAC (disjunct)}, *Tribulus hirsutus* {MAC (eastern range limit) [E] only known in MAC from this site}, *Vittadinia sulcata* {MAC (disjunct)}

Other taxa only known in MAC bioregion from this site: *Cyperus betchei subsp. commiscens*, *Dicrastylis gilesii var. laxa* {[E]}, *Diplopeltis stuartii* {[E]}, *Dysphania rhadinostachya subsp. inflata*, *Glinus oppositifolius*, *Glycine tomentella*, *Ptilotus exaltatus var. glaber*, *Sclerolaena obliquicuspis*, *Trianthema pilosa*, *Triodia hubbardii* {[S]}

Type locations of the following were collected from the site: *Acacia dolichophylla* (1976), *Acacia macdonnelliensis subsp. macdonnelliensis* (1967), *Actinotus schwarzii* (1880s), *Austrostipa feresetacea* (1976), *Callistemon pauciflorus* (1985), *Eucalyptus lucens* (1973), *Leucopogon sonderensis* (1966), *Olearia macdonnellensis* (1983), *Ptilotus exaltatus var. glaber* (1972), *Wrixonia schultzii* (1894)

Botanically Significant Waterholes at the site: Ellery Creek gorge, Fringe Lily Gorge, Giles Spring, Giles Spring no. 3, Giles Yard Spring

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

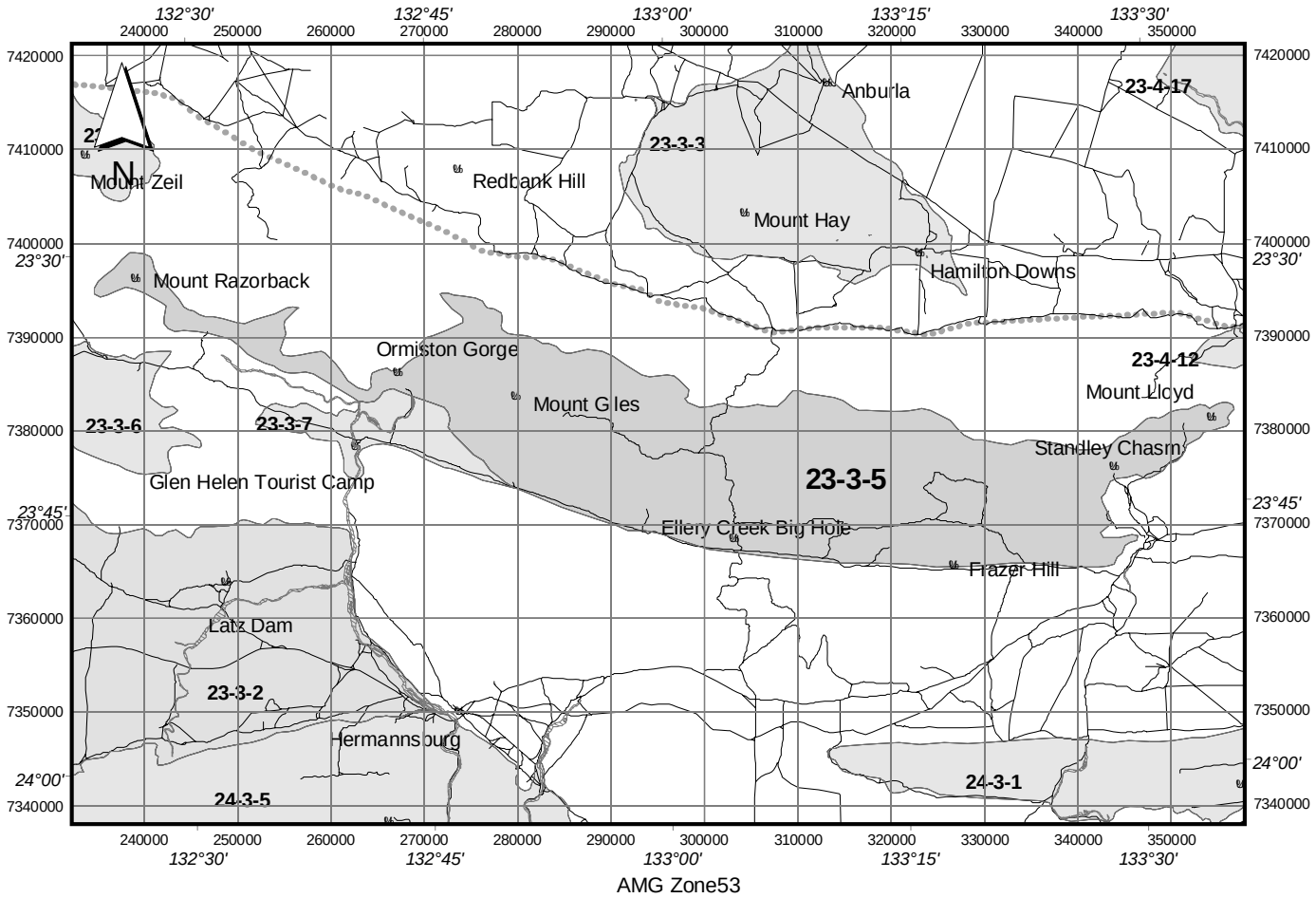
Map unit 69 (1 < %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Aristida contorta* (Bunched Kerosene Grass) or *Triodia* open-tussock/hummock grassland understorey.

Map unit 66 (4 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 92 (16 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 68 (21 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 87 (57 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.



Site: 23-3-7 Glen Helen

Level of significance: national

Location: 23º 41' S 132º 42' E; Western Madonnell Ranges - Glen Helen Homestead

Area: 107 km^2 **Map sheet:** Hermannsburg SF 53-13

Bioregion: MacDonnell Ranges (MAC)

Tenure: West Macdonnell Ranges National Park (94% of site); Freehold - Rodna Aboriginal Land Trust (5% of site)

Description: This site incorporates the confluence of Ormiston and Davenport Creeks and most of the catchments of Pioneer Creek. It also includes the Gorge of the Finke immediately south of Glen Helen. The site is mainly comprised of alluvial deposits adjacent to the Finke River and its tributaries and low rounded foothills.

Notes: The botanical values of this site are concentrated on the Finke River Gorge at Glen Helen and two active Mound springs. Cattle remain a threat to both mound Springs.

Criteria satisfied: B1 b i), B1 b2 i)

Taxa of Australian significance: *Cratystylis A36062 Glen Helen* {3RC-}, *Goodenia anfracta* {3KC- only known in MAC from this site}, *Kohautia australiensis* {3KC-}, *Lomandra patens* {3RCa}, *Samolus eremaeus* {3KC-}, *Sedopsis filsonii* {3RC-}, *Wrixonia schultzii* {3VC- [S]}, *Zygophyllum crassissimum* {3KC- [N]}

Taxa of NT significance: *Hibbertia glaberrima* {3rCa}, *Juncus kraussii subsp. australiensis* {3rC-}, *Lawrencia squamata* {3k only known in MAC from this site}, *Maireana brevifolia* {3rC-}, *Maireana carnosa* {3rC-}, *Maireana lobiflora* {3k}, *Maireana schistocarpa* {3k}, *Ophioglossum polyphyllum* {3rC-}, *Sclerostegia disarticulata* {3rC-}, *Senecio cunninghamii var. serratus* {3r}, *Spartothamnella puberula* {3rC-}, *Verbena macrostachya* {3k}

Taxa of Southern NT (study area) significance: *Bothriochloa bladhii subsp. bladhii* {(disjunct)}, *Eriochloa procera* {(disjunct & apparently rare) only known in study area from this site}, *Fimbristylis sieberana* {(disjunct)}, *Imperata cylindrica* {(disjunct & apparently rare)}, *Phragmites australis* {(disjunct & apparently rare)}, *Sporobolus virginicus* {(disjunct) only known in MAC from this site}

Taxa of bioregional significance: *Alectryon oleifolius subsp. elongatus* {MAC (disjunct)}, *Cyperus exaltatus* {MAC (disjunct)}, *Cyperus polystachyos* {MAC (disjunct)}, *Nicotiana excelsior* {MAC (northern range limit) [N]}, *Persicaria lapathifolia* {MAC (disjunct)}, *Polymeria ambigua* {MAC (disjunct and southern range limit) [S]}, *Radyera farragei* {MAC (disjunct)}

Other taxa only known in MAC bioregion from this site: *Maireana luehmannii*

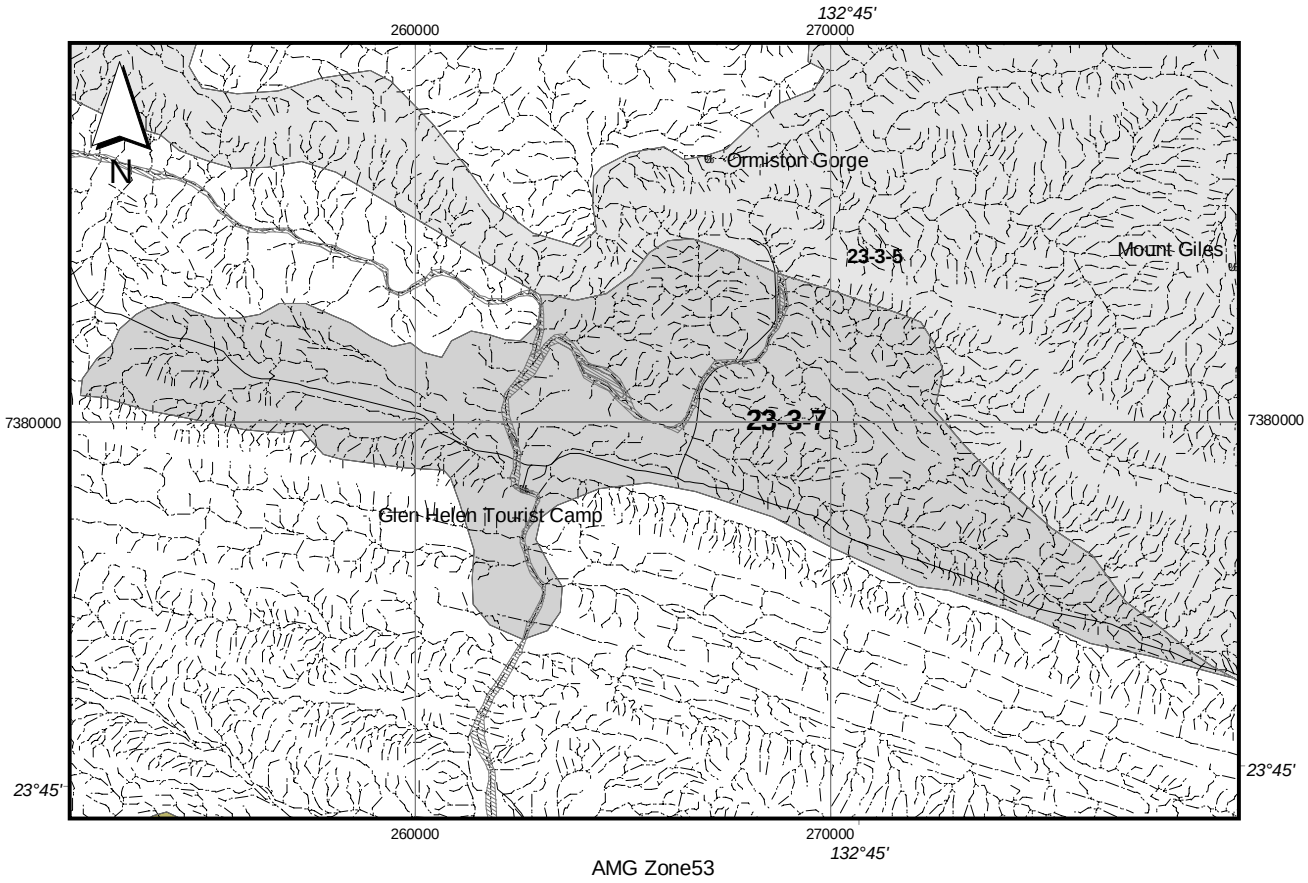
Type locations of the following were collected from the site: *Ipomoea racemigera*, *Samolus eremaeus* (1955)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 92 (93 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 87 (1 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 69 (4 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Aristida contorta* (Bunched Kerosene Grass) or *Triodia* open-tussock/hummock grassland understorey.


132°45'
260000
270000
N
Ormiston Gorge
23-3-6
Mount Giles
7380000
23-3-7
7380000
Glen Helen Tourist Camp
23°45'
23°45'
260000
270000
132°45'
AMG Zone53

Site: 23-4-14 Simpsons Gap

Level of significance: national

Location: 23º 32' S 133º 43' E; ca. 20 km west of Alice Springs.

Area: 94 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: MacDonnell Ranges (MAC)

Tenure: West MacDonnell National Park (78% of site); Freehold - Iwupataka Aboriginal Land Trust (21% of site)

Description: The site incorporates much of the upper part of the catchment of Roe Creek. The site is bounded to the north by the outcropping of meta-sandstone geologies. The botanical values of the site are enhanced by the steep sheltered south facing slopes and the series of deep gorges (including the spectacular Simpson's Gap) cut down through the quartzite strike ridges. Other features of botanical interest are the extensive stands of mature Mulga (*Acacia aneura*) and small areas of outcropping metamorphic rocks rich in the mineral amphibolite - which weather to produce fertile soils.

Notes: The site is rich in plant taxa with over 430 species recorded (Gibson et al. 1990). Type locality for *Calandrinia reticulata*, *Crassula sieberiana subsp. tetramera* and *Ricinocarpos gloria-medii*.

Criteria satisfied: B1 b1 i), A1 c i)

Taxa of Australian significance: *Austrostipa feresetacea* {3RC- [S]}, *Pluchea A87409 Ormiston* {3K [S]}, *Ricinocarpos gloria-medii* {2VCa [SW]}, *Samolus eremaeus* {3KC-}

Taxa of NT significance: *Corchorus pumilio* {3kC-}, *Einadia nutans subsp. nutans* {3rC-}, *Enneapogon intermedius* {3k}, *Harmsiodoxa puberula* {3rC-}, *Ixiochlamys nana* {3kC-}, *Ophioglossum lusitanicum* {3rC-}, *Ophioglossum polyphyllum* {3rC-}, *Oxalis radicosa* {3kC-}, *Parietaria cardiostegia* {3r}, *Phyllanthus erwinii* {3k}, *Senecio cunninghamii var. serratus* {3r}, *Spartothamnella puberula* {3rC-}, *Tricoryne elatior* s.lat. {3rC-}, *Triumfetta centralis* {3k only known in MAC from this site}

Taxa of Southern NT (study area) significance: *Plumbago zeylanica* {(disjunct)}

Taxa of bioregional significance: *Austrostipa scabra subsp. scabra* {MAC (disjunct)}, *Convolvulus remotus* {MAC (disjunct)}, *Crassula colorata var. acuminata* {MAC (northern range limit) [N]}, *Persicaria lapathifolia* {MAC (disjunct)}, *Radyera farragei* {MAC (disjunct)}, *Trema tomentosa var. viridis* {MAC (disjunct)}, *Vittadinia sulcata* {MAC (disjunct)}

Other taxa only known in MAC bioregion from this site: *Brachyachne ciliaris*

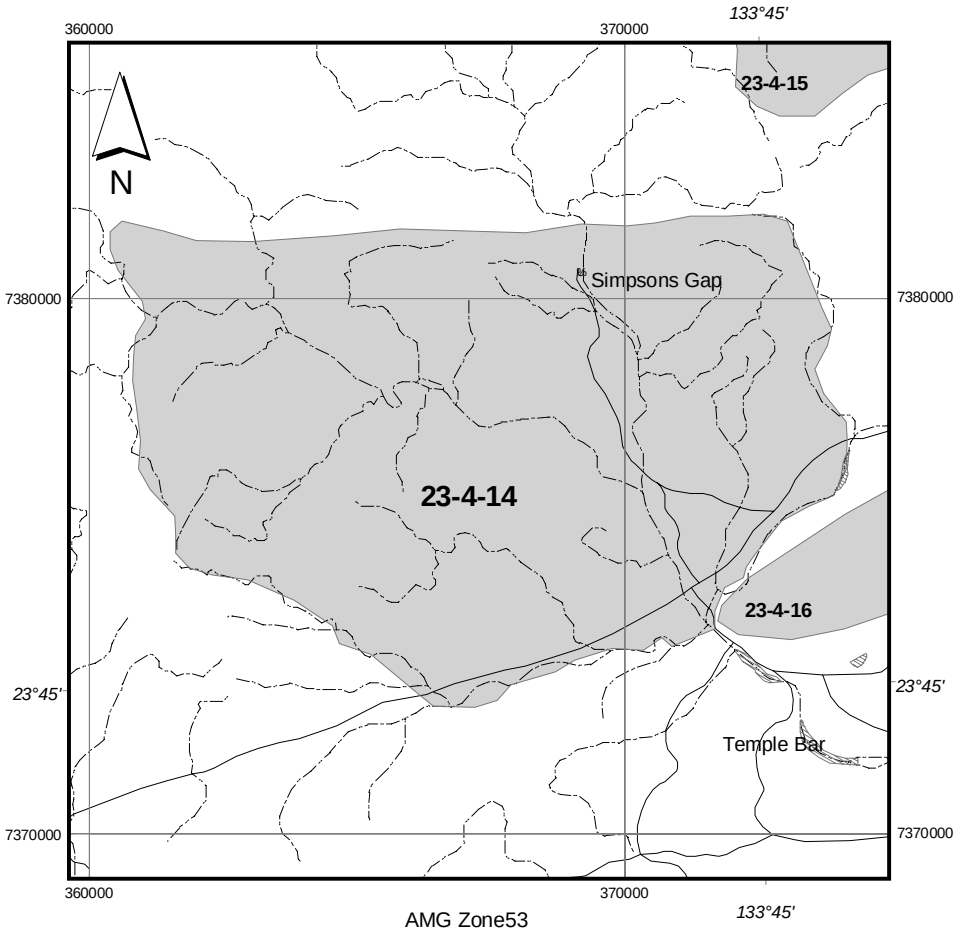
Type locations of the following were collected from the site: *Calandrinia reticulata* (1974), *Crassula sieberiana subsp. tetramera* (1973), *Ricinocarpos gloria-medii* (1972)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 68 (2 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 66 (3 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 87 (8 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.


133°45'
360000
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Simpsons Gap
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23-4-14
23-4-16
23°45'
23°45'
Temple Bar
7370000
7370000
360000
370000
133°45'
AMG Zone53

Site: 23-4-16 Ilparpa

Level of significance: national

Location: 23º 45' S 133º 49' E; Central Macdonnell Ranges

Area: 61 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: MacDonnell Ranges (MAC)

Tenure: Alice Springs Desert Park (13% of site); West Macdonnell Ranges National Park (12% of site); Freehold - Iwupataka Aboriginal Land Trust (3% of site); Vacant Crown Land (69% of site)

Description: The site is bounded to the north by the Heavitree range, to the south by the outwash slopes and depressions fringing the Blatherskite Range to the west by Roe Creek and the eastern boundary picks its way around areas disturbed by infrastructure and urban development.

Notes: The site is the type location for *Corymbia eremaea subsp. oligocarpa* and *Euphorbia centralis*. This relatively small site supports a wide range of contrasting habitats including claypans, seasonal swamps, quartzite and dolomite ranges, slot gorges and *Acacia* woodlands. Nearly 500 vascular plant taxa have been recorded from this site.

Criteria satisfied: B1 b1 i), A3 c i), A1 b i)

Taxa of Australian significance: *Austrostipa feresetacea* {3RC- [S]}, *Eleocharis papillosa* {3R only known in MAC from this site}, *Minuria tridens* {3VCi}, *Sida A43017 Ambalindum* {3KC-}

Taxa of NT significance: *Agrostis avenacea* {3rC-}, *Bulbostylis pyriformis* {3rC-}, *Centipeda D18576 Andado* {3k [N]}, *Corchorus pumilio* {3kC-}, *Elacholoma hornii* {3rC-}, *Eriochiton sclerolaenoides* {3k}, *Lythrum wilsonii* {3r only known in MAC from this site}, *Sida goniocarpa* {3r only known in MAC from this site}, *Zygophyllum rowelliae* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Convolvulus remotus* {MAC (disjunct)}, *Cyperus bifax* {MAC (disjunct)}, *Dysphania platycarpa* {MAC (disjunct) only known in MAC from this site}, *Josephinia eugeniae* s.lat. {MAC (disjunct)}, *Persicaria lapathifolia* {MAC (disjunct)}, *Radyera farragei* {MAC (disjunct)}, *Trema tomentosa var. viridis* {MAC (disjunct)}

Other taxa only known in MAC bioregion from this site: *Goodenia berardiana* {[N]}, *Isotropis winneckei*

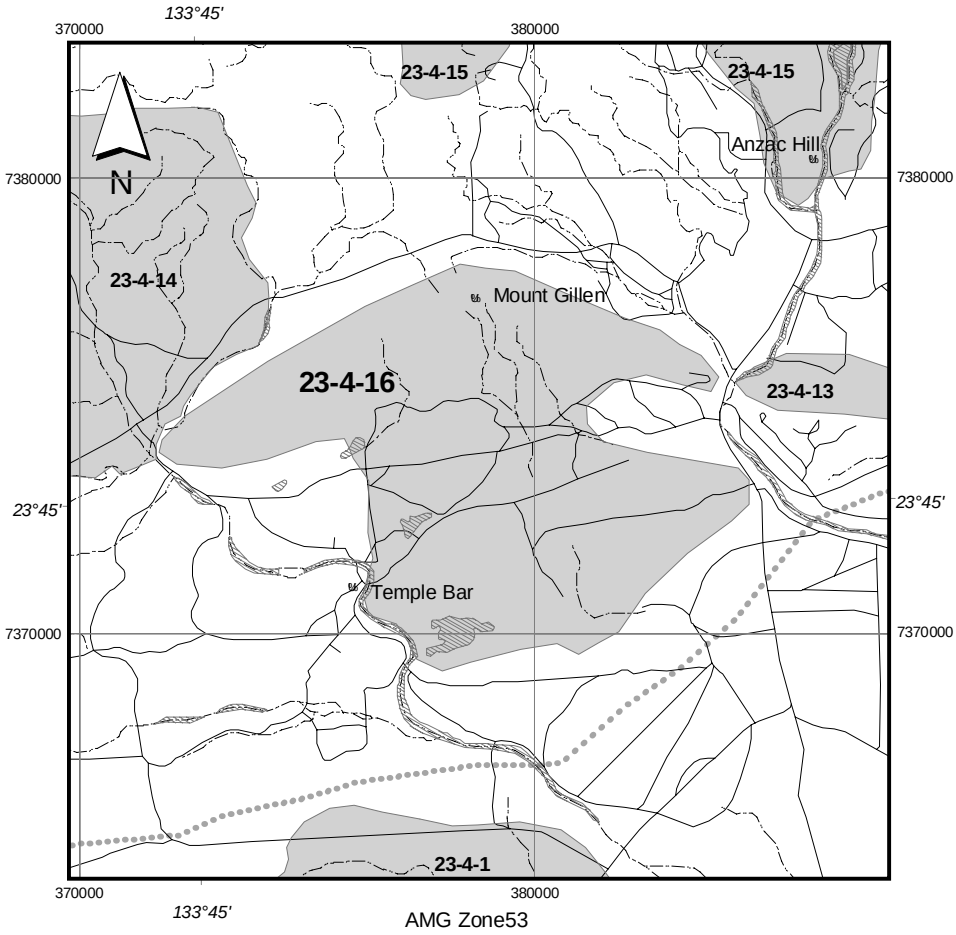
Type locations of the following were collected from the site: *Corymbia eremaea subsp. oligocarpa* (1933), *Eucalyptus gillenii* (1924), *Euphorbia centralis* (1990)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 59 (19 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.

Map unit 68 (19 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 87 (60 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.


133°45'
370000
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Anzac Hill
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23-4-14
Mount Gillen
23-4-16
23-4-13
23°45'
23°45'
Temple Bar
7370000
7370000
23-4-1
370000
380000
133°45'
AMG Zone53

Site: 23-4-5 Trephina

Level of significance: national

Location: 23º 33' S 134º 28' E; East MacDonnell Ranges; extending from just over 20 km east of Alice Springs to 100 km north-east of Alice Springs.

Area: 563 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregions: MacDonnell Ranges (MAC 99.3%) & Simpson-Strzelecki Dunefields (SSD 0.7%)

Tenure: Pastoral lease - Undoolya (16%), The Garden (45%), Loves Creek (22%) and Ambalindum (<1%) Stations; Trephina Gorge Nat. Park (3%); Arltunga Hist. Res. (4%); Freehold - Psanye and Melknge Aboriginal Land Trusts (both <1%), Other Freehold (5%)

Description: This large site incorporates much of the Heavitree Quartzite ranges of the East Macdonnell Ranges, and is roughly centred on Trephina Gorge Nature Park. It also incorporates part of Arltunga Historical Reserve in the north-east of the site. Other sediments of the Amadeus Basin sequence, of which Heavitree Quartzite is the oldest, occur in the site, including Bitter Springs Limestone.

Notes: Five plant species listed as nationally Vulnerable are found in the site as well as three nationally rare species, four species that are rare in the NT and 6 poorly known taxa. Records of these taxa are spread across the site, with few of the species co-occurring in one spot. The unifying feature is the landform and geology, which encompass a number of gorges, waterholes, and rivers in addition to the ranges which define the site. Several taxa are at or near the edge of their known range in the site. The site includes the type locations for *Amyema subcapitata* (not recognised as a distinct species), *Minuria tridens* and *Corymbia opaca*.

Criteria satisfied: B1 b2 i), B1 b1 i)

Taxa of Australian significance: *Acacia undoolyana* {2VCi [NSEW]}, *Callistemon pauciflorus* {3RC- [NE]}, *Hakea grammatophylla* {3RC-}, *Macrozamia macdonnellii* {3VCa}, *Minuria tridens* {3VCi}, *Olearia macdonnellensis* {3VCi [E]}, *Ricinocarpos gloria-medii* {2VCa [NS]}, *Sedopsis filsonii* {3RC-}, *Sida A43017 Ambalindum* {3KC-}

Taxa of NT significance: *Arabidella trisecta* {3kC-}, *Calotis kempei* {3k}, *Crotalaria dissitiflora var. dissitiflora* {3k}, *Eremophila elderi* {3k}, *Eucalyptus thozetiana* {3rC- [W]}, *Hibiscus sturtii var. sturtii* {3rC-}, *Lythrum paradoxum* {3k}, *Maireana carnosa* {3rC-}, *Spartothamnella puberula* {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Austrostipa scabra subsp. scabra* {MAC (disjunct)}, *Baeckea polystemonea* {MAC (eastern range limit) [E]}, *Convolvulus remotus* {MAC (disjunct)}, *Cyanthillium cinereum* s.lat. {MAC (disjunct)}, *Iseilema macratherum* {MAC (disjunct and apparently rare) only known in MAC from this site}, *Juncus A87739 MacDonnell Ranges* {MAC (northern and eastern range limits) [NE]}, *Radyera farragei* {MAC (disjunct)}, *Rotala occultiflora* {MAC (disjunct)}, *Trema tomentosa var. viridis* {MAC (disjunct)}

Other taxa only known in MAC bioregion from this site: *Atriplex vesicaria subsp. variabilis*, *Eriochloa australiensis*, *Ptilotus helipteroides var. minor*, *Triodia triaristata* {[S]}

Type locations of the following were collected from the site: *Amyema subcapitata*, *Minuria tridens* (1983)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (1 < %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 71 (1 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

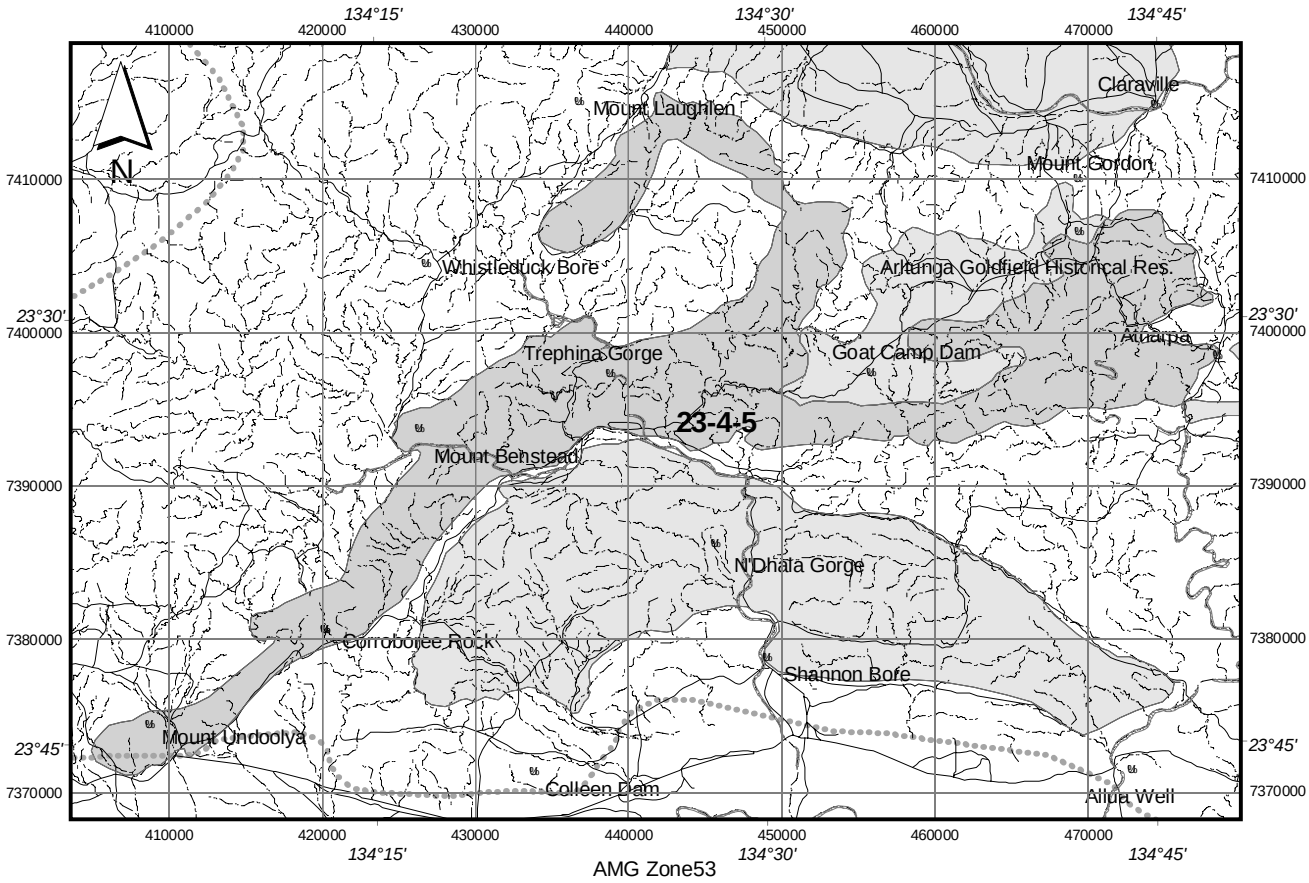
Map unit 66 (1 < %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 68 (17 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 92 (50 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 80 (25 %): *Triodia longiceps* (Bull Spinifex) hummock grassland with *Acacia* tall open-shrubland overstorey.

Map unit 59 (4 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.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Claraville
Mount Gordon
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Whistleduck Bore
Arltunga Goldfield Historical Res.
23°30'
7400000
Trephina Gorge
Goat Camp Dam
Atuapa
23-4-5
Mount Behnstead
7390000
N'Dhala Gorge
7380000
Corroboree Rock
Shannon Bore
Mount Undoolya
23°45'
7370000
Colleen Dam
Alua Well
AMG Zone53

Site: 23-4-6 N'Dhala

Level of significance: national

Location: 23º 40' S 134º 29' E; ca. 50 km east of Alice Springs.

Area: 484 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: MacDonnell Ranges (MAC)

Tenure: Pastoral lease - Undoolya (39% of site), The Garden (4% of site) and Loves Creek (54% of site) Stations; N'Dhala Gorge Nature Park (1% of site); Arltunga Hist. Res. (4%); Freehold - Psanye and Melknge Aboriginal Land Trusts, other freehold

Description: This site in the east Macdonnell Ranges is bounded in the north by the Ross River and Goat Camp Creek, to the east by Giles Creek, to the west by Williams Creek and to the south by exposures of the Arumbera Sandstone, which effectively marks the edge of the surrounding flood plains of the Todd and Ross Rivers. The site is centred on two striking geological features - the Ross River Syncline and the Fergusson Syncline. Thick somewhat concentric bands of Devonian and Cambrian sediments enclose small plains and pounds with alluvial soils.

Notes: The area supports a suite of rare plant taxa and at least one rare plant community - shrublands dominated by *Acacia undoolyana*. The site is of major importance in the conservation of the threatened plant species *Acacia undoolyana* and *Ricinocarpos gloria-medii*. Most of the known botanical values of the site are centred in the western portion of the site (west of the Ross River). The eastern section of the site (east of the Ross River) has had limited botanical exploration and values here are implied from geomophology. The site includes the type location for *Acacia undoolyana*.

Criteria satisfied: B1 b2 i), B1 b1 i)

Taxa of Australian significance: *Acacia undoolyana* {2VCi [NSEW]}, *Austrostipa centralis* {3RC-}, *Phyllanthus oblanceolatus* {3KC- [N]}, *Ricinocarpos gloria-medii* {2VCa [SE]}, *Samolus eremaeus* {3KC-}, *Sedopsis filsonii* {3RC-}

Taxa of NT significance: *Bulbostylis pyriformis* {3rC-}, *Eucalyptus thozetiana* {3rC-}, *Hibiscus sturtii var. sturtii* {3rC-}, *Lythrum paradoxum* {3k}, *Sida A71181 Bond Springs* {3kC- only known in MAC from this site}, *Sida A90797 Rainbow Valley* {3kC-}, *Spartothamnella puberula* {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Austrostipa scabra subsp. scabra* {MAC (disjunct)}, *Canthium lineare* {MAC (eastern range limit) [E]}, *Convolvulus remotus* {MAC (disjunct)}, *Rulingia magniflora* {MAC (northern range limit) [N]}, *Swainsona canescens* {MAC (eastern range limit) [E]}, *Trema tomentosa var. viridis* {MAC (disjunct)}

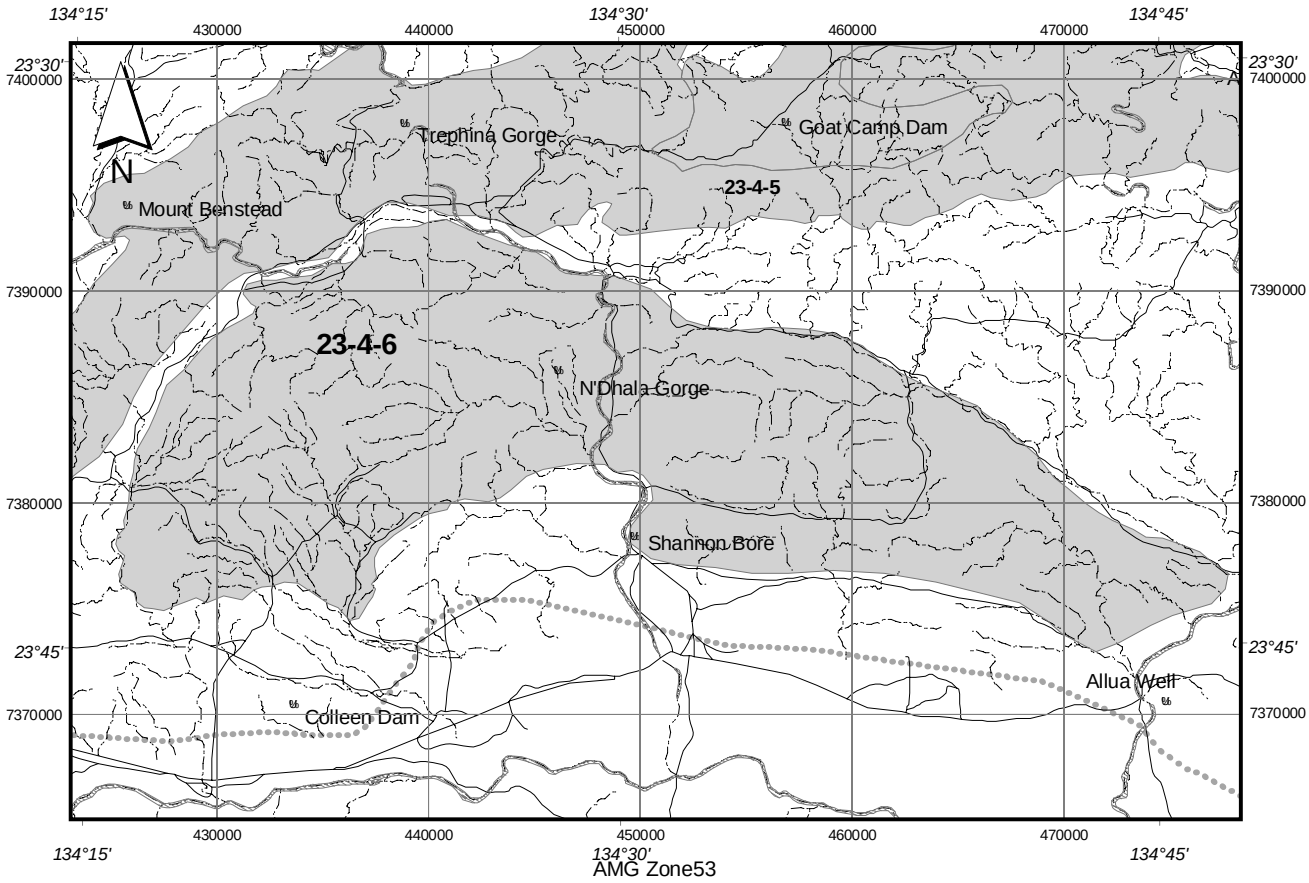
Type locations of the following were collected from the site: *Acacia undoolyana* (1987)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 92 (50 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 80 (33 %): *Triodia longiceps* (Bull Spinifex) hummock grassland with *Acacia* tall open-shrubland overstorey.

Map unit 66 (15 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna, Eremophila* (Fuchsia) open-shrubland understorey.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7400000
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Trephina Gorge
Goat Camp Dam
23-4-5
Mount Benstead
7390000
23-4-6
N'Dhala Gorge
7380000
Shannon Bore
23°45'
Allua Well
7370000
Colleen Dam
AMG Zone53

Site: 23-4-7 Amarata Range

Level of significance: national

Location: 23º 30' S 134º 55' E; ca 120 km east of Alice Springs.

Area: 144 km^2 **Map sheets:** Alice Springs SF 53-14 & Illogwa Creek SF 53-15

Bioregion: MacDonnell Ranges (MAC)

Tenure: Pastoral Lease - Ambalindum Station (14% of site) and Loves Creek Station (78% of site); Ruby Gap Nature Reserve (7% of site)

Description: This site is bounded by the Amarata and Atnarpa Ranges and the Hale River. The ranges rise 200 m or more above the surrounding uplands and are composed of Heavitree Quartzite, a particularly erosion resistant geology. The surrounding geology is predominantly fine grained granite and diorite between the two ranges and gneiss to the east of the Amarata Range.

Notes: The known botanical values of the site are concentrated on the quartzite ranges. At several places on the southern quartzite ridge the topographic and geomorphological features have afforded some protection from fire, and consequently they support interesting and restricted 'fire sensitive' plant communities. In addition the site has rocky quartzite hills where spinifex (*Triodia* spp) is not dominant in the understorey. This is an uncommon phenomenon in the eastern Macdonnell Ranges.

Criteria satisfied: A1 a ii), A1 b ii), B1 b2 ii), B1 b1 ii)

Taxa of Australian significance: *Austrostipa centralis* {3RC-}, *Hakea grammatophylla* {3RC- [E]}, *Sedopsis filsonii* {3RC-[E]}, *Sida A88135 Hale River* {3K [W]}

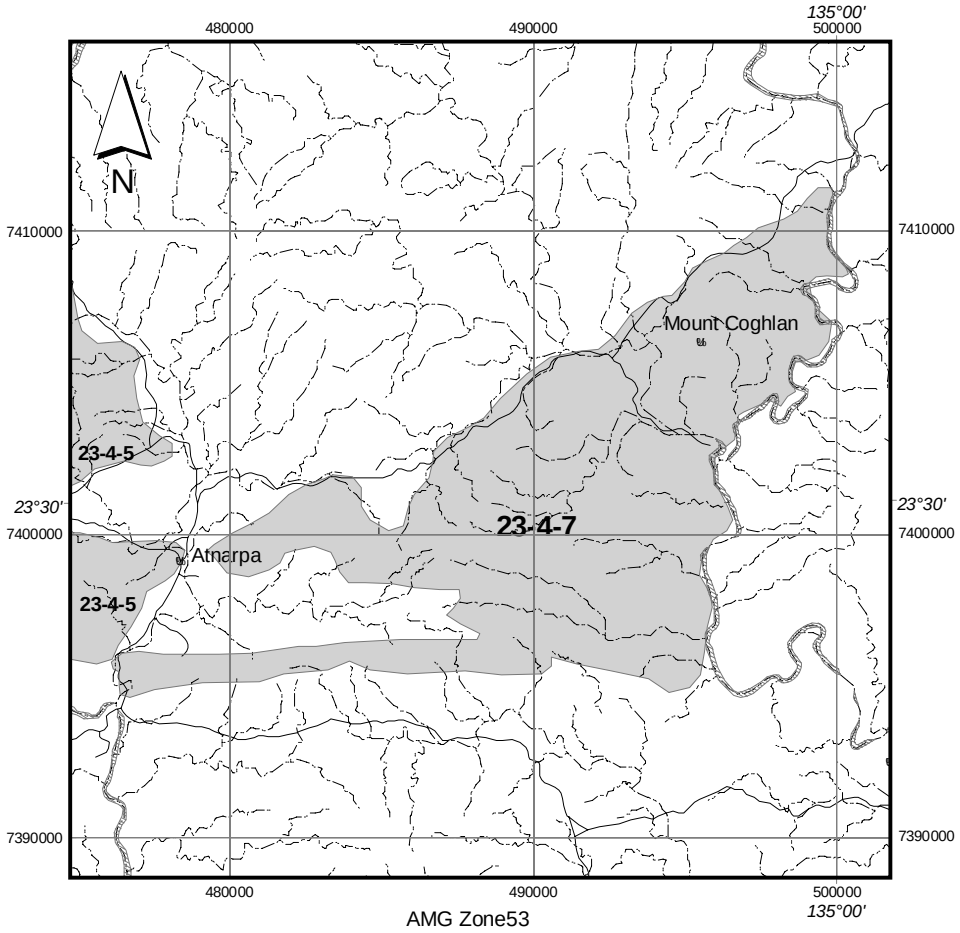
Taxa of NT significance: *Eucalyptus thozetiana* {3rC-}, *Hibiscus sturtii var. sturtii* {3rC-}, *Spartothamnella puberula* {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Austrostipa scabra subsp. scabra* {MAC (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 68 (100 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna, Eremophila* (Fuchsia) open-shrubland understorey.



Site: 23-4-9 Harts Range

Level of significance: national

Location: 23º 4' S 134º 55' E; ca. 120 km north east of Alice Springs.

Area: 273 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregions: MacDonnell Ranges (MAC 71.6%) & Burt Plain (BRT 28.4%)

Tenure: Pastoral Lease - Ambalindum Station (14% of site) and Mount Riddock Station (84% of site); Freehold - Akekarrwenteme Ureyenge Aboriginal Land Trust (1% of site)

Description: This site includes most of the Harts Range including Mount Palmer, Mount Brassey and surrounding peaks hills and footslopes. The geology of these ranges is primarily amphibolite and gneiss which are rich in mafic minerals and weather to nutrient rich soils.

Notes: This site supports populations of rare and threatened plant taxa and unique plant communities. Along with the Strangways Range it supports one of only two known populations of the rare and restricted *Hydrocotyle D62620 Harts Range*.

Criteria satisfied: B1 b1 ii), B1 b2 ii)

Taxa of Australian significance: *Austrostipa centralis* {3RC- [NE]}, *Gossypium nelsonii* {3RC-}, *Hydrocotyle D62620 Harts Range* {2R [E]}, *Macrozamia macdonnellii* {3VCa [N]}, *Samolus eremaeus* {3KC-}

Taxa of NT significance: *Lythrum paradoxum* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Aristida latzii* {MAC (northern range limit) [N]}, *Brachycome blackii* {northern and eastern range limit [NE]}, *Pleurosorus subglandulosus* {MAC (northern range limit) [N] only known in BRT from this site}

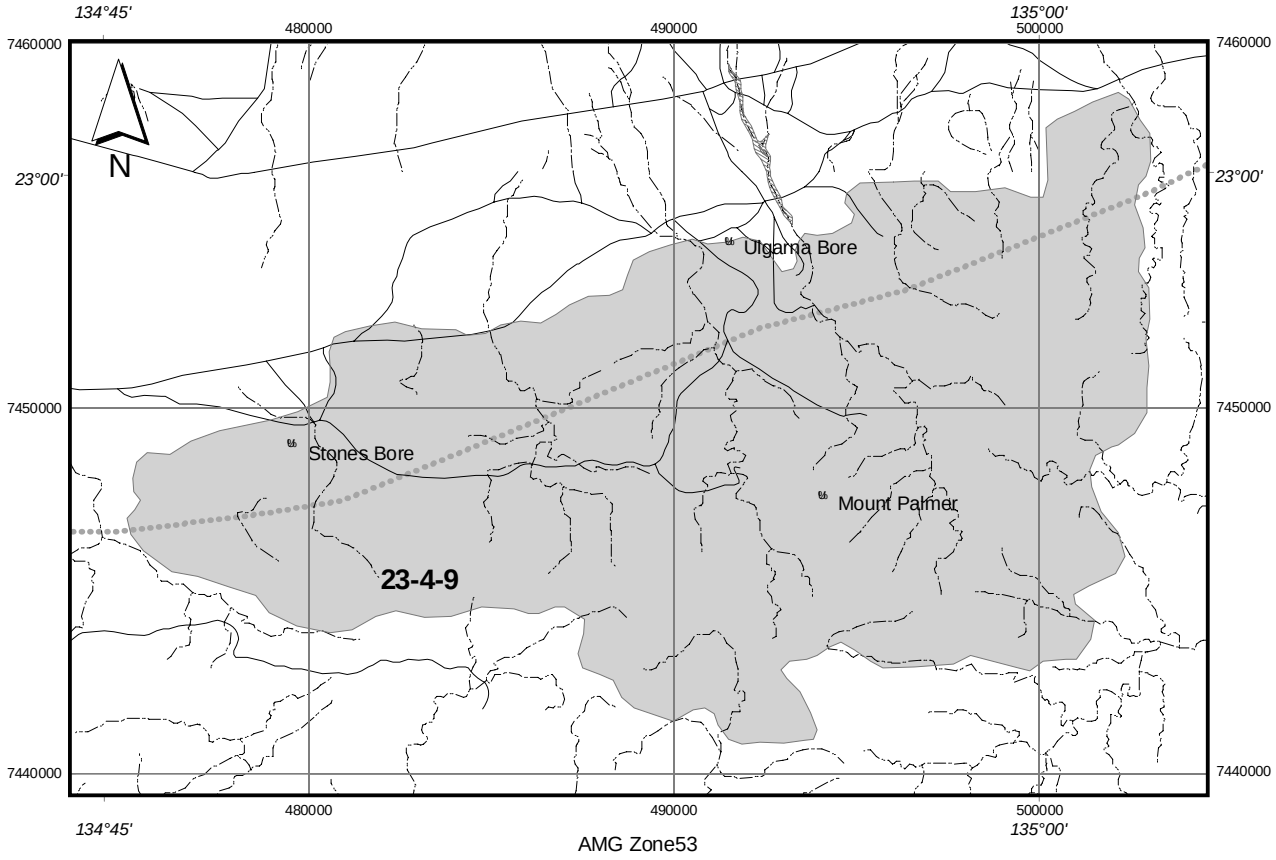
Other taxa only known in BRT bioregion from this site: *Chenopodium desertorum subsp. anidiophyllum*, *Nicotiana gossei*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 68 (77 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 58 (22 %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 59 (1 < %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.



Site: 24-2-1 Watarrka

Level of significance: national

Location: 24º 16' S 131º 35' E; South West edge of the Macdonnell Ranges uplands.

Area: 1243 km^2 **Map sheet:** Lake Amadeus SG 52-4

Bioregions: MacDonnell Ranges (MAC 87.3%) & Great Sandy Desert (GSD 12.7%)

Tenure: Wattarka Nat. Park (57% of site); Freehold - Aboriginal Land Trusts (ALT). Haasts Bluff ALT (13%), Petermann ALT (5%), Alatjuta ALT (1%), Watarrka ALT (1%) and Urrampinyi Iltjiltjarri ALT (16%), Land Settlement Aboriginal Corp. (3%)

Description: The site is largely circumscribed by the surface geology and topography. It is characterised by the large expanse of horizontally bedded Mereenie Sandstone and associated Cambrian marine sediments - calcareous sandstones, siltstones and limestones. The site also includes the catchment and floodout of Kings Creek.

Notes: Arguably the most important site for the conservation of plants in Central Australia. The site supports a remarkable diversity of species and plant communities - over 580 species have been recorded. In additional the site supports an extensive list of rare, threatened and disjunct plant taxa (see below). The largely horizontal bedding of the porous Mereenie Sandstone is largely responsible for this diversity of unusual, rare, endemic and relictual plant taxa. The porous rocks hold the water like a sponge following rainfall events. This water is retained in the catchment and is lost slowly, prolonging the growing season for deep rooted perennials, providing opportunities for germination and establishment. In addition, seepage and springs emerge from the base of the ranges and within shaded gorges. Numerous springs are - at least in recorded history - permanent. *Hydrocotyle* A39600 *Watarrka* and *Amperea spicata* are endemic to the site. It also contains the type localities for *Sedopsis filsonii*, *Amperea spicata*, *Euphorbia sarcostemmoides* and *Brachycome blackii*.

Criteria satisfied: A1 a i), A1 b i), A1 c i), A1 d i), A2 e i), A3 c i), B1 b1 i), B1 b2 i), C1 B i).

Taxa of Australian significance: *Amperea spicata* {2RCa [NSEW] endemic to/only known from this site}, *Austrostipa aquarii* {3RC- [SW]}, *Austrostipa centralis* {3RC- [SW]}, *Callistemon pauciflorus* {3RC-}, *Comesperma viscidulum* {3KC-}, *Daviesia arthropoda* {3KCa}, *Euphorbia sarcostemmoides* {3KCa}, *Hakea grammatophylla* {3RC- [S]}, *Hydrocotyle A39600 Watarrka* {2RC- [NSEW] endemic to/only known from this site}, *Logania centralis* {3KC-}, *Macrozamia macdonnellii* {3VCa [SW]}, *Sauropus ramosissimus* {3KC-}, *Sedopsis filsonii* {3RC- [SW]}, *Stylidium inaequipetalum* {3RCa}

Taxa of NT significance: *Acacia grasbyi* {3rC- only known in MAC from this site}, *Acacia helmsiana* {3k [E] only known in MAC from this site}, *Agrostis avenacea* {3rC-}, *Baumea arthrophylla* {3vC- only known in NT from this site}, *Bulbostylis pyriformis* {3rC-}, *Calandrinia pleiopetala* {3rC- only known in MAC from this site}, *Calotis cymbacantha* {3kC-}, *Centipeda A92472 Toko Range* {3kC- [W]}, *Centipeda D18576 Andado* {3k}, *Chthonocephalus pseudevax* {3r [N]}, *Cuphonotus andraeanus* {3r [N]}, *Doodia caudata var. caudata* {3rC-}, *Elacholoma hornii* {3rC-}, *Eleocharis pusilla* {3rC- only known in NT from this site}, *Eremophila ovata* {3k [S,W]}, *Glischrocaryon aureum var. angustifolium* {3rC-}, *Goodenia glandulosa* {3rC- only known in MAC from this site}, *Goodenia havilandii* {3rC-}, *Grevillea pterosperma* {3r only known in MAC from this site}, *Harmsiodoxa puberula* {3rC-}, *Heliotropium inexplicitum* {3k only known in MAC from this site}, *Hibbertia glaberrima* {3rCa}, *Histiopteris incisa* {3rC-}, *Isolepis australiensis* {3kC-}, *Isotropis centralis* {3rC-}, *Ixiolaena tomentosa* {3kC-}, *Juncus continuus* {3rC-}, *Juncus kraussii subsp. australiensis* {3rC-}, *Maireana sedifolia* {3rC- only known in NT from this site}, *Menkea sphaerocarpa* {3rC- only known in MAC from this site}, *Mirbelia ramulosa* {3rC- only known in NT from this site}, *Ophioglossum lusitanicum* {3rC-}, *Oxalis radicosa* {3kC-}, *Persicaria decipiens* {3rC- only known in NT from this site}, *Phyllanthus erwinii* {3k}, *Polystichum proliferum* {3k only known in NT from this site}, *Poranthera microphylla* s.lat. {3rC-}, *Poranthera triandra* {3rC- only known in MAC from this site}, *Sclerolaena birchii* {3k}, *Sclerolaena parallelicuspis* {3rC- only known in MAC from this site}, *Senecio cunninghamii var. serratus* {3r}, *Sida A59261 Kathlene Springs* {3kC-}, *Sida A83689 Golden calyces* {3kC-}, *Sida A95988 Watarrka* {3k only known in NT from this site}, *Swainsona colutoides* {3rC-}, *Swainsona purpurea* {3k only known in MAC from this site}, *Xanthorrhoea thorntonii* {3rCa}

Taxa of Southern NT (study area) significance: *Adiantum hispidulum var. hispidulum* {(disjunct)}, *Cyclosorus interruptus* {(disjunct) only known in study area from this site}, *Cyperus castaneus* {(disjunct) only known in MAC from this site}, *Fimbristylis sieberana* {(disjunct)}, *Imperata cylindrica* {(disjunct & apparently rare)}, *Lindsaea ensifolia subsp. ensifolia* {(rare)}, *Ottelia ovalifolia* {(disjunct)}, *Phragmites australis* {(disjunct & apparently rare)}, *Psilotum nudum* {(rare)}, *Schoenus falcatus* {(disjunct & apparently rare) only known in MAC from this site}, *Vallisneria annua* {(disjunct) only known in MAC from this site}

Taxa of bioregional significance: *Alectryon oleifolius subsp. elongatus* {MAC (disjunct and western range limit) [W]}, *Aristida arida* {MAC (western range limit) [W]}, *Cheilanthes brownii* {MAC (disjunct)}, *Crotalaria smithiana* {MAC (western range limit) [W]}, *Goodenia larapinta* {MAC (southern range limit) [S]}, *Juncus A87739 MacDonnell Ranges* {MAC (western and southern range limits) [SW]}, *Maireana spongiocarpa* {MAC (western range limit) [W]}, *Polycarpaea involucrata* {MAC (disjunct)}, *Pteris tremula* {MAC (rare) [W]}, *Swainsona oligophylla* {MAC (disjunct) only known in MAC from this site}, *Thyridolepis multiculmis* {MAC (northern range limit) [N] only known in MAC from this site}

Other taxa only known in MAC bioregion from this site: *Acacia rhodophloia*, *Eragrostis speciosa*, *Eriocaulon A87689 Arid Zone*, *Eriocaulon cinereum*, *Erodium cygnorum subsp. cygnorum*, *Euphorbia australis* s.lat., *Gnephosis tenuissima*, *Halosarcia indica subsp. leiostachya*, *Phyllanthus maderaspatensis var. angustifolius*, *Senna D132522 Tanami*, *Setaria surgens*, *Stackhousia megaloptera*, *Yakirra australiensis var. australiensis*

Other taxa only known in GSD bioregion (NT portion) from this site: *Sclerolaena glabra*

Type locations of the following were collected from the site: *Amperea spicata* (1981), *Brachycome blackii*, *Euphorbia sarcostemmoides* (1966), *Sedopsis filsonii* (1966)

Botanically Significant Waterholes at the site: Bagot Springs Waterholes, Kathleen Spring waterhole, Kings Canyon waterholes, Penny Springs, Reedy Creek rockholes, Stokes Creek Springs, Wallaby Gorge waterholes

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

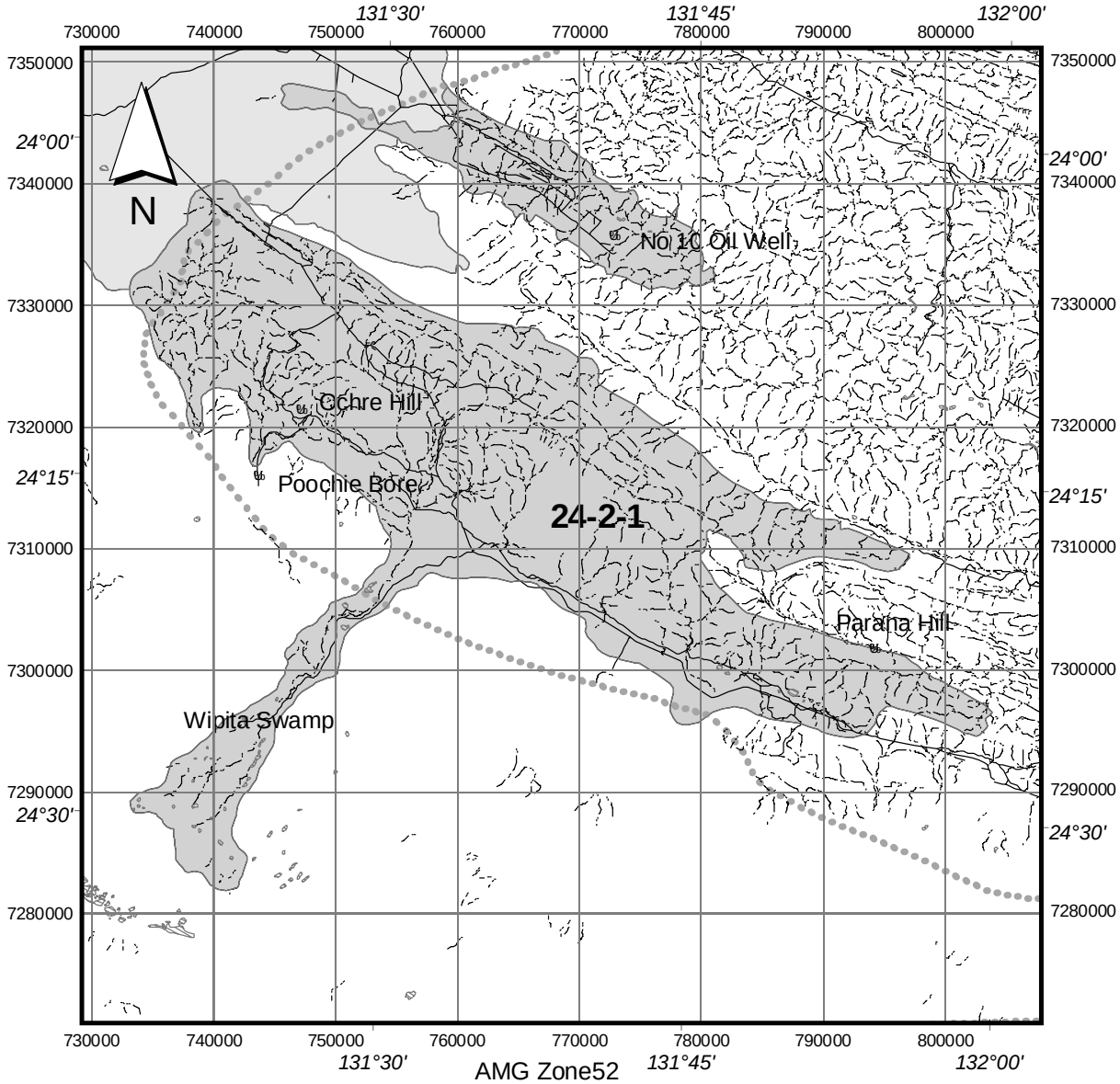
Map unit 93 (31 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 73 (2 %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.

Map unit 83 (10 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 79 (14 %): *Triodia melvillei* (Soft Spinifex) hummock grassland with *Acacia aneura* (Mulga), *Acacia kempeana* (Witchetty Bush) tall open-shrubland overstorey.

Map unit 92 (40 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.



Site: 24-3-1 Waterhouse Range

Level of significance: national

Location: 24º 1' S 133º 26' E; South Eastern Macdonnell Ranges

Area: 320 km^2 **Map sheet:** Henbury SG 53-1, Rodinga SG 53-2, Alice Springs SF 53-14, Hermannsburg SF 53-13

Bioregion: MacDonnell Ranges (MAC)

Tenure: Pastoral Lease - Owen Springs Station (99% of site); Freehold - Uruna Aboriginal Land Trust (<1% of site)

Description: The site encompasses the entire Waterhouse Range including Lawrence Gorge (which is the passage of the Hugh River through the Ranges) and run-on areas below the sandstone escarpments. The Range is composed of various sandstone geologies including the porous Mereenie Sandstone, which is consistently correlated with the presence of rare and threatened plant taxa.

Notes: The spread of *Melia* azederach (White Cedar) within Lawrence Gorge presents a potential threat to botanical values at this site. The invasion of this species at this location requires immediate investigation. The site contains the type locality of *Austrostipa aquarii*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Austrostipa aquarii* {3RC-}, *Cratystylis A36062 Glen Helen* {3RC-}, *Eucalyptus lucens* {3RC-[E]}, *Lomandra patens* {3RCa}, *Sauropus ramosissimus* {3KC-}, *Stenanthemum A83203 Palm Valley* {3RC- [NE]}

Taxa of NT significance: *Amyema miraculosa subsp. boormanii* {3k}, *Bulbostylis pyriformis* {3rC-}, *Olearia xerophila* {3r}, *Ophioglossum lusitanicum* {3rC-}, *Sida A90797 Rainbow Valley* {3kC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Atriplex velutinella* {MAC (apparently rare)}

Other taxa only known in MAC bioregion from this site: *Corymbia chippendalei* {[E]}

Type locations of the following were collected from the site: *Austrostipa aquarii*

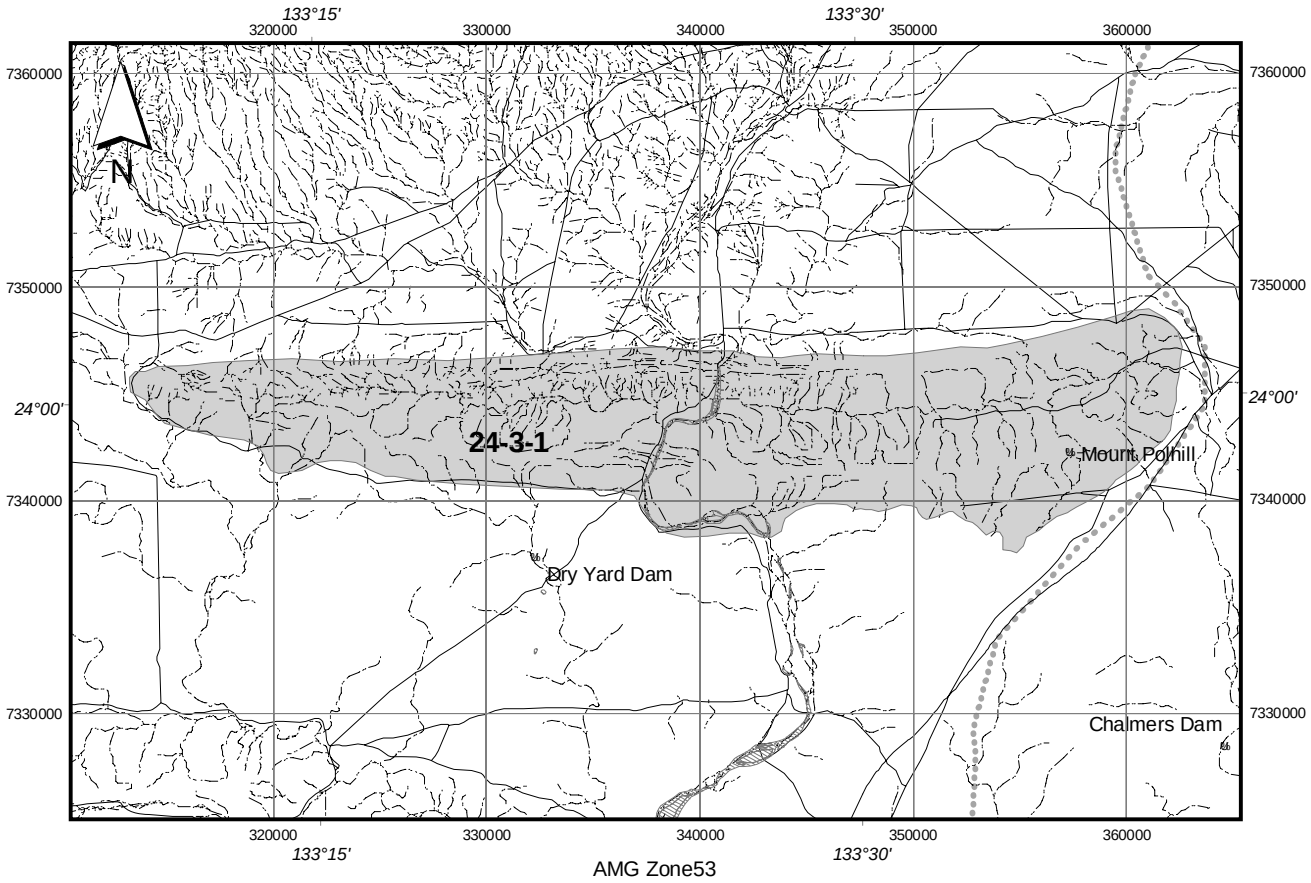
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (17 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 83 (23 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 72 (1 < %): *Acacia kempeana* (Witchetty Bush) sparse-shrubland to tall sparse-shrubland with grassland understorey.

Map unit 92 (58 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.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Mount Polhill
Dry Yard Dam
Chalmers Dam
AMG Zone53

Site: 24-3-5 Palm Valley

Level of significance: national

Location: 24º 6' S 132º 37' E; Southern Macdonnell Ranges

Area: 1575 km^2 **Map sheets:** Henbury SG 53-1 & Hermannsburg SF 53-13

Bioregion: MacDonnell Ranges (MAC)

Tenure: Finke Gorge National Park (27% of site); Pastoral Lease - Henbury Station (8% of site), Freehold - Aboriginal Land Trusts, Ntaria (32% of site), Ltalaltuma (20% of site), Urrampinyi Iltjiltjarri (3%), Haasts Bluff (3%), Roulpmaulpma (2%) and Uruna (<1%)

Description: Includes the entire Krichauff Range, a large proportion of the James Range and the intervening plains and valleys including that of the Finke River and Palm Creek. Apart from the quaternary aeolian and alluvial deposits in the valleys and plains, the site is composed of porous Devonian sediments principally Hermannsburg and Mereenie sandstones.

Notes: Along with Watarrka (see site 24-2-1) and Chewings Range (23-3-5) this site is undoubtedly one of the most important sites for the conservation of rare and threatened plants in the study area and Central Australia. Almost 600 plant taxa have been recorded for Palm Valley National Park alone (B. Pitts unpublished data). The site incorporates the type locations for *Triodia longiceps*, *Enneapogon eremophilus*, *Stenanthemum A83203 Palm Valley*, *Halosarcia halocnemoides subsp. longispicata*, *Plectranthus intraterraneus*, *Pimelea interioris*, *Lysiana spathulata subsp. parvifolia*, *Dodonaea viscosa subsp. mucronata*, *Dicrastylis gilesii var. laxa*, and *Livistona mariae*. The site supports four endemic plant taxa (*Livistonia mariae subsp. mariae*, *Indigofera A83977 Areyonga*, *Pimelea interioris* and *Acacia A86979 Krichauff Range*) and numerous disjunct and significant plant taxa. Specific areas of this site have high concentrations of significant species. Little Palm Creek is particularly notable for high species richness and concentrations of significant taxa. Large areas of the site are still poorly known.

Criteria satisfied: A1 a i), A1 b i), B1 b2 i), A1 d1 i), A1 c i), A2 e i), A3 c i), C1 B i), B1 b2 i), B1 b1 i)

Taxa of Australian significance: *Acacia A86979 Krichauff Range* {2K [NSEW] endemic to/only known from this site}, *Austrostipa aquarii* {3RC- [S]}, *Callistemon pauciflorus* {3RC-}, *Eucalyptus lucens* {3RC- [W]}, *Euphorbia sarcostemmoides* {3KCa}, *Hakea grammatophylla* {3RC-}, *Harnieria kempeana subsp. kempeana* {3RC-}, *Hibbertia A86497 Chewings Range* {3RC- [SW]}, *Indigofera A83977 Areyonga* {2K endemic to/only known from this site}, *Livistona mariae subsp. mariae* {2VCa [NSEW] endemic to/only known from this site}, *Lomandra patens* {3RCa}, *Macrozamia macdonnellii* {3VCa}, *Minuria tridens* {3VCi}, *Pimelea interioris* {2RC- [NSEW] endemic to/only known from this site}, *Samolus eremaeus* {3KC-}, *Stenanthemum A83203 Palm Valley* {3RC- [NS]}, *Teucrium grandiusculum subsp. grandiusculum* {3KC-}, *Thryptomene wittweri* {3VC- [E] only known in NT from this site}

Taxa of NT significance: *Arabidella trisecta* {3kC-}, *Bolboschoenus caldwellii* {3vC- only known in MAC from this site}, *Calotis cymbacantha* {3kC- [N]}, *Calotis kempei* {3k}, *Centipeda A92472 Toko Range* {3kC-}, *Corynotheca licrota* {3rC- [N]}, *Elacholoma hornii* {3rC-}, *Eremophila ovata* {3k [E]}, *Hibbertia glaberrima* {3rCa}, *Juncus kraussii subsp. australiensis* {3rC-}, *Monotaxis luteiflora* {3r}, *Murchisonia volubilis* {3r}, *Najas marina* {3rC-}, *Olearia xerophila* {3r}, *Paractaenum novae-hollandiae subsp. reversum* {3kC-}, *Parietaria cardiostegia* {3r}, *Pimelea microcephala subsp. microcephala* {3r}, *Potamogeton crispus* {3rC-}, *Sauropus rigens* {3rC-}, *Sauropus thesioides* {3k only known in NT from this site}, *Sida A90797 Rainbow Valley* {3kC-}, *Spartothamnella puberula* {3rC-}, *Spergularia A43234 Andado* {3r only known in MAC from this site}, *Swainsona acuticarinata* {3kC- only known in MAC from this site}, *Swainsona colutoides* {3rC-}, *Verbena macrostachya* {3k}

Taxa of Southern NT (study area) significance: *Eleocharis geniculata* {(threatened) only known in study area from this site}, *Fimbristylis sieberana* {(disjunct)}, *Imperata cylindrica* {(disjunct & apparently rare)}, *Ottelia ovalifolia* {(disjunct)}, *Phragmites australis* {(disjunct & apparently rare)}

Taxa of bioregional significance: *Acacia minutifolia* {MAC (disjunct and eastern range limit) [E]}, *Alectryon oleifolius subsp. elongatus* {MAC (disjunct)}, *Aristida latzii* {MAC (southern and western range limits) [SW]}, *Atriplex velutinella* {MAC (apparently rare)}, *Cheilanthes brownii* {MAC (disjunct)}, *Convolvulus remotus* {MAC (disjunct)}, *Cyperus bifax* {MAC (disjunct)}, *Cyperus exaltatus* {MAC (disjunct)}, *Enneapogon eremophilus* {MAC (southern range limit) [S]}, *Eucalyptus orbifolia subsp. orbifolia* {MAC (disjunct)}, *Gomphrena cunninghamii* {MAC (disjunct) [S]}, *Josephinia eugeniae* s.lat. {MAC (disjunct)}, *Melaleuca trichostachya* {MAC (disjunct and western range limit) [W]}, *Persicaria lapathifolia* {MAC (disjunct)}, *Polycarpaea involucrata* {MAC (disjunct)}, *Triglochin hexagonum* {MAC (disjunct) only known in MAC from this site}

Other taxa only known in MAC bioregion from this site: *Aristida pruinosa*, *Canthium attenuatum*

Type locations of the following were collected from the site: *Acacia minutifolia* (1880s), *Dodonaea viscosa subsp. mucronata* (1955), *Enneapogon eremophilus* (1973), *Eucalyptus sessilis*, *Halosarcia halocnemoides subsp. longispicata* (1967), *Livistona mariae* (1870s), *Lomandra patens* (1958), *Lysiana spathulata subsp. parvifolia* (1961), *Menkea sphaerocarpa* (1870s), *Pimelea interioris* (1956), *Plectranthus intraterraneus*, *Stenanthemum A83203 Palm Valley* (1971), *Triodia longiceps*

Botanically Significant Waterholes at the site: Gas well spring, Illbilla springs, Palm Valley springs, Running Waters

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 87 (22 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 92 (63 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

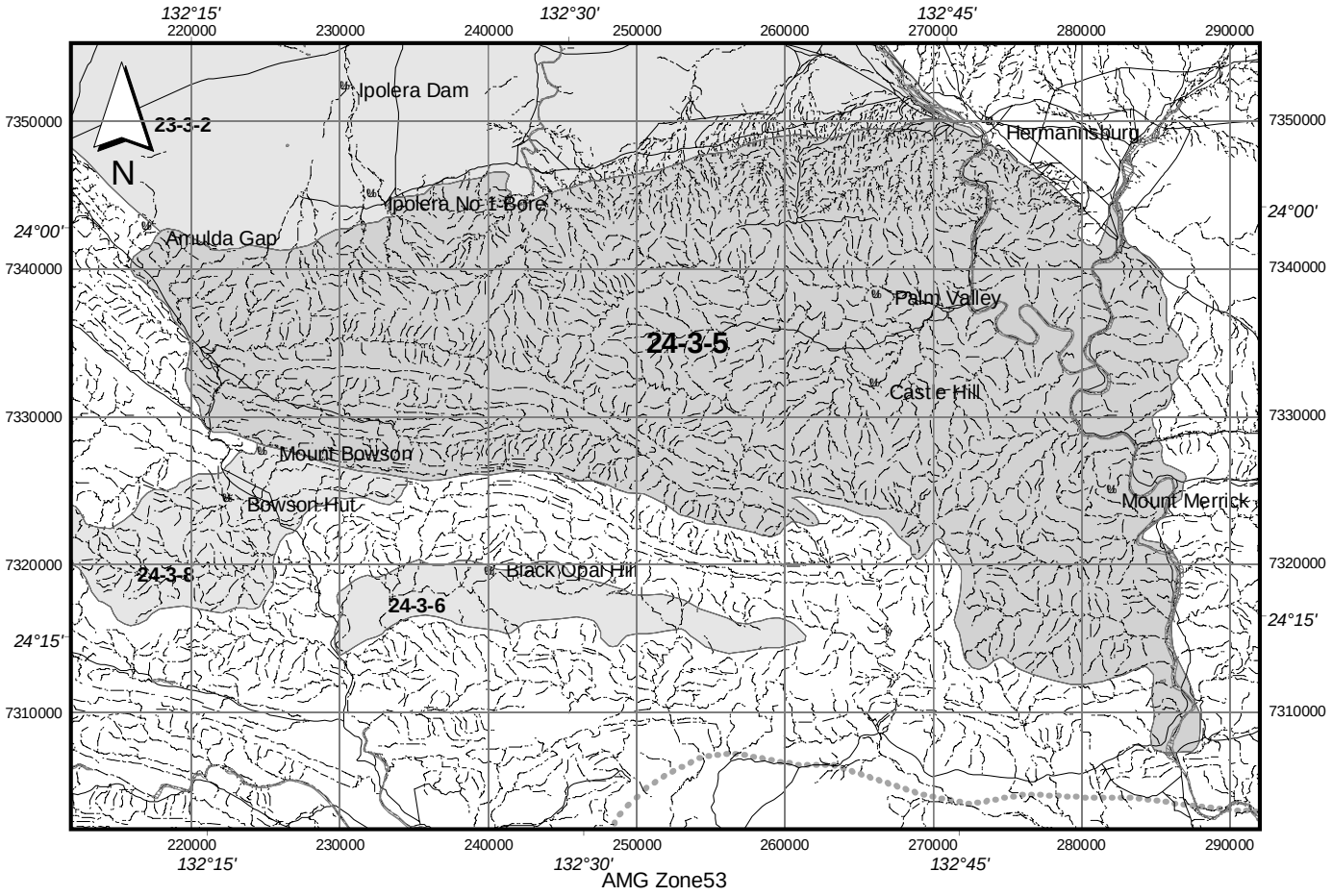
Map unit 66 (6 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 83 (2 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 58 (1 < %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 71 (1 < %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 93 (3 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.



Site: 24-4-5 Rainbow Valley

Level of significance: national

Location: 24º 18' S 133º 30' E; Central James Range in the greater Macdonnell Ranges.

Area: 319 km^2 **Map sheets:** Rodinga SG 53-2 & Henbury SG 53-1

Bioregions: MacDonnell Ranges (MAC 97.1%) & Finke (FIN 2.9%)

Tenure: Rainbow Valley Conservation Reserve (6% of site); Pastoral Lease - Orange Creek Station (84% of site), Owen Springs Station (8% of site); Freehold Pwerte Marnte Marnte Aboriginal Corporation (1% of site)

Description: Includes the James Ranges, outwash plains and adjacent inselbergs between John Hollands bore and the Hugh River. The site approximates the extent of outcropping porous sandstone geologies - Hermannsburg and Mereenie Sandstones. The protracted weathering of the Hermannsburg sandstone has resulted in the formation of isolated mesas on the northern side of the range, including the spectacular Rainbow Valley.

Notes: The site is physiographically and edaphically heterogeneous. Broad habitat types relevant to the presence of rare plants includes rocky ridge-lines, gorges, run-on areas and freshwater, shallow sand sheets over limestone and sub-saline claypans.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Daviesia arthropoda* {3KCa}, *Eremophila A48866 Rainbow Valley* {2VCi [NSW] only known in MAC from this site}, *Zygophyllum crassissimum* {3KC-}

Taxa of NT significance: *Amyema miraculosa subsp. boormanii* {3k}, *Atriplex sturtii* {3rC- [N] only known in NT from this site}, *Eriochiton sclerolaenoides* {3k}, *Paractaenum novae-hollandiae subsp. reversum* {3kC-}, *Pomax A89438 Sand Dunes* {3kC-}, *Sauropus rigens* {3rC-}, *Senna phyllodinea* {3k only known in MAC from this site}, *Sida A90797 Rainbow Valley* {3kC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Alectryon oleifolius subsp. elongatus* {MAC (disjunct)}, *Dampiera cinerea* {eastern range limit [E]}, *Josephinia eugeniae* s.lat. {MAC (disjunct)}, *Tecticornia verrucosa* {MAC (eastern range limit) [E] only known in MAC from this site}, *Trema tomentosa var. viridis* {MAC (disjunct)}

Other taxa only known in MAC bioregion from this site: *Acacia dictyophleba, Zygophyllum howittii*

Other taxa only known in FIN bioregion (NT portion) from this site: *Boerhavia repleta, Cremnothamnus thomsonii, Oldenlandia pterospora*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

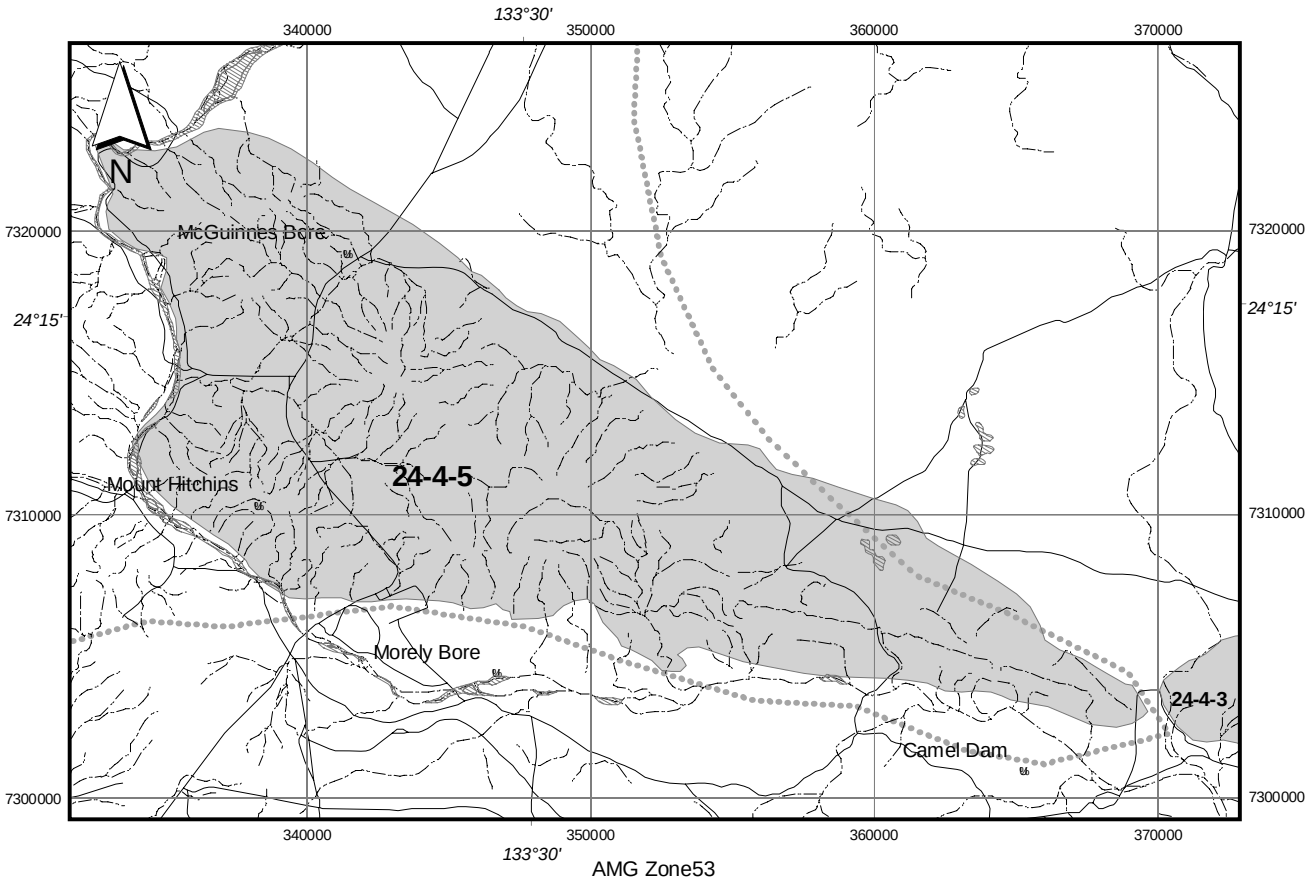
Map unit 71 (3 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 83 (6 %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 87 (76 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 92 (1 < %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 66 (13 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna, Eremophila* (Fuchsia) open-shrubland understorey.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Mount Hitchins
7310000
Morely Bore
24-4-3
Camel Dam
7300000
133°30'
AMG Zone53

7.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE MACDONNELL RANGES BIOREGION

Site: 22-4-2 Mueller Creek Catchment

Level of significance: bioregional

Location: 23º 3' S 134º 5' E; ca. 80 km north of Alice Springs.

Area: 490 km^2 **Map sheets:** Alcoota SF 53-10 & Alice Springs SF 53-14

Bioregions: MacDonnell Ranges (MAC 74.4%) & Burt Plain (BRT 25.6%)

Tenure: Pastoral Lease - Alcoota Station (15% of site), Yamba Station (26% of site), Bushy Park Stations (51% of site) and The Garden Station (2% of site); Freehold - Alatyeye (4% of site)

Description: This site includes the upper Catchment of Mueller Creek and crosses the boundary of the Burt Plain and MacDonnell Ranges bioregions. The upper reaches of the watershed are predominantly crystalline metamorphic hills with shallow soils (MacDonnell Ranges bioregion) while the northern section of the site is dissected lowlands with loamy plains (Burt Plain bioregion).

Notes: This site includes fertile loamy plains and supports extensive stands of mature 'groved' *Acacia aneura*.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Hydrocotyle D62620 Harts Range* {2R [W]}, *Sedopsis filsonii* {3RC-}

Taxa of NT significance: *Aristida longicollis* {3r [W] only known in NT from this site}, *Cyperus gilesii* {3k}, *Ptilotus aervoides* {3k}, *Spartothamnella puberula* {3rC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Atriplex stipitata* {MAC (northern range limit) [N]}

Botanically Significant Waterholes at the site: Mt. Pfitzner Spring

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

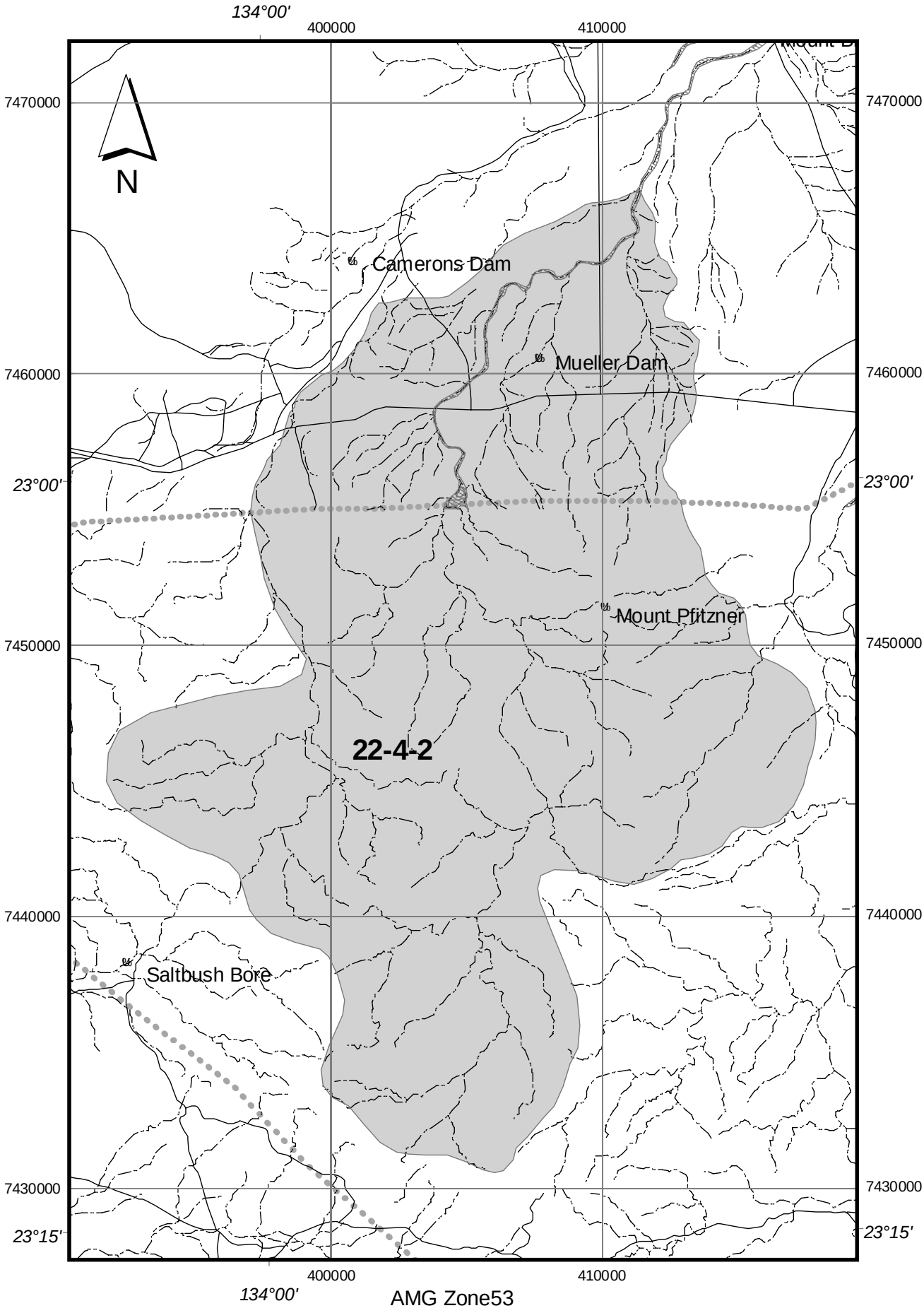
Map unit 68 (1 < %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna, Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 65 (2 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 66 (73 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna, Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 59 (23 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.

Map unit 71 (1 < %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.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Mueller Dam
Mount Pfitzner
22-4-2
Saltbush Bore
AMG Zone53

Site: 23-2-4 Mereenie

Level of significance: bioregional

Location: 24º 2' S 131º 38' E; Sand plains fringing the western margins of the Macdonnell Ranges. The site includes the Mereenie oil Fields.

Area: 160 km^2 **Map sheets:** Mount Liebig SF 52-16 & Lake Amadeus SG 52-4

Bioregions: MacDonnell Ranges (MAC 92.9%) & Great Sandy Desert (GSD 7.1%)

Tenure: Freehold - Haasts Bluff Aboriginal Land Trust (100% of site)

Description: This site includes the low sandstone ranges and sandplains of the Dare Plain. The site is broadly circumscribed by the occurrence of extensive outcropping of Mereenie sandstone. It is contiguous with the site no 23-2-6 Lay Cock's Sandplain which extends to the north.

Notes: The Dare plain is a shallow sand sheet underlain by Mereenie sandstone. These plains and low sandstone outcrops support populations of rare plants and potentially rare plant communities.

Criteria satisfied: A1 b ii)

Taxa of Australian significance: *Euphorbia sarcostemmoides* {3KCa}, *Phyllanthus oblanceolatus* {3KC-}

Taxa of NT significance: *Einadia nutans subsp. nutans* {3rC-}, *Eremophila ovata* {3k [W]}, *Ixiolaena tomentosa* {3kC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Polycarpaea involucrata* {MAC (disjunct)}

Other taxa only known in MAC bioregion from this site: *Scaevola collaris*

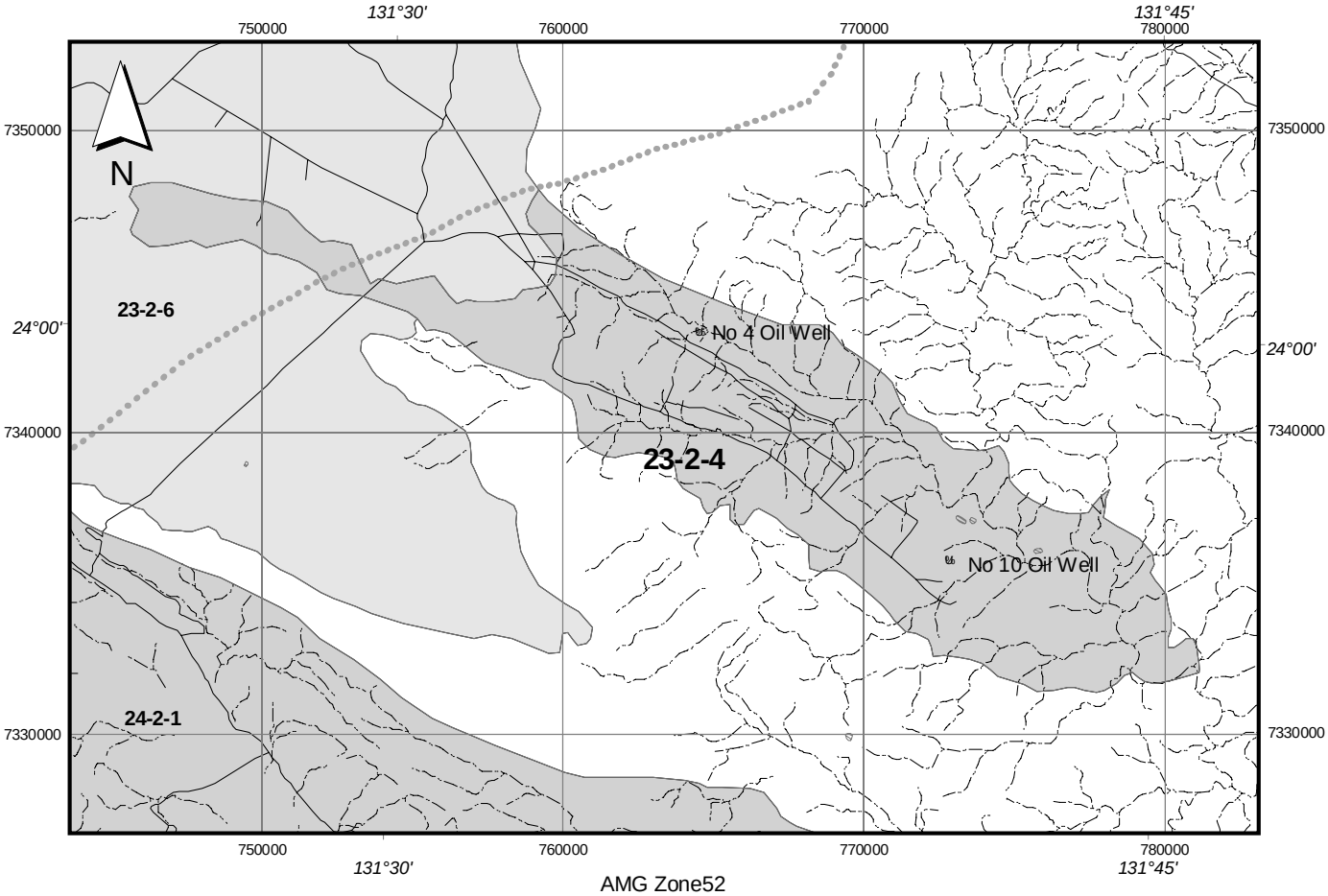
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 73 (68 %): *Acacia tetragonophylla* (Dead Finish), *Acacia kempeana* (Witchetty Bush) sparse-shrubland with herb/grassland understorey.

Map unit 87 (13 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 93 (11 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 71 (6 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.



Site: 23-2-8 Idirriki

Level of significance: bioregional

Location: 23º 39' S 131º 38' E; ca. 30 km south west of Haasts Bluff community in the far western end of the Macdonnell Ranges.

Area: 31 km^2 **Map sheet:** Mount Liebig SF 52-16

Bioregion: MacDonnell Ranges (MAC)

Tenure: Freehold - Haasts Bluff Aboriginal Land Trust (100% of site)

Description: This site incorporates a minor south flowing tributary of Deering Creek which drains the steep sided meta-sandstone massif of the Idirriki Range. This range features Mount Tate and Mount Musgrave. The site includes several deep shaded gorges and most of the botanical values of the site are concentrated in these features.

Notes: Type location for *Bulbostylis pyriformis*.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Callistemon pauciflorus* {3RC-}, *Neurachne tenuifolia* {3RCa}

Taxa of NT significance: *Bulbostylis pyriformis* {3rC- [W]}, *Elacholoma hornii* {3rC-}, *Glycine clandestina* s.lat. {3rC-}, *Hibbertia glaberrima* {3rCa}

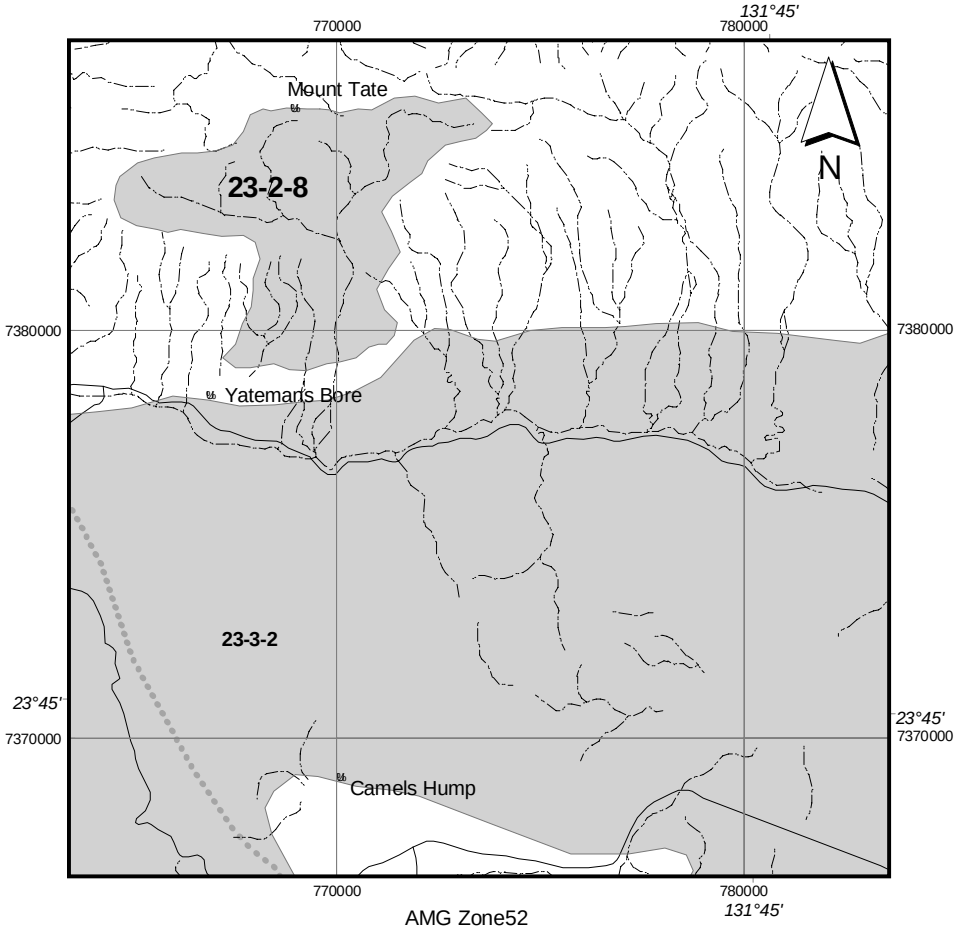
Taxa of Southern NT (study area) significance: *Fimbristylis nuda* {(disjunct & apparently rare) only known in MAC from this site}

Taxa of bioregional significance: *Cyanthillium cinereum* s.lat. {MAC (disjunct)}, *Rotala occultiflora* {MAC (disjunct)}, *Trema tomentosa var. viridis* {MAC (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 68 (1 < %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 92 (99 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.



Site: 23-3-6 Goyder Pass

Level of significance: bioregional

Location: 23º 39' S 132º 24' E; Western Macdonnell Ranges

Area: 180 km^2 **Map sheet:** Hermannsburg SF 53-13

Bioregion: MacDonnell Ranges (MAC)

Tenure: West Macdonnell Ranges National Park (44% of site); Freehold - Ltalaltuma, Rodna and Haast Bluff Aboriginal Land Trusts (each <1% of site); Pastoral Lease - Glen Helen Station (55% of site)

Description: This site includes the catchments of three tributaries (including Davenport Creek) of Crawford Creek in the Mereenie Valley. The geology and geomorphology of this area is complex. The north flowing creeks have cut down through the east-west trending strike ridges of the western Macdonnell Ranges exposing various sedimentary geologies including dolostone, limestone and sandstone. The upper catchment of the site is mountainous with high points at around 950 m ASL and is composed of conglomerate. The 'floor' of the Mereenie Valley is an undulating surface with low 'broken' hills formed from the weathering of tertiary material ie duricrusted land surfaces, and poorly consolidated sandstones. In addition, the site includes extensive areas of recent alluvial and colluvial deposition and minor outcroppings of gneiss.

Notes: The botanical values of this site have yet to be adequately determined and may extend more broadly particularly to the north towards the Razorback. It is known that the site currently supports extensive stands of mature *Acacia* shrublands and populations of Brushtail Possums (a rare mammal in central Australia). It is possible that this area supports mound springs and this possibility should be investigated.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Austrostipa aquarii* {3RC-}, *Cratystylis A36062 Glen Helen* {3RC-}, *Sauropus ramosissimus* {3KC-}

Taxa of NT significance: *Einadia nutans subsp. nutans* {3rC-}, *Eremophila ovata* {3k [N,E]}, *Pimelea microcephala subsp. microcephala* {3r}, *Ptilotus aervoides* {3k only known in MAC from this site}, *Sclerostegia disarticulata* {3rC-}, *Spartothamnella puberula* {3rC-}

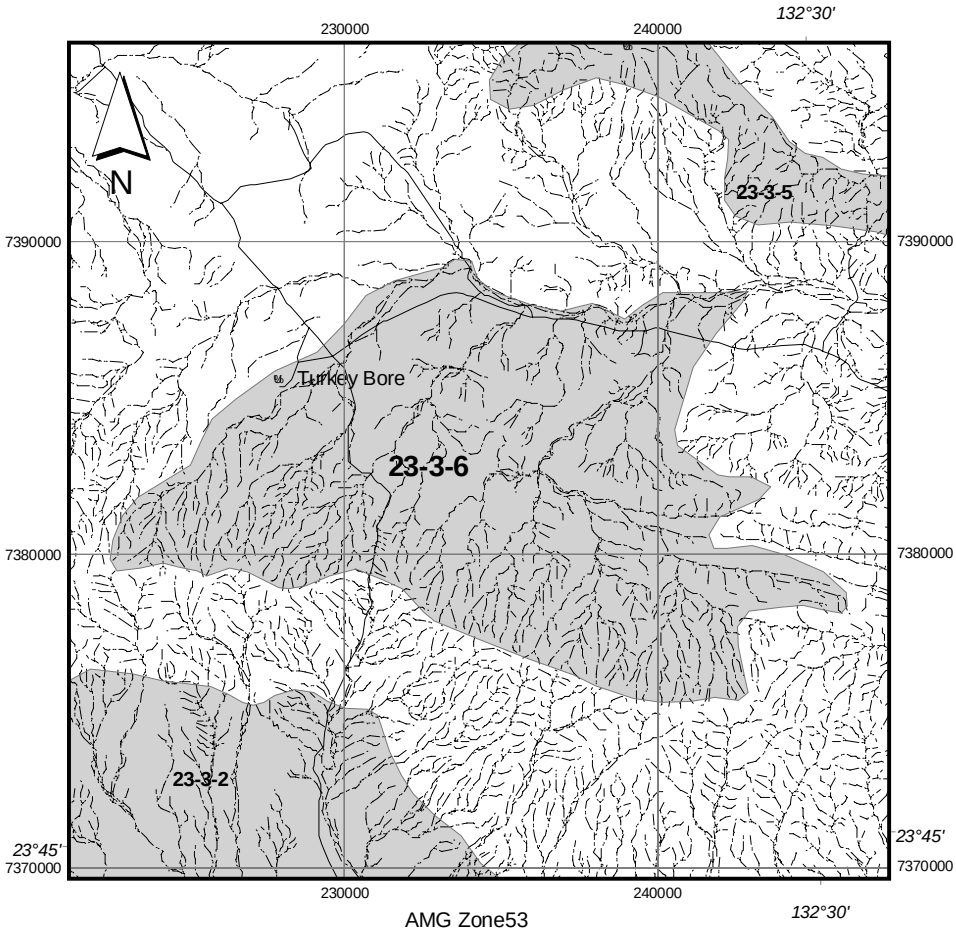
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Polymeria ambigua* {MAC (disjunct and southern range limit) [S]}, *Trema tomentosa var. viridis* {MAC (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 92 (93 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 69 (6 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Aristida contorta* (Bunched Kerosene Grass) or *Triodia* open-tussock/hummock grassland understorey.


132°30'
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AMG Zone53

Site: 23-4-10 Hale and Paddys Plains

Level of significance: bioregional

Location: 23º 25' S 134º 35' E; ca. 90 km north east of Alice Springs.

Area: 491 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: MacDonnell Ranges (MAC)

Tenure: Pastoral Lease - Ambalindum Station (35% of site), Loves Creek Station (10% of site) and The Garden Station (51% of site); Arlunga Historical Reserve (2% of site)

Description: This site includes two peneplains enclosed within the east Macdonnell Ranges, delineated by two discrete polygons. The plains also encompass low hills composed of tertiary material, primarily silcrete, limestone and siltstone and minor outcroppings of gneiss. The weathering of the surrounding crystalline metamorphic rocks and tertiary sediments has given rise to calcareous clay-rich soils.

Notes: Heavy clay soils are uncommon in this and adjoining bioregions. As such, the site is an important area for disjunctions of plant taxa reaching the northern or southern edge of their continental range.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Cratystylis A36062 Glen Helen* {3RC-}, *Ixiochlamys integerrima* {3K only known in MAC from this site}, *Sedopsis filsonii* {3RC-}, *Sida A43017 Ambalindum* {3KC-}

Taxa of NT significance: *Astrebla lappacea* {3k}, *Eriochiton sclerolaenoides* {3k [N]}, *Eucalyptus thozetiana* {3rC- [W]}, *Maireana schistocarpa* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Aristida strigosa* {MAC (northern range limit)[N]},*Atriplex nummularia subsp. nummularia* {MAC (northern range limit) [N]}, *Cyanthillium cinereum* s.lat. {MAC (disjunct)}, *Heliotropium conocarpum* {MAC (disjunct and southern range limit) [S] only known in MAC from this site}, *Vittadinia sulcata* {MAC (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

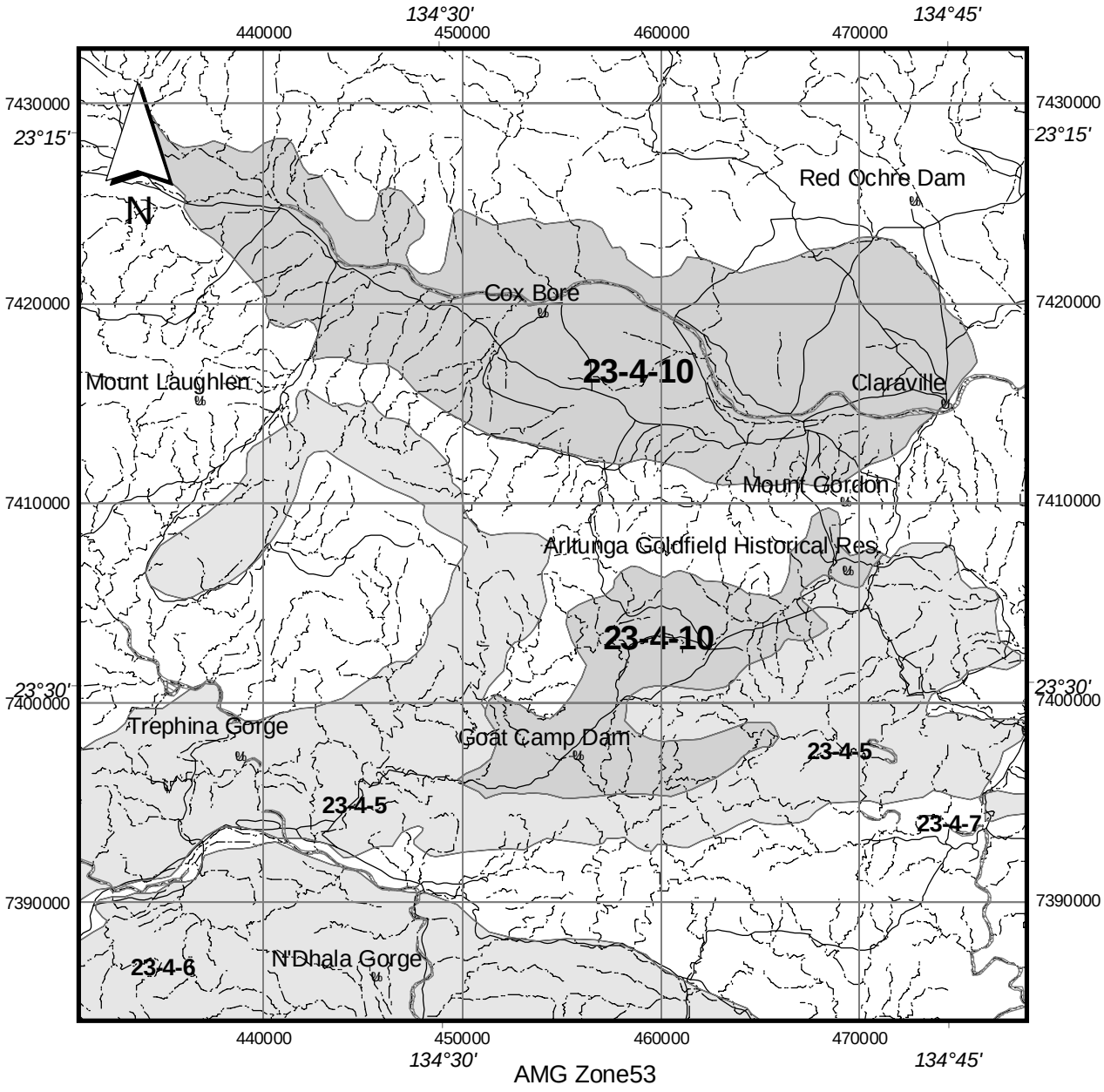
Map unit 92 (17 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 59 (54 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.

Map unit 68 (26 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 66 (1 < %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 80 (1 < %): *Triodia longiceps* (Bull Spinifex) hummock grassland with *Acacia* tall open-shrubland overstorey.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Red Ochre Dam
Cox Bore
23-4-10
Mount Laughlen
Claraville
Mount Gordon
Arltunga Goldfield Historical Res
23-4-10
Trephina Gorge
Goat Camp Dam
23-4-5
23-4-5
23-4-7
23-4-6
N'Dhala Gorge
AMG Zone53

Site: 23-4-11 Mount Riddock

Level of significance: bioregional

Location: 23º 4' S 134º 38' E; ca 100 km north east of Alice Springs

Area: 47 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregions: Burt Plain (BRT 98%) & MacDonnell Ranges (MAC 2%)

Tenure: Pastoral Lease - Mount Riddock Station (100% of site)

Description: This site includes the Mount Riddock massif and associated hills, footslopes and some of the surrounding plains. Mount Riddock is composed of amphibolite, a rock type rich in dark mafic minerals. This site is part of the greater Macdonnell Ranges area, however, it is currently located in the Burt Plain bioregion. This is a consequence of the scale at which the bioregional boundary was prepared and digitised.

Notes: The mineralogy of this site is similar to the nearby Harts Range site (see site 23-4-9). It supports populations of several rare and poorly known plant species and potentially supports interesting and possibly rare plant communities. The southern fall of the range has associations of 'fire sensitive' vegetation. The site also includes the type locations for *Austrostipa centralis* and *Aristida latzii*.

Criteria satisfied: B1 b1 ii), C1 b ii)

Taxa of Australian significance: *Austrostipa centralis* {3RC-},*Gossypium nelsonii* {3RC-}

Taxa of NT significance: *Eremophila elderi* {3k}

Taxa of Southern NT (study area) significance: none

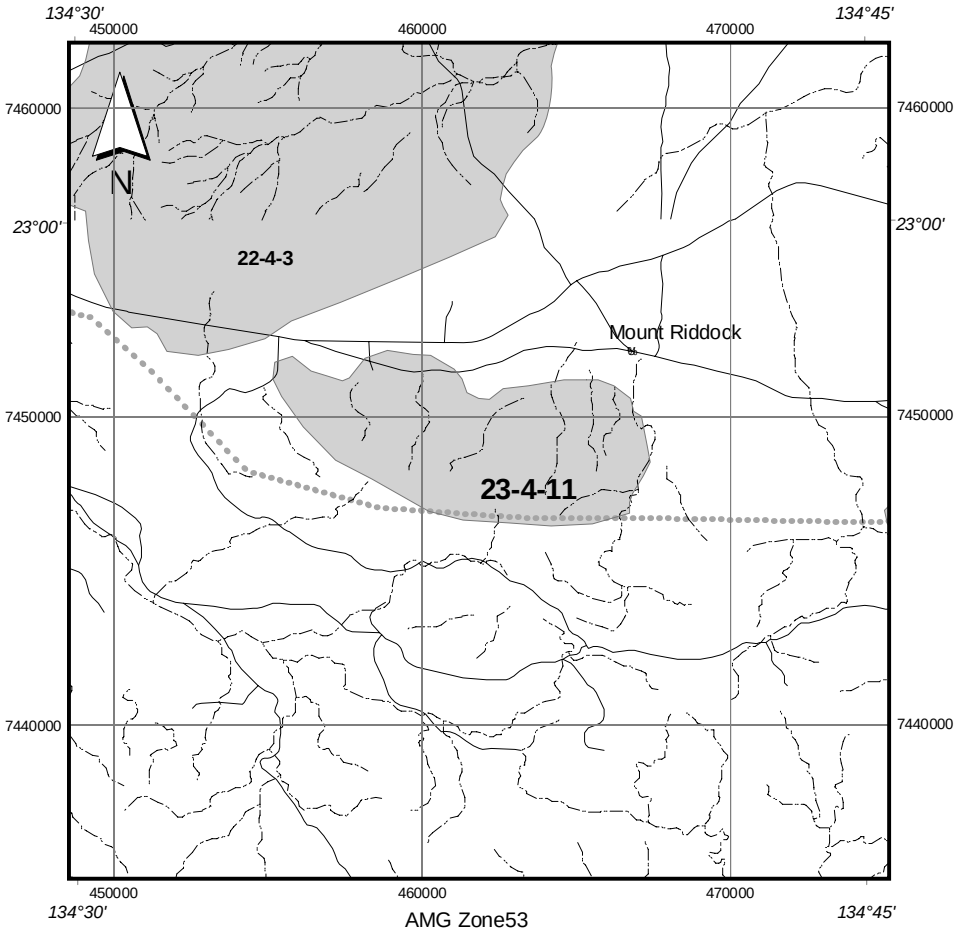
Taxa of bioregional significance: *Brachycome blackii* {BRT (northern range limit) [N] only known in BRT from this site}, *Corymbia eremaea subsp. eremaea* {MAC (northern range limit) [N] only known in BRT from this site}, *Vittadinia sulcata* {MAC (disjunct), BRT (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 58 (24 %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 68 (14 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 59 (60 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.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Mount Riddock
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23-4-11
7440000
AMG Zone53

Site: 23-4-12 New Well

Level of significance: bioregional

Location: 23º 36' S 133º 36' E; ca. 35 km WNW of Alice Springs.

Area: 27 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: MacDonnell Ranges (MAC)

Tenure: Pastoral Lease - Hamilton Downs Station (40% of site); West MacDonnell National Park (59% of site)

Description: This site includes the upper watershed of a small creek draining the northern fall of the crystalline ranges and hills which lie to the north of the Chewings and Heavitree Ranges. The creek meets the Burt Plain at New Well, a stock watering point on Hamilton Downs Station.

Notes: The site supports extensive stands of Mulga (*Acacia aneura*) and includes the type location for *Gossypium nelsonii*.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Austrostipa centralis* {3RC-}, *Gossypium nelsonii* {3RC-} *Macrozamia macdonnellii* {3VCa}

Taxa of NT significance: *Bulbostylis pyriformis* {3rC-}, *Einadia nutans subsp. nutans* {3rC-}, *Vittadinia pustulata* {3kC-}

Taxa of Southern NT (study area) significance: none

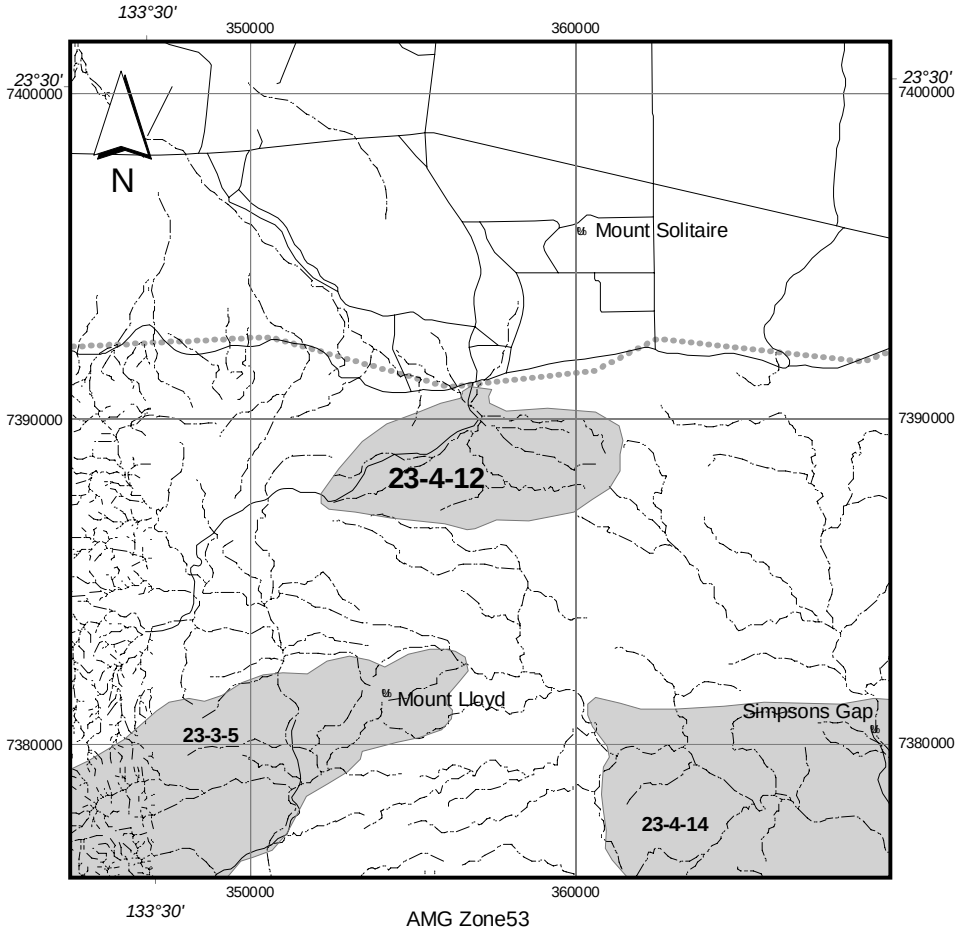
Taxa of bioregional significance: *Actinobole uliginosum* {MAC (northern range limit)}

Other taxa only known in MAC bioregion from this site: *Polycarpaea spirostylis*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 66 (57 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 68 (42 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.



Site: 23-4-13 Emily Gap

Level of significance: bioregional

Location: 23º 44' S 133º 57' E; Central Macdonnell Ranges - Alice Springs

Area: 25 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregions: MacDonnell Ranges (MAC 96.5%) & Simpson-Strzelecki Dunefields (SSD 3.2%) & Finke (FIN 0.3%)

Tenure: Emily and Jessie Gaps Nature Park (27% of site); Pastoral Lease - Undoolya Station (31% of site); Uncommitted Crown Land (41% of site)

Description: The quartzite Heavitree Range east of Heavitree Gap to Jessie Gap including the southern fall of the Range and associated outcroppings of dolomite and isolated tertiary land surfaces.

Notes: The site supports rare and threatened plant taxa including populations of *Minuria tridens.*

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Austrostipa aquarii* {3RC-}, *Austrostipa feresetacea* {3RC-}, *Minuria tridens* {3Vci}

Taxa of NT significance: *Eragrostis A51007 Limestone* {3k only known in MAC from this site}, *Ophioglossum polyphyllum* {3rC- only known in SSD from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

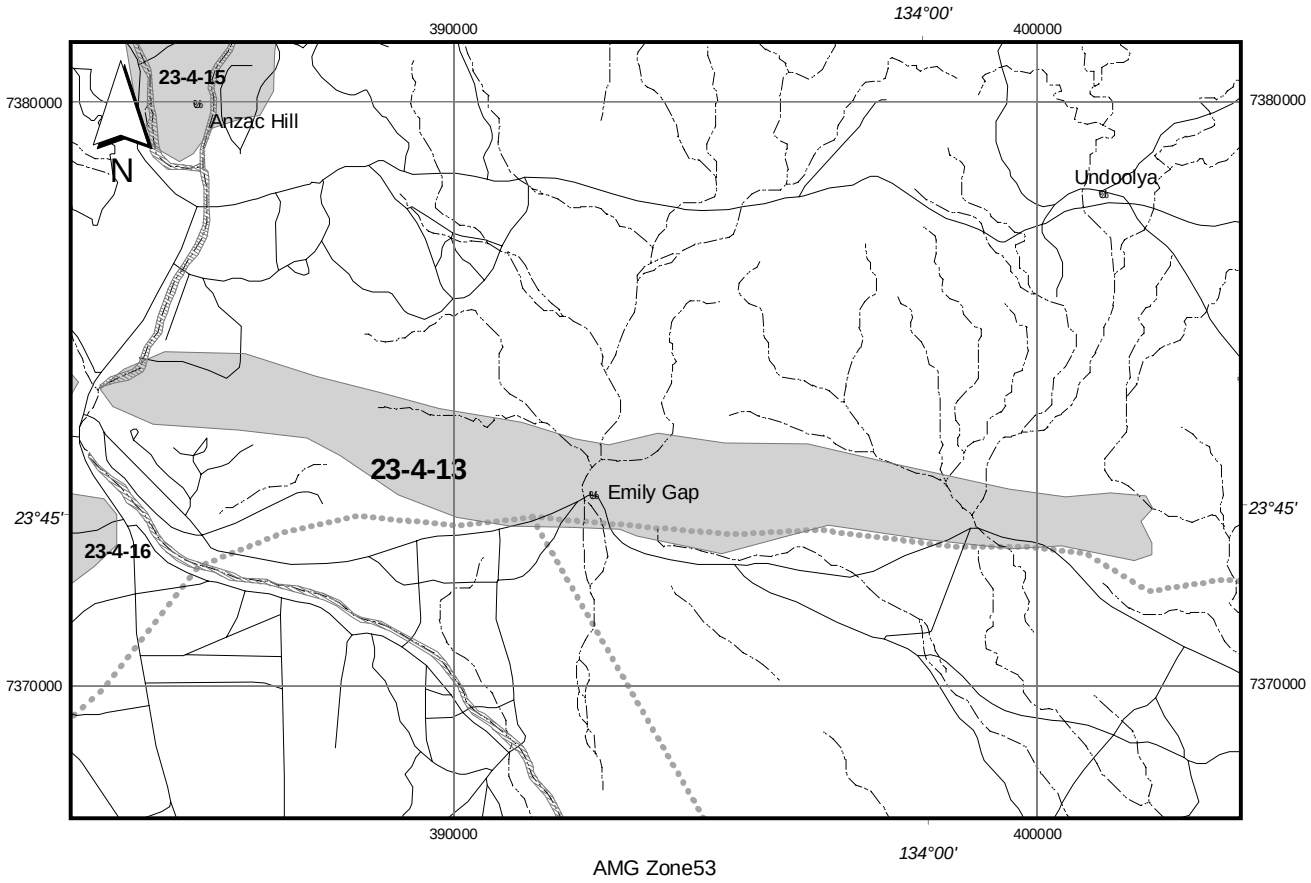
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 68 (4 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 87 (82 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 59 (13 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.

Map unit 27 (1 < %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.



Site: 23-4-15 Charles and Todd Rivers

Level of significance: bioregional

Location: 23º 38' S 133º 52' E; Central Macdonnell Ranges to the north of Alice Springs.

Area: 109 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: MacDonnell Ranges (MAC)

Tenure: Pastoral Lease - Bond Springs Station (45% of site); Alice Springs Telegraph Station Historic Reserve (12% of site); West MacDonnell Ranges National Park (33% of site); Various small leaseholdings, freeholdings and reserved lands (&% of site)

Description: Includes the upper catchment of the Charles River and the middle reaches of the Todd River and its' tributaries. Geology is primarily gneiss - metamorphosed crystalline granites and granodiorites. This has resulted in an undulating 'rounded' landform with few small gorges associated with the major watercourses. The soils are generally shallow free-draining lithosols. The vegetation is predominantly shrublands dominated by *Acacia aneura* and *Acacia kempeana*.

Notes: The site includes several semi-permanent waterholes on the Todd River, notably Wigleys and Junction waterholes.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Austrostipa centralis* {3RC-}, *Gossypium nelsonii* {3RC-}, *Pluchea A87409 Ormiston* {3K [SE]}, *Samolus eremaeus* {3KC-}

Taxa of NT significance: *Calandrinia polyandra* {3kC- only known in MAC from this site}, *Crotalaria dissitiflora var. dissitiflora* {3k}, *Einadia nutans subsp. nutans* {3rC-}, *Lythrum paradoxum* {3k}, *Oxalis radicosa* {3kC-}

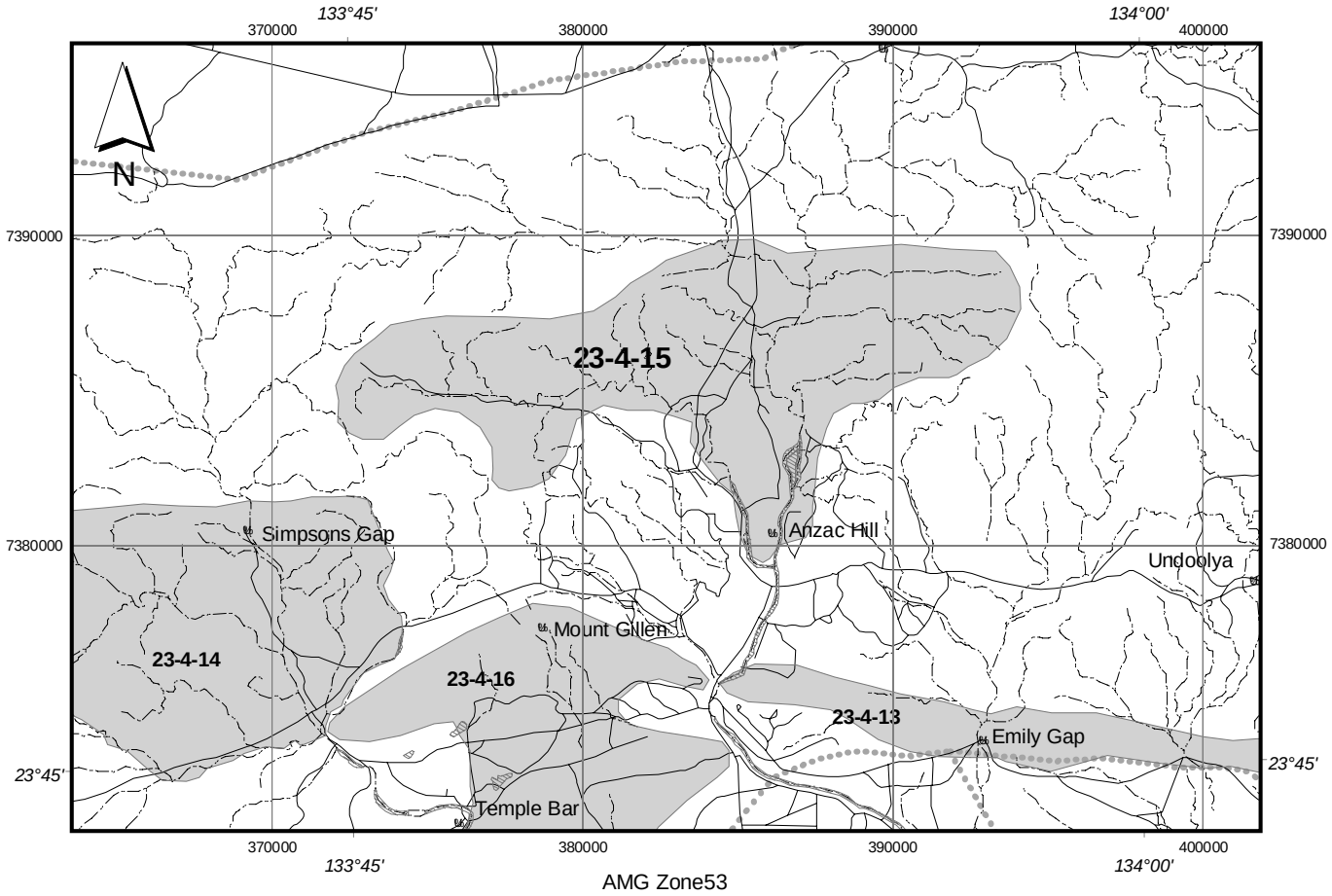
Taxa of Southern NT (study area) significance: *Plumbago zeylanica* {(disjunct)}

Taxa of bioregional significance: *Alectryon oleifolius subsp. elongatus* {MAC (disjunct)}, *Vittadinia sulcata* {MAC (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 66 (2 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 68 (97 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.



Site: 23-5-2 Mount Ruby

Level of significance: bioregional

Location: 23º 22' S 135º 4' E; Forms part of the Illogwa Creek catchment at the eastern edge of the east Macdonnell Ranges.

Area: 31 km^2 **Map sheet:** Illogwa Creek SF 53-15

Bioregion: MacDonnell Ranges (MAC)

Tenure: Pastoral Lease - Ambalindum Station (84% of site) and Loves Creek Station (15% of site)

Description: The site includes Mount Ruby and associated hills. Geology is mafic metamorphics, predominantly amphibolites.

Notes: This area is difficult to access and is rarely visited. It warrants further investigation.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Austrostipa centralis* {3RC- [E]}, *Samolus eremaeus* {3KC-}

Taxa of NT significance: none

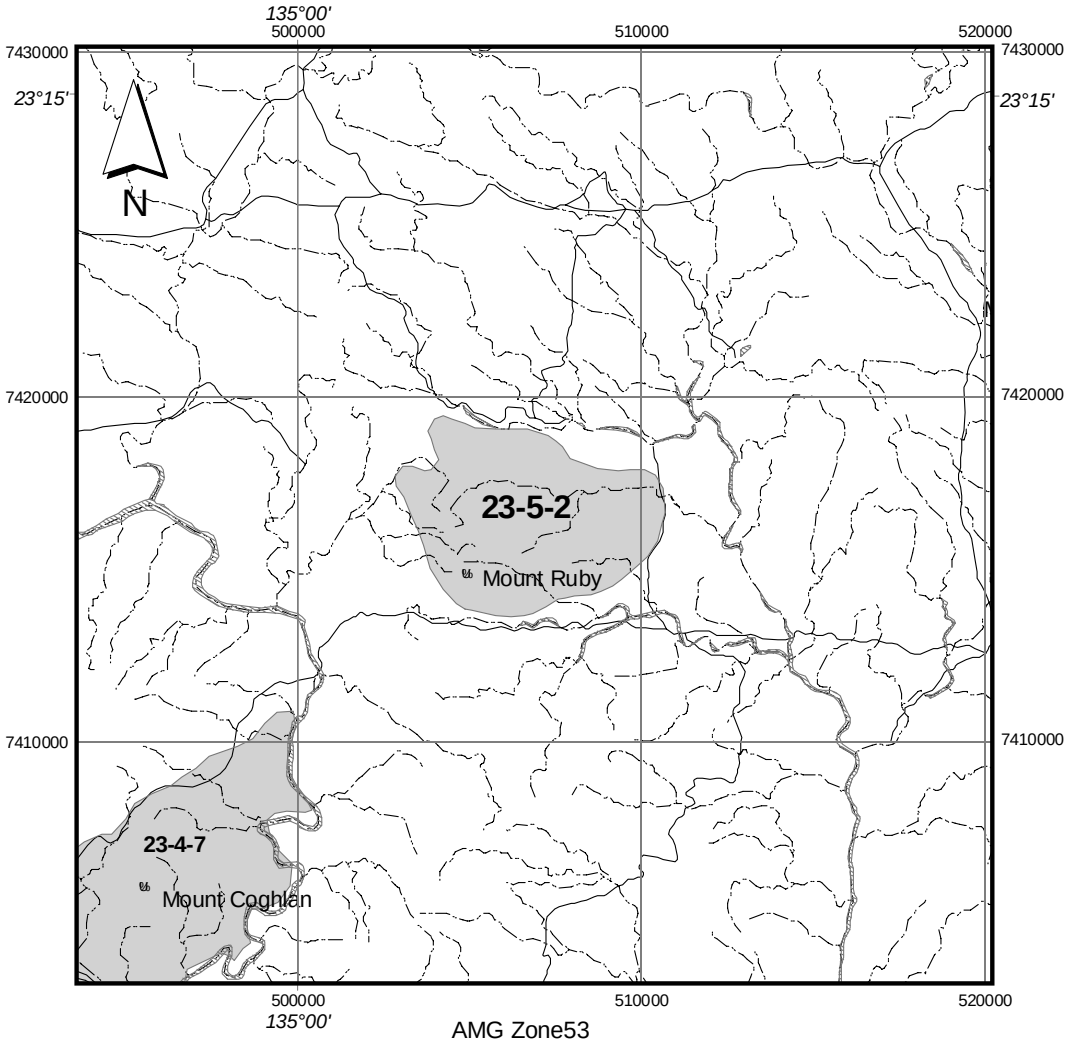
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 66 (41 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna, Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 68 (58 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna, Eremophila* (Fuchsia) open-shrubland understorey.



Site: 23-5-4 Mount Long/Mount Mary

Level of significance: bioregional

Location: 23º 3' S 135º 19' E; North-western extremity of the Harts Range.

Area: 42 km^2 **Map sheet:** Illogwa Creek SF 53-15

Bioregions: Burt Plain (BRT 59.8%) & MacDonnell Ranges (MAC 40.2%)

Tenure: Pastoral Lease - Huckitta Station (11% of site), Mount Riddock Station (89% of site)

Description: This site includes Mount Long and Mount Mary. The geology of the site is crystalline metamorphic and includes various types of schist and gneiss typical of the Harts Range Metamorphics.

Notes: Site is at the eastern margin of the extensive crystalline uplands of the north eastern Macdonnell Ranges.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Samolus eremaeus* {3KC-}

Taxa of NT significance: *Lythrum paradoxum* {3k}, *Pimelea microcephala subsp. microcephala* {3r}

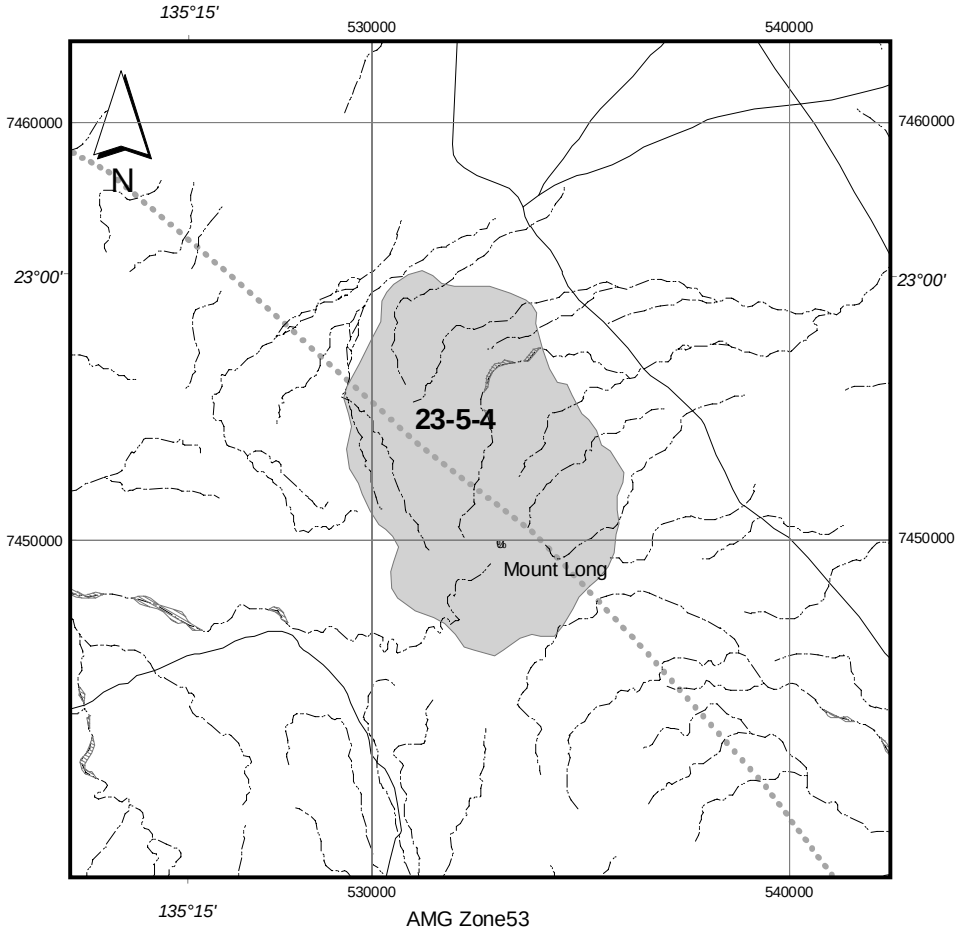
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Acacia basedowii* {MAC (northern and eastern range limits) [NE]}, *Pleurosorus subglandulosus* {MAC (northern range limit) [N]}, *Vittadinia sulcata* {MAC (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 68 (69 %): *Acacia kempeana* (Witchetty Bush) *Acacia* tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 59 (31 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.



Site: 24-3-4 Illawilla

Level of significance: bioregional

Location: 24º 21' S 133º 6' E; Southern Macdonnell Ranges

Area: 240 km^2 **Map sheet:** Henbury SG 53-1

Bioregions: MacDonnell Ranges (MAC 74.6%) & Finke (FIN 25.4%)

Tenure: Pastoral Lease - Henbury Station (99% of site), Orange Creek (<1% of site)

Description: Includes the catchments of Illawilla Creek and neighbouring watercourses.

Notes: The significant values of this site centre on the narrow sandstone gorges, where several minor tributaries of the Palmer River including Illawilla Creek have 'cut' down through the soft sediments of Mereenie and Hermannsburg sandstone to create deep narrow gorges such as Caterpillar Gorge.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Eucalyptus lucens* {3RC- [S]}, *Harnieria kempeana subsp. kempeana* {3RC-}

Taxa of NT significance: *Goodenia havilandii* {3rC-}, *Hibbertia glaberrima* {3rCa}, *Sida A59261 Kathlene Springs* {3kC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Vittadinia sulcata* {MAC (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

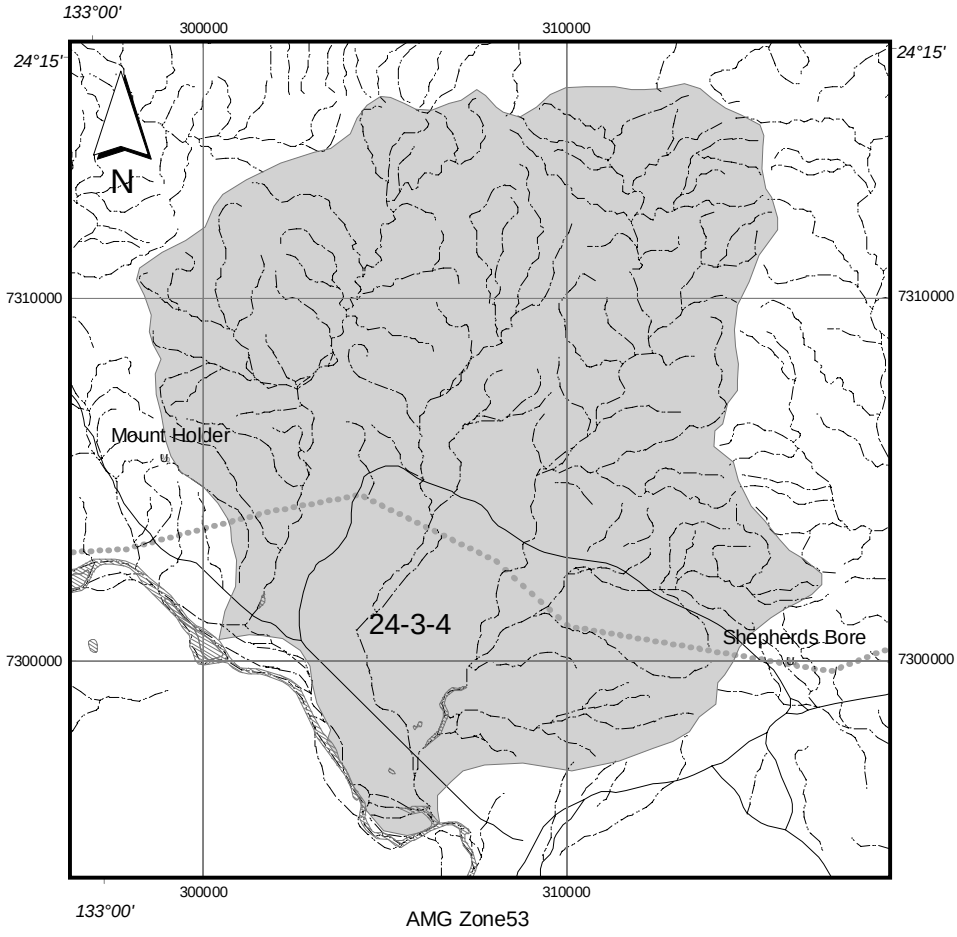
Map unit 87 (15 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 58 (1 < %): *Acacia aneura* (Mulga)/mixed species low open-woodland with open-grassland understorey.

Map unit 93 (1 < %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 92 (19 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 71 (63 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.



Site: 24-3-6 Wild Eagle Plains

Level of significance: bioregional

Location: 24º 14' S 132º 28' E; Southern Macdonnell Ranges

Area: 101 km^2 **Map sheet:** Henbury SG 53-1

Bioregion: MacDonnell Ranges (MAC)

Tenure: Pastoral Lease - Henbury Station (16% of site), Freehold - Urrampinyi Iltjiltjarri Aboriginal Land Trust (83% of site)

Description: This site is an elevated sandplain to the south of the central James Ranges enclosed by ranges. It is 'perched' on a large expanse of Mereenie sandstone.

Notes: Potentially interesting area which has been visited infrequently by botanists and ecologists. Further study is required.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Daviesia arthropoda* {3KCa}

Taxa of NT significance: none

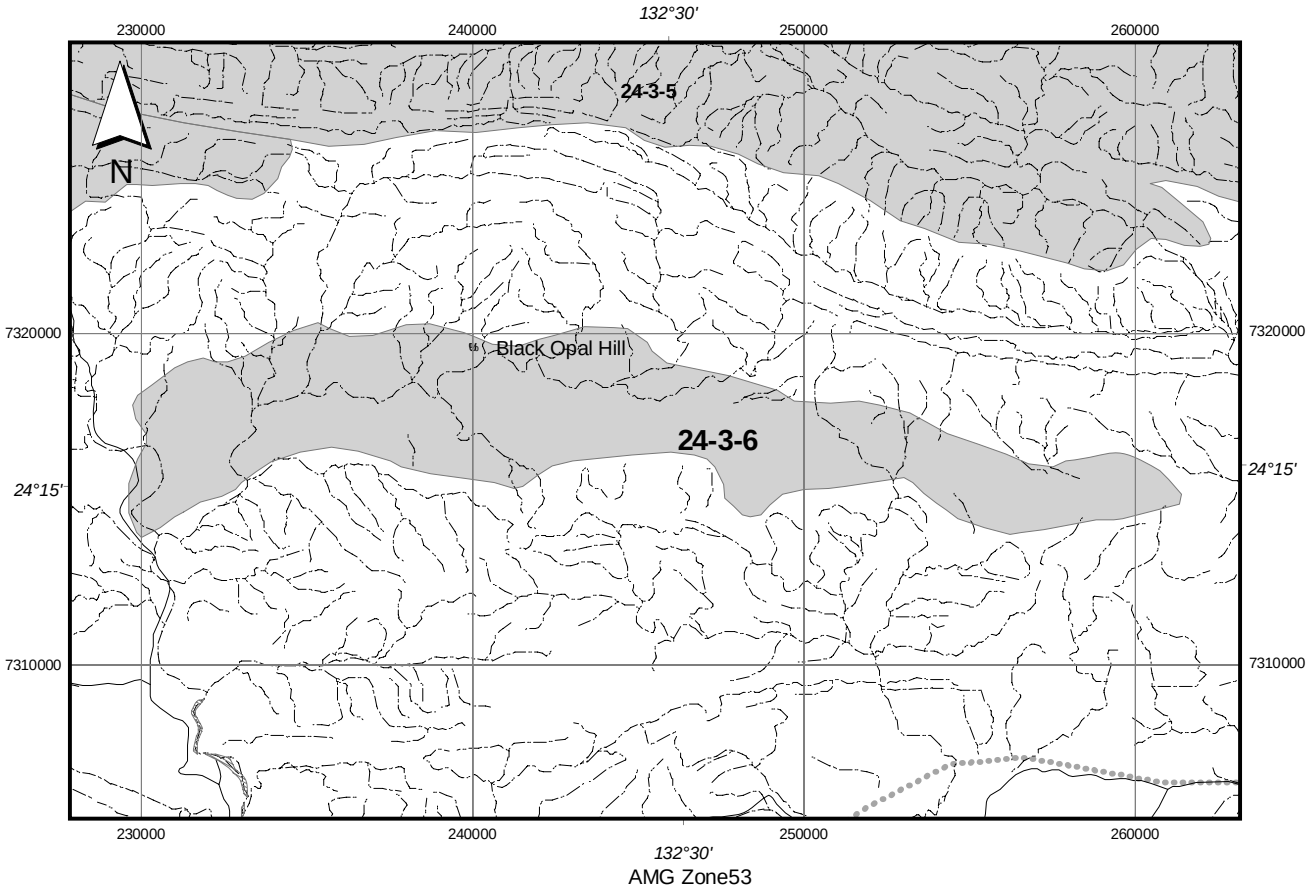
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 87 (17 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 59 (82 %): *Acacia estrophiolata* (Ironwood), *Atalaya hemiglauca* (Whitewood) low open-woodland with open-grassland understorey.



Site: 24-3-8 Bowson

Level of significance: bioregional

Location: 24º 11' S 132º 15' E; Southern Macdonnell Ranges

Area: 143 km^2 **Map sheet:** Henbury SG 53-1

Bioregion: MacDonnell Ranges (MAC)

Tenure: Freehold - Urrampinyi Iltjiltjarri Aboriginal Land Trust (100% of site)

Description: This site incorporates the catchments of several unnamed tributaries of Areyonga Creek. The geology of the site is predominantly Hermannsburg sandstone and like the adjacent Palm Valley site (see site 24-3-5), includes several deep sandstone gorges.

Notes: A generally poorly known area requiring further exploration and collecting.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Lomandra patens* {3RCa [W]}, *Stenanthemum A83203 Palm Valley* {3RC- [SW]}

Taxa of NT significance: *Corynotheca licrota* {3rC-}, *Eremophila ovata* {3k [E]}, *Hibbertia glaberrima* {3rCa}

Taxa of Southern NT (study area) significance: none

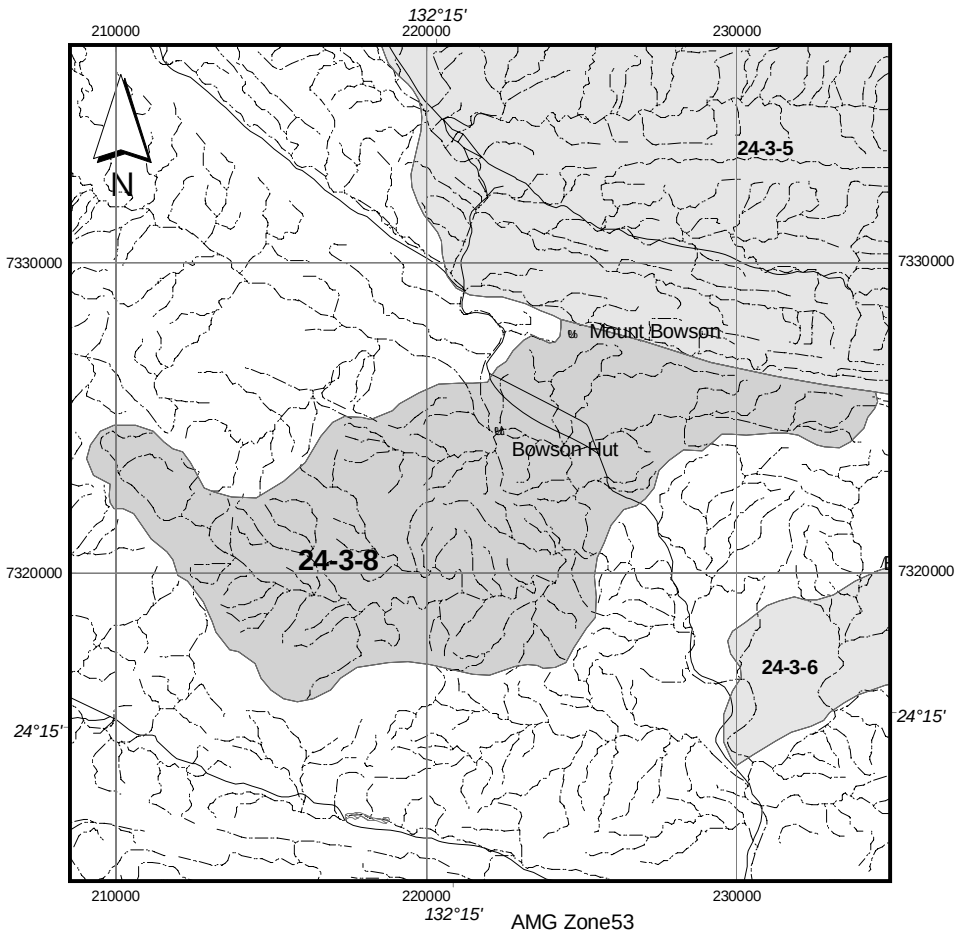
Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 87 (69 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 93 (15 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Allocasuarina decaisneana* (Desert Oak) open-woodland overstorey between dunes.

Map unit 92 (14 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.



7.4 WATERHOLES OF BOTANICAL SIGNIFICANCE IN THE NT PORTION OF THE MACDONNELL RANGES BIOREGION

Giles Spring

Significance: national

Included within Chewings Range site of significance, site no. 23-3-5

Reference coordinates (decimal degrees of latitude and longitude): -23.7º , 132.9º

Significant plant taxa: *Agrostis avenacea* {3rC-}, *Callistemon pauciflorus* {3RC-}, *Carex fascicularis* {3rC-}, *Cyanthillium cinereum* s.lat. {MAC (disjunct), BRT (disjunct), DAV (disjunct), TAN (disjunct), *Cymbopogon refractus* {sthn NT (disjunct & apparently rare)}, *Cyperus polystachyos* {BRT (rare and disjunct), MAC (disjunct)}, *Dicranopteris linearis var. linearis* {sthn NT (threatened)}, *Doodia caudata var. caudata* {3rC-}, *Histiopteris incisa* {3rC-}, *Juncus continuus* {3rC-}, *Lindsaea ensifolia subsp. ensifolia* {sthn NT (rare)}, *Pteris tremula* {MAC (rare)}

Kings Canyon waterholes

Significance: national

Included within Watarrka site of significance, site no. 24-2-1

Reference coordinates (decimal degrees of latitude and longitude): -24.3º , 131.65º

Significant plant taxa: *Callistemon pauciflorus* {3RC-}, *Hydrocotyle A39600 Watarrka* {2RC-}, *Ottelia ovalifolia* {sthn NT (disjunct)}, *Stylidium inaequipetalum* {3RCa}

Mt. Pfitzner spring

Significance: national

Included within Mueller Creek Catchment site of significance, site no. 22-4-2

Reference coordinates (decimal degrees of latitude and longitude): -23.1º , 134.1º

Significant plant taxa: *Hydrocotyle D62620 Harts Range* {2R}

Palm Valley springs

Significance: national

Included within Palm Valley site of significance, site no. 24-3-5

Reference coordinates (decimal degrees of latitude and longitude): -24.1º , 132.7º

Significant plant taxa: *Livistona mariae subsp. mariae* {2VCa}, *Samolus eremaeus* {3KC-}, *Triglochin hexagonum* {FIN (apparently rare and disjunct), MAC (disjunct), BRT (disjunct), TAN (disjunct)}

Penny Springs

Significance: national

Included within Watarrka site of significance, site no. 24-2-1

Reference coordinates (decimal degrees of latitude and longitude): -24.3º , 131.6º

Significant plant taxa: *Agrostis avenacea* {3rC-}, *Cyclosorus interruptus* {sthn NT (disjunct)}, *Hydrocotyle A39600 Watarrka* {2RC-}, *Juncus continuus* {3rC-}, *Juncus continuus* {3rC-}

Reedy Creek rockholes

Significance: national

Included within Watarrka site of significance, site no. 24-2-1

Reference coordinates (decimal degrees of latitude and longitude): -24.3º , 131.6º

Significant plant taxa: *Adiantum hispidulum var. hispidulum* {sthn NT (disjunct)}, *Cyclosorus interruptus* {sthn NT (disjunct)}, *Hydrocotyle A39600 Watarrka* {2RC-}, *Isolepis australiensis* {3kC-}, *Juncus continuus* {3rC-}, *Persicaria decipiens* {3rC-}, *Phragmites australis* {sthn NT (disjunct & apparently rare)}, *Phyllanthus erwinii* {3k}, *Phyllanthus erwinii* {3k}, *Poranthera triandra* {3rC-}, *Psilotum nudum* {sthn NT (rare)}

Talipata Springs

Significance: national

Included within Talipata/Mount Liebig site of significance, site no. 23-2-3

Reference coordinates (decimal degrees of latitude and longitude): -23.38333º , 131.3667º

Significant plant taxa: *Adiantum hispidulum var. hispidulum* {sthn NT (disjunct)}, *Lindsaea ensifolia subsp. ensifolia* {sthn NT (rare)}, *Nephrolepis arida* {3KC-}

Wallaby Gorge waterholes

Significance: national

Included within Watarrka site of significance, site no. 24-2-1

Reference coordinates (decimal degrees of latitude and longitude): -24.4º , 131.75º

Significant plant taxa: *Hydrocotyle A39600 Watarrka* {2RC-}, *Ottelia ovalifolia* {sthn NT (disjunct)}, *Poranthera triandra* {3rC-}

Bagot Springs Waterholes

Significance: bioregional

Included within Watarrka site of significance, site no. 24-2-1

Reference coordinates (decimal degrees of latitude and longitude): -24.4º , 131.8º

Significant plant taxa: *Imperata cylindrica* {sthn NT (disjunct & apparently rare)}, *Juncus kraussii subsp. australiensis* {3rC-}, *Ottelia ovalifolia* {sthn NT (disjunct)}

Ellery Creek gorge

Significance: bioregional

Included within Chewings Range site of significance, site no. 23-3-5

Reference coordinates (decimal degrees of latitude and longitude): -23.7º , 133.05º

Significant plant taxa: *Christella dentata* {sthn NT (threatened)}

Fringe Lily Gorge

Significance: bioregional

Included within Chewings Range site of significance, site no. 23-3-5

Reference coordinates (decimal degrees of latitude and longitude): -23.7º , 133.3º

Significant plant taxa: *Cyperus polystachyos* {BRT (rare and disjunct), MAC (disjunct)}, *Samolus eremaeus* {3KC-}

Gas well spring

Significance: bioregional

Included within Palm Valley site of significance, site no. 24-3-5

Reference coordinates (decimal degrees of latitude and longitude): -24.1º , 132.59º

Significant plant taxa: *Eleocharis geniculata* {sthn NT (threatened)}, *Juncus kraussii subsp. australiensis* {3rC-}

Giles Spring no. 3

Significance: bioregional

Included within Chewings Range site of significance, site no. 23-3-5

Reference coordinates (decimal degrees of latitude and longitude): -23.7º , 132.9º

Significant plant taxa: *Callistemon pauciflorus* {3RC-}, *Dicranopteris linearis var. linearis* {sthn NT (threatened)}, *Lindsaea ensifolia subsp. ensifolia* {sthn NT (rare)}

Giles Yard Spring

Significance: bioregional

Included within Chewings Range site of significance, site no. 23-3-5

Reference coordinates (decimal degrees of latitude and longitude): -23.7º , 132.9º

Significant plant taxa: *Agrostis avenacea* {3rC-}, *Carex fascicularis* {3rC-}, *Cyanthillium cinereum* s.lat. {MAC (disjunct), BRT (disjunct), DAV (disjunct), TAN (disjunct)}, *Cymbopogon refractus* {sthn NT (disjunct & apparently rare)}, *Cyperus polystachyos* {BRT (rare and disjunct), MAC (disjunct)}, *Dicranopteris linearis var. linearis* {sthn NT (threatened)}, *Histiopteris incisa* {3rC-}, *Juncus continuus* {3rC-}, *Pteris tremula* {MAC (rare)}

Illara Waterhole

Significance: bioregional

Reference coordinates (decimal degrees of latitude and longitude): -24.31667º , 132.35º

Significant plant taxa: *Phragmites australis* {sthn NT (disjunct & apparently rare)}

Illbilla springs

Significance: bioregional

Included within Palm Valley site of significance, site no. 24-3-5

Reference coordinates (decimal degrees of latitude and longitude): -24.2º , 132.7º

Significant plant taxa: *Samolus eremaeus* {3KC-}

Kathleen Spring waterhole

Significance: bioregional

Included within Watarrka site of significance, site no. 24-2-1

Reference coordinates (decimal degrees of latitude and longitude): -24.3º , 131.68333º

Significant plant taxa: *Centipeda A92472 Toko Range* {3kC-}, *Cyclosorus interruptus* {sthn NT (disjunct)}, *Juncus continuus* {3rC-}, *Phragmites australis* {sthn NT (disjunct & apparently rare)}, *Schoenus falcatus* {sthn NT (disjunct & apparently rare)}, *Stylidium inaequipetalum* {3RCa}

Running Waters

Significance: bioregional

Included within Palm Valley site of significance, site no. 24-3-5

Reference coordinates (decimal degrees of latitude and longitude): -24.33º , 132.9º

Significant plant taxa: *Livistona mariae subsp. mariae* {2VCa}, *Phragmites australis* {sthn NT (disjunct & apparently rare)}

Stokes Creek Springs

Significance: bioregional

Included within Watarrka site of significance, site no. 24-2-1

Reference coordinates (decimal degrees of latitude and longitude): -24.4º , 131.75º

Significant plant taxa: *Fimbristylis sieberana* {sthn NT (disjunct)}, *Juncus kraussii subsp. australiensis* {3rC-}

Petermann Creek

Significance: undetermined

Reference coordinates (decimal degrees of latitude and longitude): -24.43º , 132.25º

Walker Creek

Significance: undetermined

Reference coordinates (decimal degrees of latitude and longitude): -24.33º , 132.25º

8. Mitchell Grass Downs Bioregion

8.1 OVERVIEW OF THE NT PORTION OF THE MITCHELL GRASS DOWNS BIOREGION

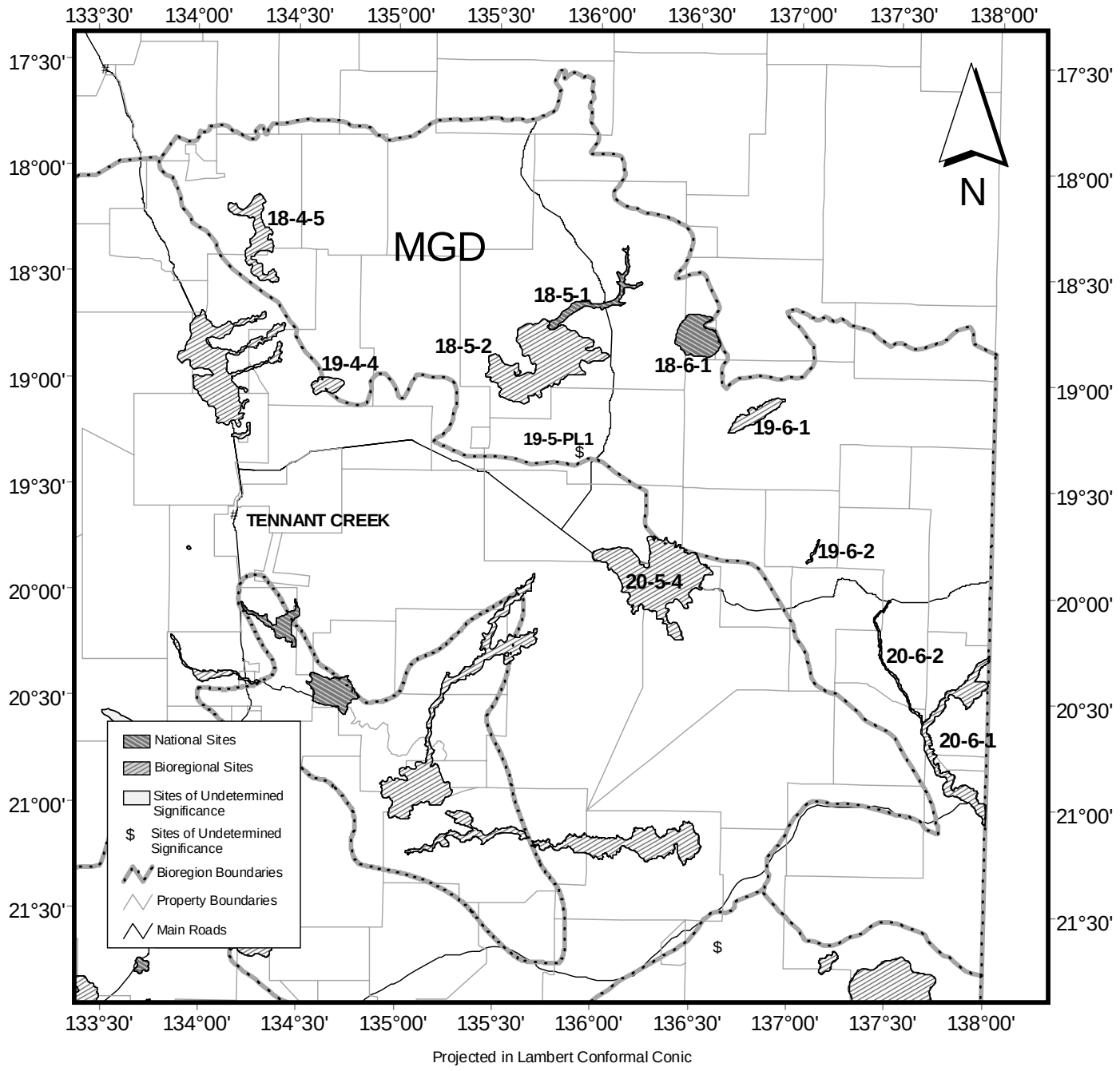
The Mitchell Grass Downs bioregion comprises an area of 307,900km^2, 28% (84,900km^2) of which is located in the Northern Territory. The remainder of this bioregion is located in Queensland. This region is characterised by flat gently undulating treeless plains with occasional shallow (seasonally wet) lake basins. The soils of the NT portion of the bioregion are typically deep grey clays, commonly referred to as 'black soil plains'.

The vegetation of the Mitchell Grass Downs is predominantly *Astrebla* spp. dominated tussock grasslands but extensive areas of Gidyea (*Acacia georginae*) woodlands occur in the south east of the region. Wetlands and seasonal swamps support Bluebush (*Chenopodium auricomum*) shrublands.

The climate is semi-arid tropical. Rainfall is strongly seasonal falling in the summer months in association with monsoon troughs.

A total of 93 indigenous vascular plant taxa are currently considered to be of conservation significance in the NT portion of the Mitchell Grass Downs bioregion. These taxa are listed in volume 1, appendix 3. This bioregion is poorly known botanically and it is expected that a considerable number of apparently rare plant taxa are an artefact of under-collection and a general lack of botanical survey.

Index to Sites in and adjacent to Mitchell Grass Downs bioregion (NT portion)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MGD
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18-5-1
18-5-2
18-6-1
19-4-4
19-5-PL1
19-6-1
19-6-2
20-5-4
20-6-2
20-6-1
TENNANT CREEK
National Sites
Bioregional Sites
Sites of Undetermined Significance
Sites of Undetermined Significance
Bioregion Boundaries
Property Boundaries
Main Roads
Projected in Lambert Conformal Conic

8.2 SITES OF NATIONAL SIGNIFICANCE IN THE NT PORTION OF THE MITCHELL GRASS DOWNS BIOREGION

Site: 18-5-1 Brunette Creek Waterholes

Level of significance: national

Location: 18º 39' S 135º 60' E; Central Barkly Tablelands

Area: 209 km^2 **Map sheet:** Brunette Downs SE 53-11

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Pastoral Lease - Brunette Downs Station (100% of site)

Description: This site extends from the termination of Brunette Creek at Lake Sylvester and continues upstream to Lily Woodcutter waterhole.

Notes: This site has numerous permanent waterholes along Brunette Creek.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Goodenia nigrescens* {3KC-}, *Mukia A90788 Tobermorey Station* {3V [W] only known in MGD from this site}

Taxa of NT significance: *Corchorus pascuorum* {3k}, *Iotasperma sessilifolia* {3k}, *Nymphaea immutabilis subsp. immutabilis* {3v}, *Rumex crystallinus* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Acacia georginae* {MGD (northern range limit) [N]}

Botanically Significant Waterholes at the site: Brunette Downs Homestead Waterhole, Lily Woodcutter Waterhole

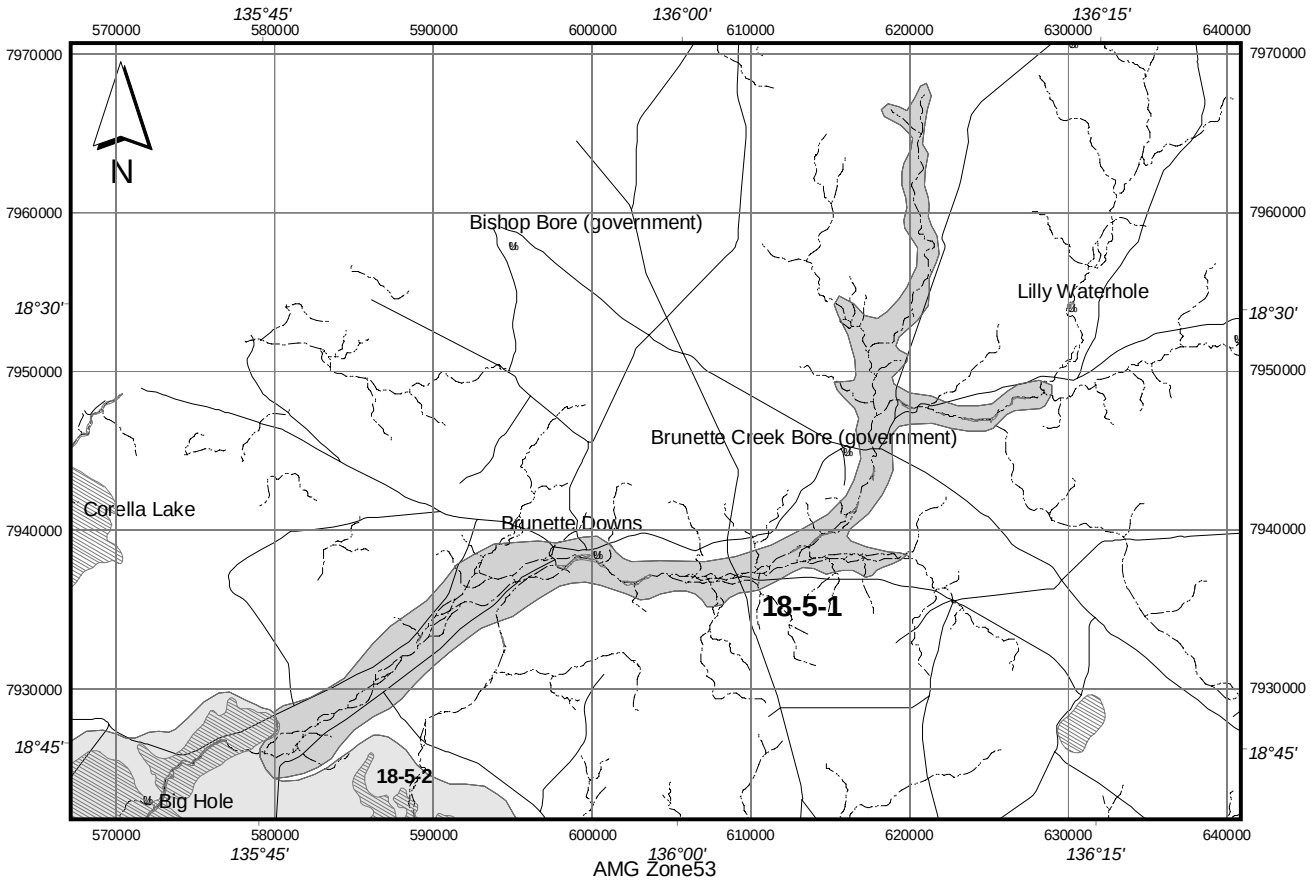
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 107 (1 < %): *Chenopodium auricomum* (Bluebush) low open-shrubland with ephemeral grassland understorey.

Map unit 28 (4 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with *Chenopodium auricomum* (Bluebush) sparse-shrubland understorey.

Map unit 96 (76 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 26 (19 %): *Eucalyptus microtheca* s. lat. (Coolibah) low-open woodland with *Eulalia aurea* (Silky Browntop), *Astrebla* (Mitchell Grass) grassland understorey.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7950000
7940000
7930000
18°30'
18°45'
N
Bishop Bore (government)
Lilly Waterhole
Brunette Creek Bore (government)
Corella Lake
Brunette Downs
18-5-1
18-5-2
Big Hole
AMG Zone53

Site: 18-6-1 Connells Lagoon

Level of significance: national

Location: 18º 48' S 136º 30' E; ca. 30 km north west of Alexandria Station Homestead on the Barkly Tablelands.

Area: 387 km^2 **Map sheets:** Mount Drummond SE 53-12 & Brunette Downs SE 53-11

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Connell Lagoon Conservation Reserve (59 % of site); Pastoral Lease - Brunette Downs Station (16% of site), Alexandria Station (7% of site) and Mittiebah Station (11% of site); Freehold - Mittiebah Aboriginal Land Trust (4% of site)

Description: This site is centred on Connell's Lagoon Conservation Reserve.

Notes: The significance of this area is partly a result of sustained botanical survey and collecting in this area.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Goodenia D70208 Barkly* {3KC- (border) [W] only known in MGD from this site}, *Goodenia nigrescens* {3KC- [S]}, *Phyllanthus lacerosus* {3KC-}, *Polygala gabrielae* {3KC-}

Taxa of NT significance: *Enteropogon minutus* {3kC- (border)}, *Fimbristylis D70268 Connells Lagoon* {3rC-}, *Iotasperma sessilifolia* {3k}, *Ipomoea argillicola* {3r}, *Iseilema calvum* {3k}, *Mimulus prostratus* {3k only known in MGD from this site}, *Oldenlandia argillacea* {3kC- only known in MGD from this site}, *Portulaca oligosperma* {3kC- (border)}, *Pycnosorus eremaeus* {3kC-}, *Sida laevis* {3kC-}, *Sorghum grande* {3rC- (border) only known in study area from this site}, *Stemodia lathraia* {3k (border) only known in study area from this site}, *Tribulopis sessilis* {3kC- (border) only known in NT from this site}

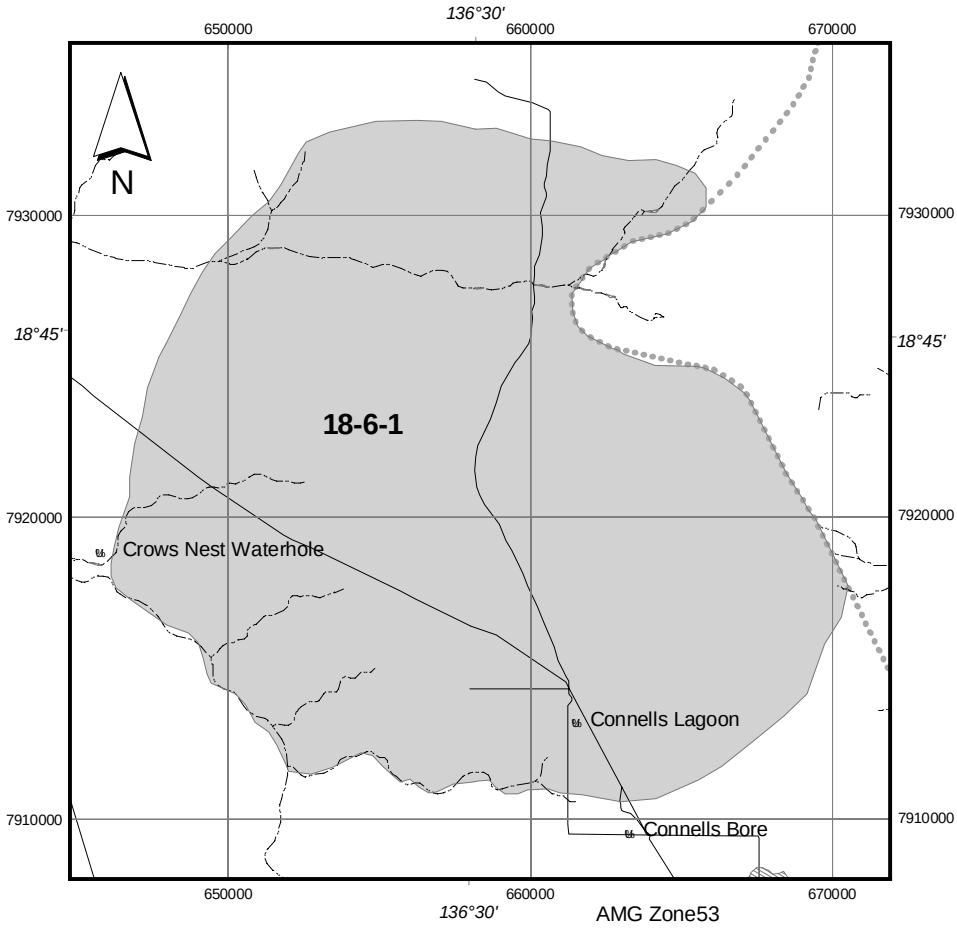
Taxa of Southern NT (study area) significance: *Crinum angustifolium* {(apparently rare) only known in MGD from this site}, *Fimbristylis trachycarya* {(disjunct & apparently rare) only known in study area from this site}

Taxa of bioregional significance: *Stemodia tephropelina* {MGD (eastern range limit) [E]}

Other taxa only known in MGD bioregion (NT portion) from this site: *Blumea diffusa, Eragrostis confertiflora, Fimbristylis microcarya, Mnesithea formosa, Pterocaulon serrulatum var. velutinum, Wrightia saligna*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 96 (100 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.


136°30'
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N
7930000
18°45'
18-6-1
7920000
Crows Nest Waterhole
Connells Lagoon
7910000
Connells Bore
AMG Zone53

8.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE NT PORTION OF THE MITCHELL GRASS DOWNS BIOREGION

Site: 18-4-5 Nilly

Level of significance: bioregional

Location: 18º 21' S 134º 17' E; West of Helen Springs Station

Area: 393 km^2 **Map sheet:** Helen Springs SE 53-10

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Pastoral Lease - Helen Springs Station (73% of site) and Banka Banka Station (26% of site)

Description: This site includes a series of bluebush swamps (seasonal wetlands dominated by *Chenopodium auricomum*).

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Acmella grandiflora var. grandiflora* {3K}, *Bergia barklyana* {3R}, *Goodenia nigrescens* {3KC- [W]}

Taxa of NT significance: *Eryngium supinum* {3k only known in NT from this site}, *Euphorbia stevenii* {3k}, *Iseilema calvum* {3k}, *Sida laevis* {3kC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Type locations of the following were collected from the site: *Goodenia nigrescens* (1960)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

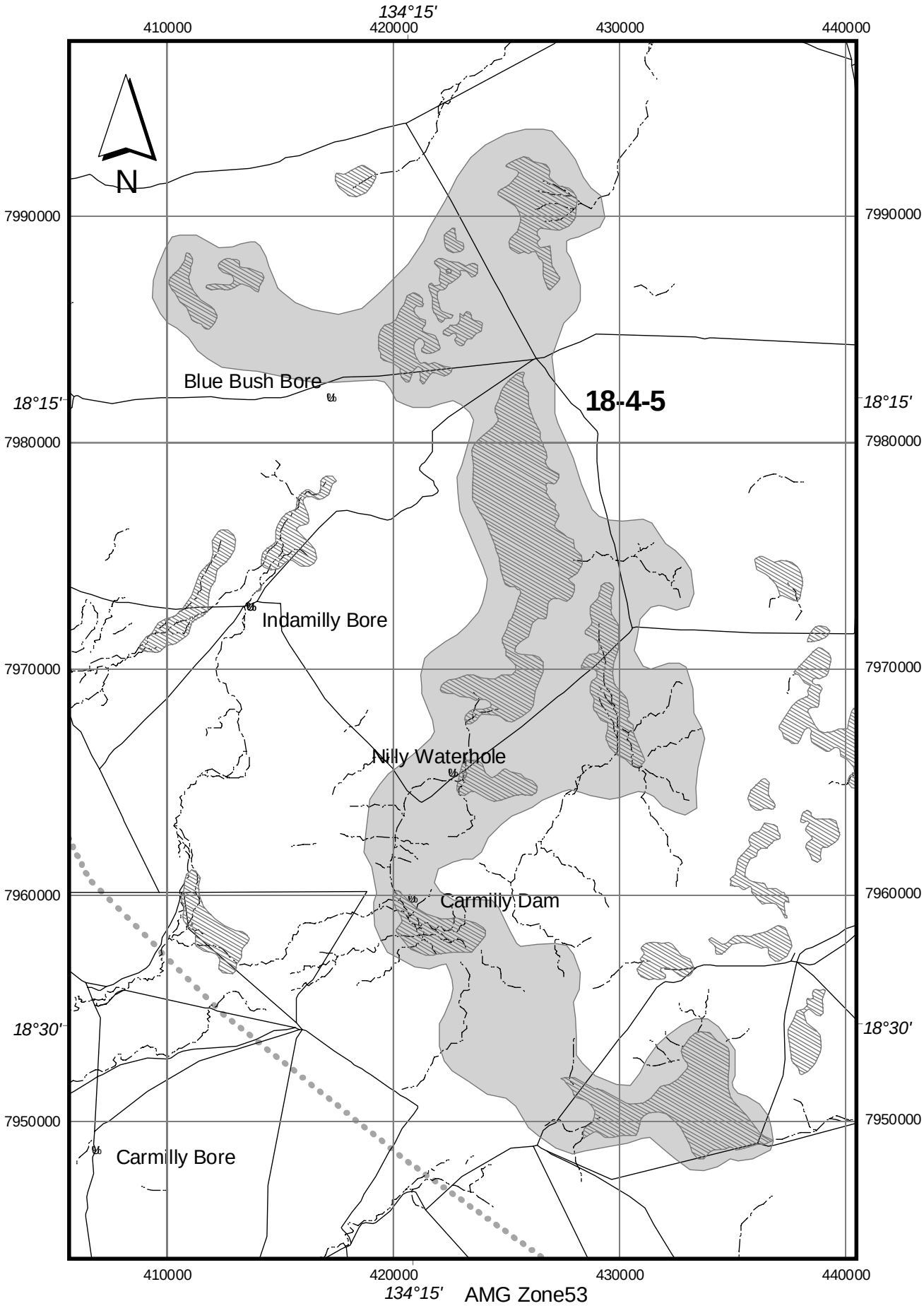
Map unit 28 (9 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with *Chenopodium auricomum* (Bluebush) sparse-shrubland understorey.

Map unit 107 (18 %): *Chenopodium auricomum* (Bluebush) low open-shrubland with ephemeral grassland understorey.

Map unit 96 (68 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 26 (4 %): *Eucalyptus microtheca* s. lat. (Coolibah) low-open woodland with *Eulalia aurea* (Silky Browntop), *Astrebla* (Mitchell Grass) grassland understorey.

Map unit 27 (1 < %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.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Carmilly Bore
AMG Zone53

Site: 18-5-2 Lake Sylvester

Level of significance: bioregional

Location: 18º 55' S 135º 44' E; ca. 190 km north west of Tennant Creek.

Area: 1361 km^2 **Map sheets:** Brunette Downs SE 53-11 & Alroy SE 53-15

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Pastoral Lease - Brunette Downs Station (100% of site)

Description: This site includes the large seasonal wetlands Lake Sylvester and Lake De Burgh which can hold water for extended periods after good rains. The shallow lake beds support bluebush communities (seasonal wetlands dominated by *Chenopodium auricomum*).

Criteria satisfied: A1 b ii), B1 b1 ii),

Taxa of Australian significance: *Urochloa atrisola* {3K [W] only known in study area from this site}

Taxa of NT significance: *Commelina tricarinata* {3k}, *Corchorus pascuorum* {3k}, *Dentella minutissima* {3rC-}, *Euphorbia stevenii* {3k}, *Iotasperma sessilifolia* {3k}, *Portulaca digyna* {3r}, *Rumex crystallinus* {3r}

Taxa of Southern NT (study area) significance: *Grevillea parallela* {(apparently rare) only known in study area from this site}

Taxa of bioregional significance: none

Other taxa only known in MGD bioregion (NT portion) from this site: *Digitaria longiflora*

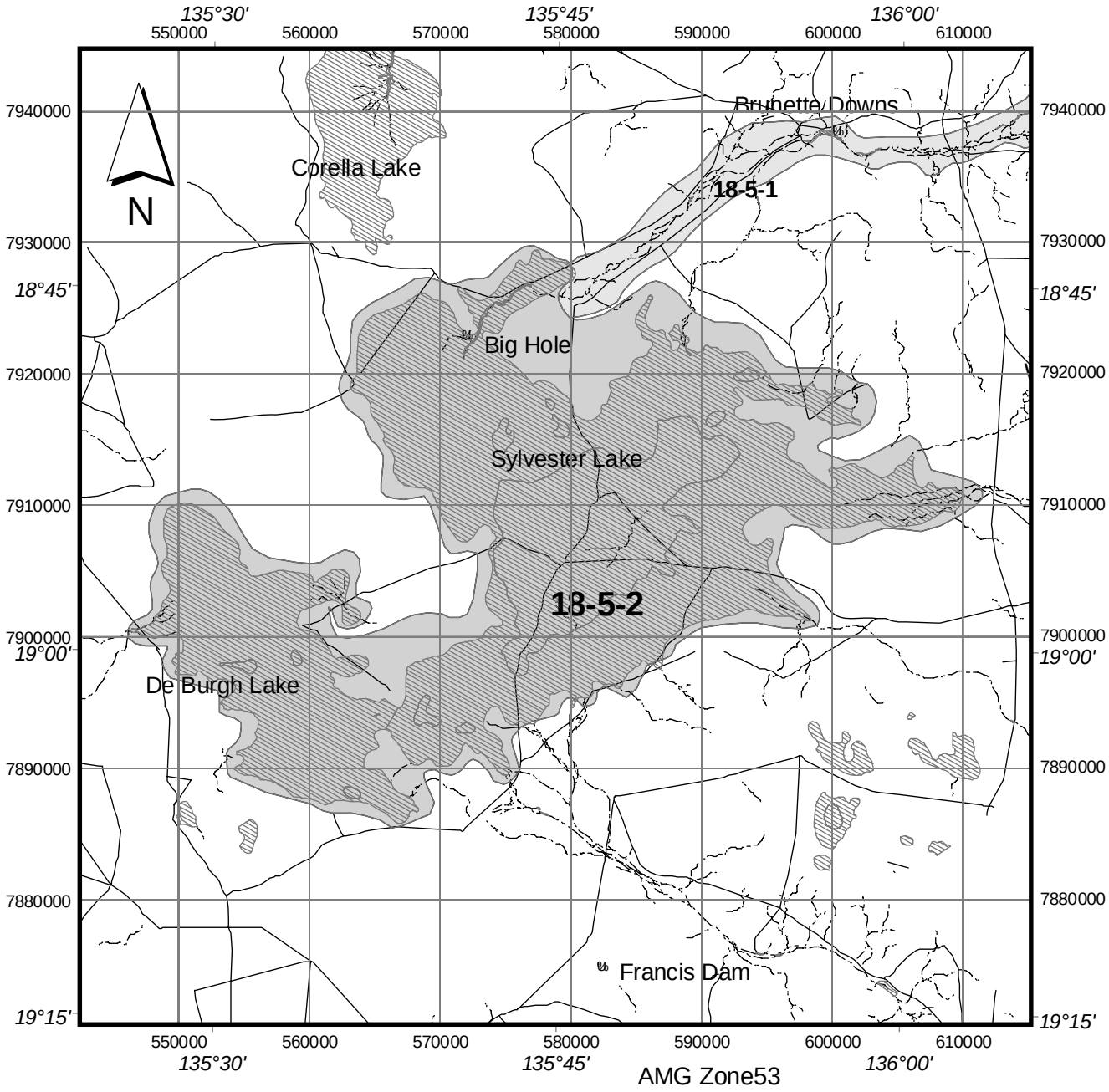
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 96 (22 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 107 (63 %): *Chenopodium auricomum* (Bluebush) low open-shrubland with ephemeral grassland understorey.

Map unit 26 (4 %): *Eucalyptus microtheca* s. lat. (Coolibah) low-open woodland with *Eulalia aurea* (Silky Browntop), *Astrebla* (Mitchell Grass) grassland understorey.

Map unit 28 (9 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with *Chenopodium auricomum* (Bluebush) sparse-shrubland understorey.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19°15'
N
Corella Lake
Brunette Downs
18-5-1
Big Hole
Sylvester Lake
18-5-2
De Burgh Lake
Francis Dam
AMG Zone53

Site: 19-4-4 Headwaters of Brunchilly Creek

Level of significance: bioregional

Location: 19º 3' S 134º 39' E; ca. 100 km north west of Tennant Creek.

Area: 111 km^2 **Map sheet:** Tennant Creek SE 53-14

Bioregions: Mitchell Grass Downs (MGD 60.5%) & Tanami (TAN 39.5%)

Tenure: Pastoral Lease - Brunchilly Station (100% of site)

Description: This site includes a highly disjunct population of *Acacia tephrina*, which occurs at the boundary between the Mitchell Grass Downs bioregion and the Tanami Bioregion.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Acacia tephrina* {3r only known in study area from this site}, *Brachycome A58350 Newcastle Waters Station* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

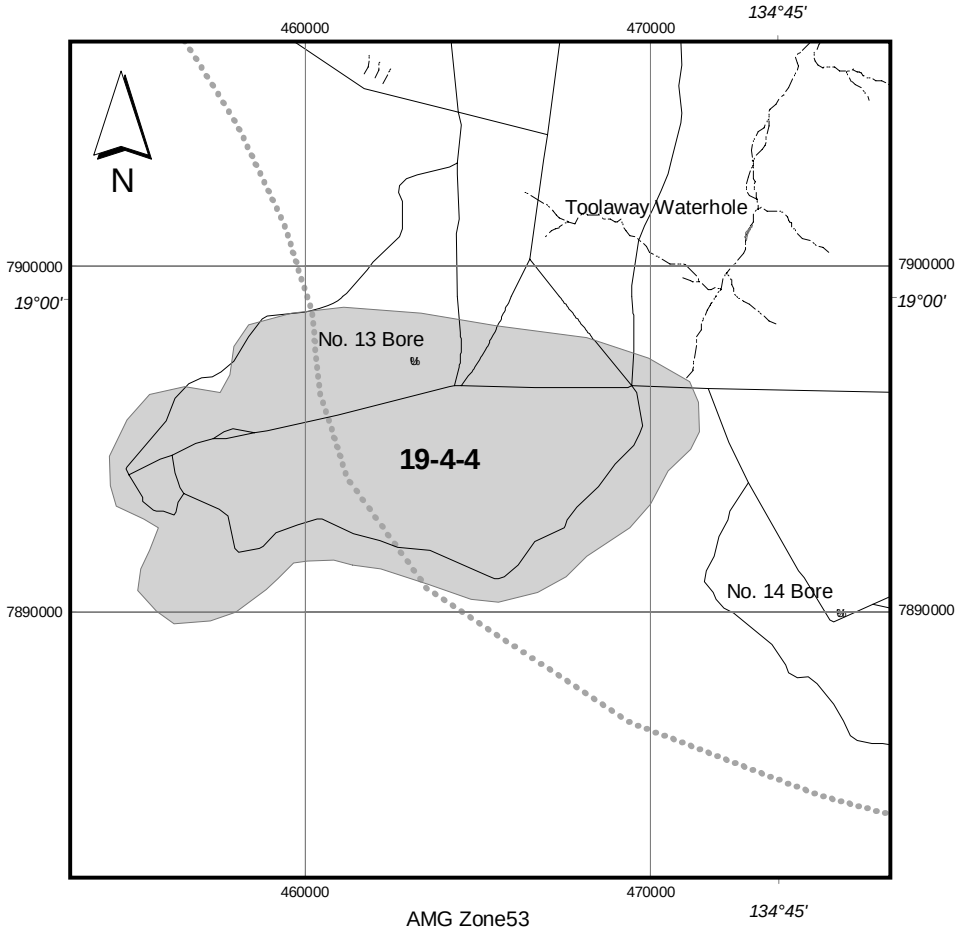
Other taxa only known in MGD bioregion (NT portion) from this site: *Wedelia stirlingii*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 34 (2 %): *Eucalyptus* dichromophloia (Variable-barked Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 42 (17 %): *Corymbia opaca* (Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 96 (79 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.



Site: 19-6-1 Buchanan Rises

Level of significance: bioregional

Location: 19º 10' S 136º 48' E; ca. 15 km south of Alexandria Station Homestead.

Area: 180 km^2 **Map sheet:** Ranken SE 53-16

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Pastoral Lease - Alexandria Station (100% of site)

Description: This site comprises a low but extensive rise, composed of Mittebah Sandstone (cross-bedded quartz sandstone) and minor outcroppings of tertiary limestone, dolomite, siltstone and gypsum. The site also includes the rather abrupt ecological boundary between the sandstone rises and the surrounding black soil plains.

Notes: Type location for *Corymbia capricornia*.

Criteria satisfied: A1 b ii)

Taxa of Australian significance: none

Taxa of NT significance: *Terminalia aridicola subsp. aridicola* {3r (border)}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

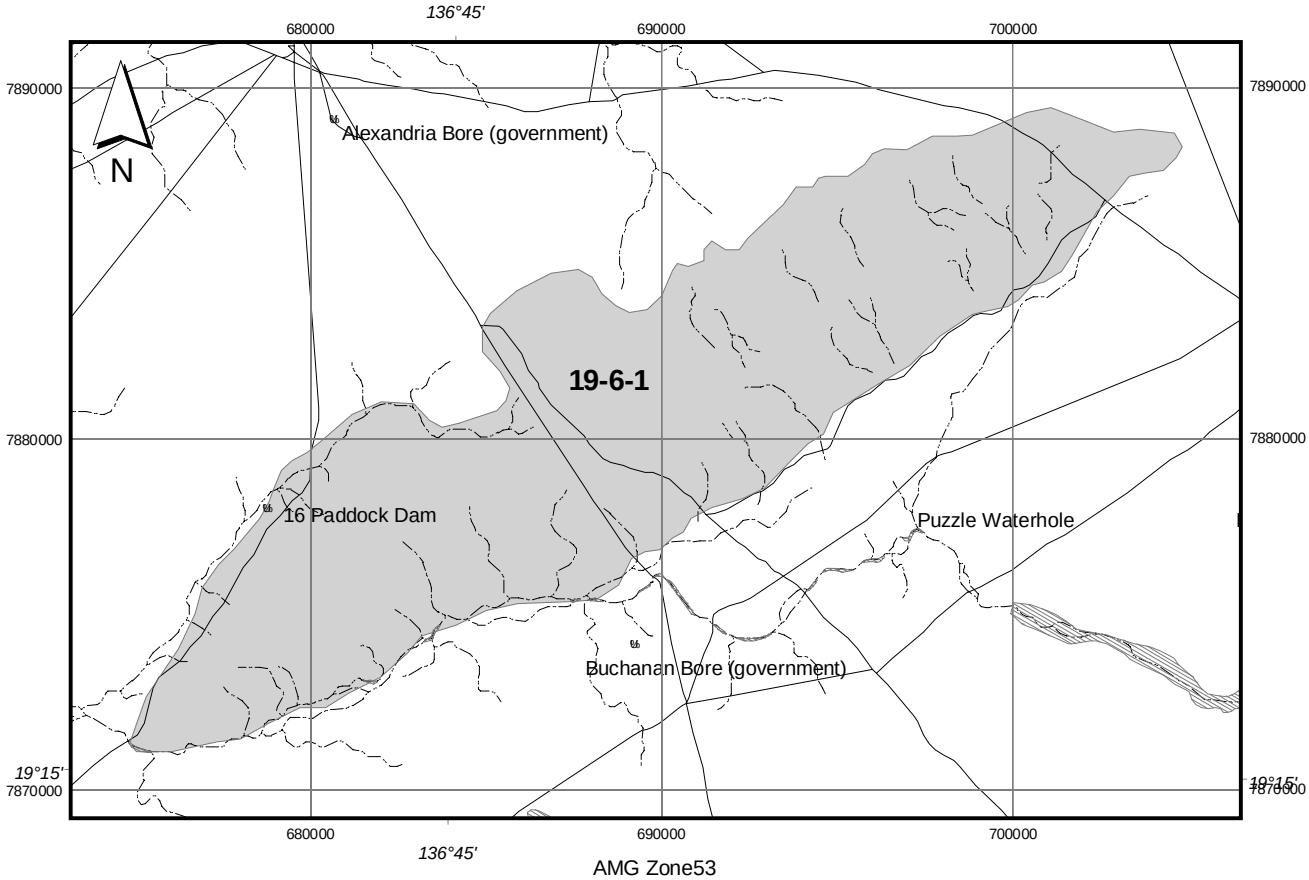
Other taxa only known in MGD bioregion (NT portion) from this site: *Senna oligoclada*, *Triodia bitextura*

Type locations of the following were collected from the site: *Corymbia capricornia* (1947)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 42 (79 %): *Corymbia opaca* (Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 96 (20 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.



Site: 19-6-2 Lorne Creek Waterholes

Level of significance: bioregional

Location: 19º 48' S 137º 6' E; Southern edge of the Mitchell Grass Downs.

Area: 13 km^2 **Map sheet:** Ranken SE 53-16

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Pastoral Lease - East Ranken Station (99% of site); Freehold - Gulangulu Aboriginal Land Trust (1% of site)

Description: Site comprises the series of semi-permanent waterholes that characterise the passage of Lorne Creek, a tributary of the Ranken River, through low sandstone rises with Bloodwood open woodlands.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Nymphaea immutabilis subsp. immutabilis* {3v}

Taxa of Southern NT (study area) significance: none

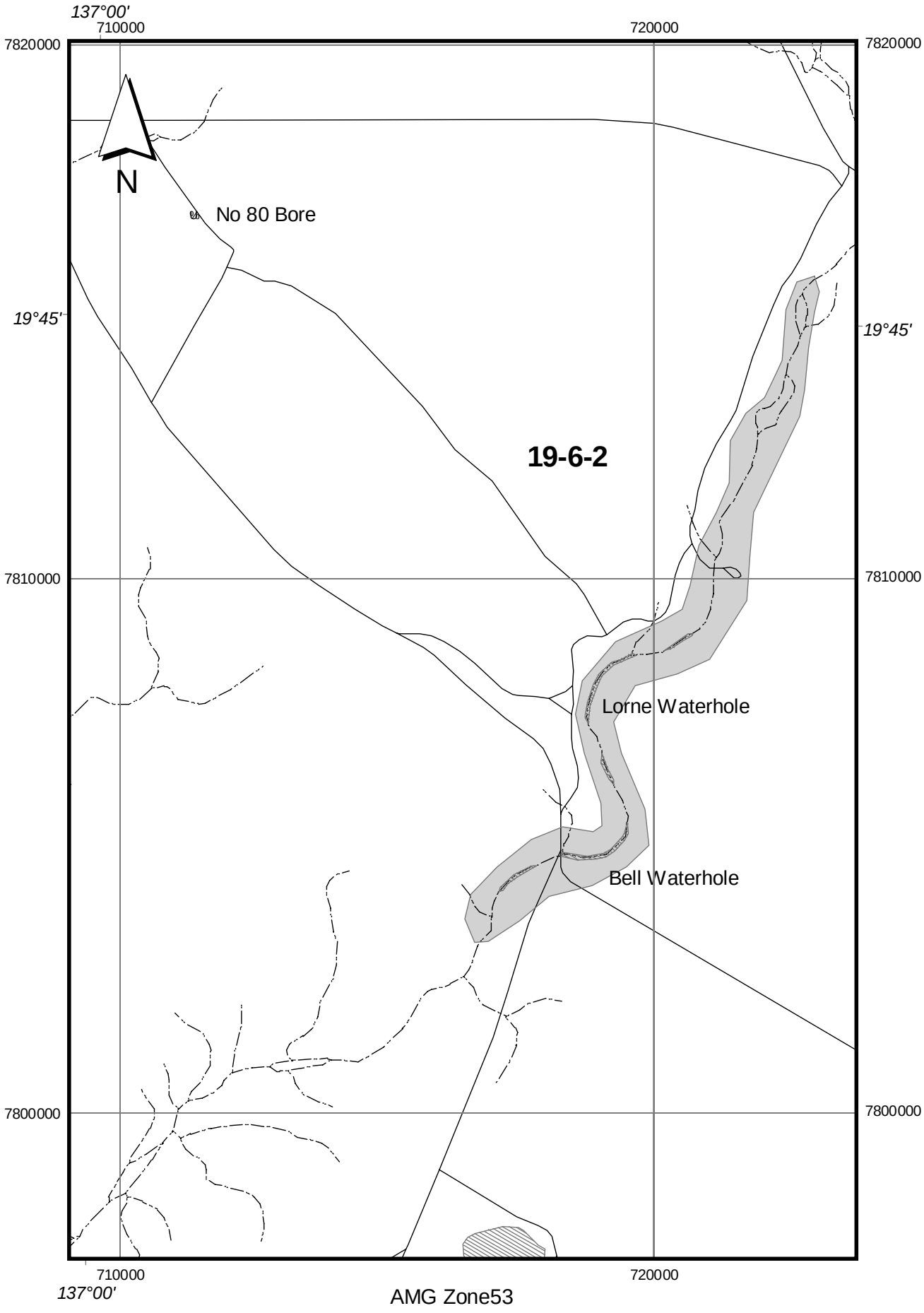
Taxa of bioregional significance: none

Botanically Significant Waterholes at the site: Lorne Waterhole

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 42 (69 %): *Corymbia opaca* (Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 96 (30 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.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Lorne Waterhole
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AMG Zone53

Site: 20-6-1 Georgina River

Level of significance: bioregional

Location: 20º 25' S 137º 55' E; Adjacent to the Queensland and Northern Territory border between the Barkly and Sandover Highways.

Area: 532 km^2 **Map sheets:** Avon Downs SF 53-4 & Sandover River SF 53-8

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Pastoral Lease - Lake Nash Station (39% of site), Austral Downs Station (54% of site) and Burramurra Station (4% of site)

Description: The site includes the corridor of the Georgina River and also the low dolomite and limestone hills around Lake Nash Homestead. It also includes a large bluebush (*Chenopodium auricomum*) swamp, which lies to the east of Monkey Point Waterhole.

Notes: The botanical values of this site are focused on the wetlands and 'in-stream' waterholes along the Georgina River.

Criteria satisfied: A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Ixiochlamys integerrima* {3K}

Taxa of NT significance: *Acacia chisholmii* {3r (border) only known in study area from this site}, *Astrebla lappacea* {3k}, *Commelina tricarinata* {3k}, *Corchorus pascuorum* {3k}, *Haloragis glauca forma glauca* {3k}, *Iotasperma sessilifolia* {3k}, *Iseilema calvum* {3k}, *Mentha australis* {3r (border) only known in MGD from this site}, *Pennisetum basedowii* {3k (border)}, *Polymeria calycina* {3k (border) only known in study area from this site}, *Portulaca digyna* {3r}, *Sarcostemma brevipedicellatum* {3k (border) only known in MGD from this site}, *Sida laevis* {3kC-}

Taxa of Southern NT (study area) significance: *Hibiscus pentaphyllus* {(apparently rare) only known in study area from this site}

Taxa of bioregional significance: *Angianthus cyathifer* {MGD (disjunct and eastern range limit) [E] only known in MGD from this site}, *Corymbia deserticola subsp. mesogeotica* {MGD (eastern range limit) [E] only known in MGD from this site}, *Lysiphyllum cunninghamii* {MGD (southern range limit) [S]}

Other taxa only known in MGD bioregion (NT portion) from this site: *Anemocarpa saxatilis*, *Enneapogon oblongus*, *Sehima nervosum*, *Triodia longiceps*

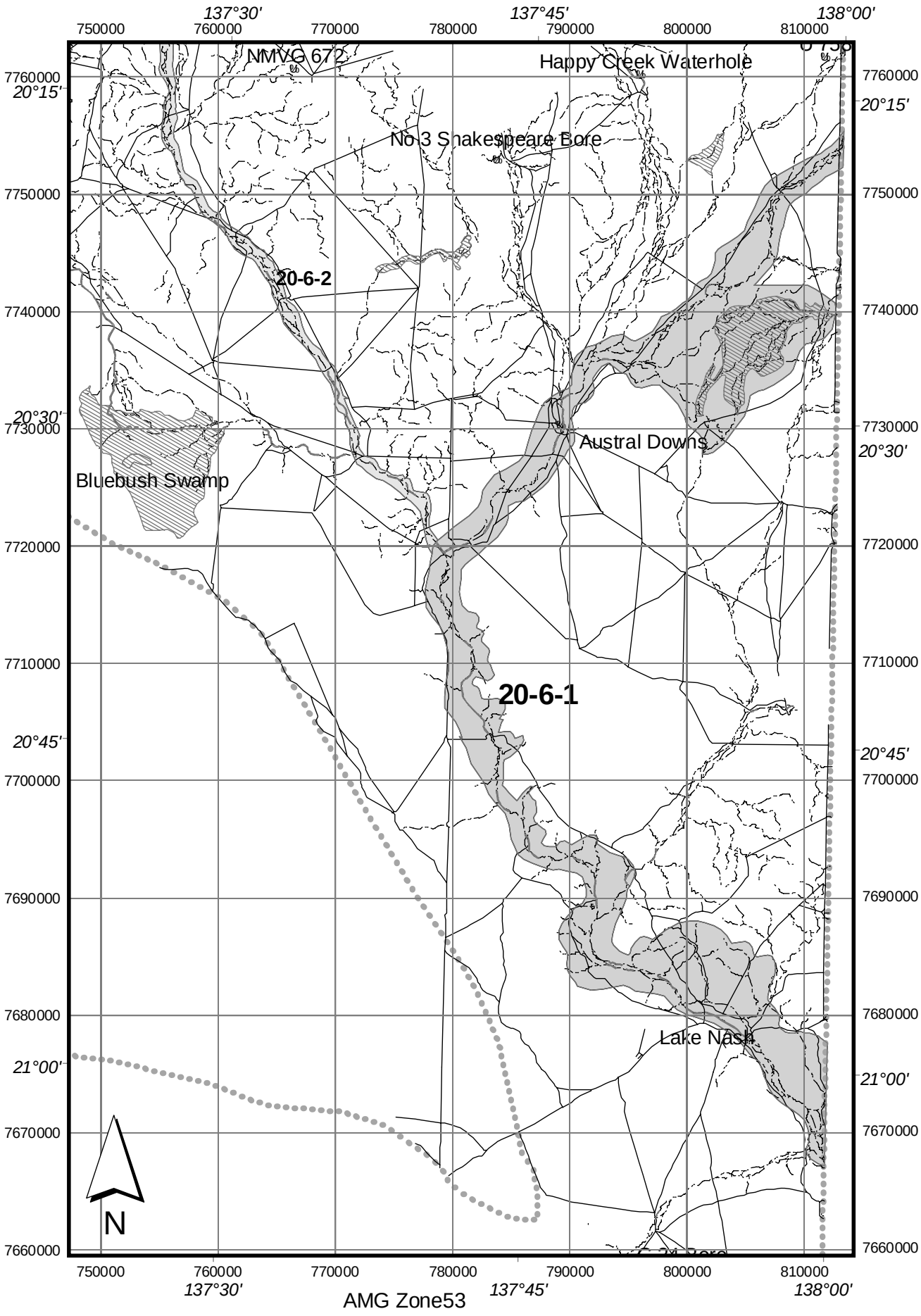
Botanically Significant Waterholes at the site: Lake Nash Waterhole

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 28 (3 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with *Chenopodium auricomum* (Bluebush) sparse-shrubland understorey.

Map unit 96 (60 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 62 (36 %): *Acacia georginae* (Gidyea) low open-woodland with *Astrebla pectinata* (Bull Mitchell Grass) open-grassland understorey.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20-6-2
20-6-1
Austral Downs
Bluebush Swamp
Lake Nash
N
AMG Zone53

Site: 20-6-2 James River Waterholes

Level of significance: bioregional

Location: 20º 25' S 137º 33' E; North of Avon Downs Homestead.

Area: 69 km^2 **Map sheet:** Avon Downs SF 53-4

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Pastoral Lease - Avon Downs (69% of site), Burramurra (15% of site), Soudan (14% of site)

Description: This site is the series of semi-permanent waterholes along the channel of the James River between the Barkly Highway and its confluence with the Georgina River (see also site 20-6-1).

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Ixiochlamys integerrima* {3K [N]}

Taxa of NT significance: *Commelina tricarinata* {3k}, *Corchorus pascuorum* {3k}, *Fimbristylis D70268 Connells Lagoon* {3rC-}, *Haloragis glauca forma glauca* {3k}, *Nymphaea immutabilis subsp. immutabilis* {3v}, *Rotala tripartita* {3r only known in study area from this site}

Taxa of Southern NT (study area) significance: *Nymphoides aurantiaca* {(apparently rare) only known in study area from this site}

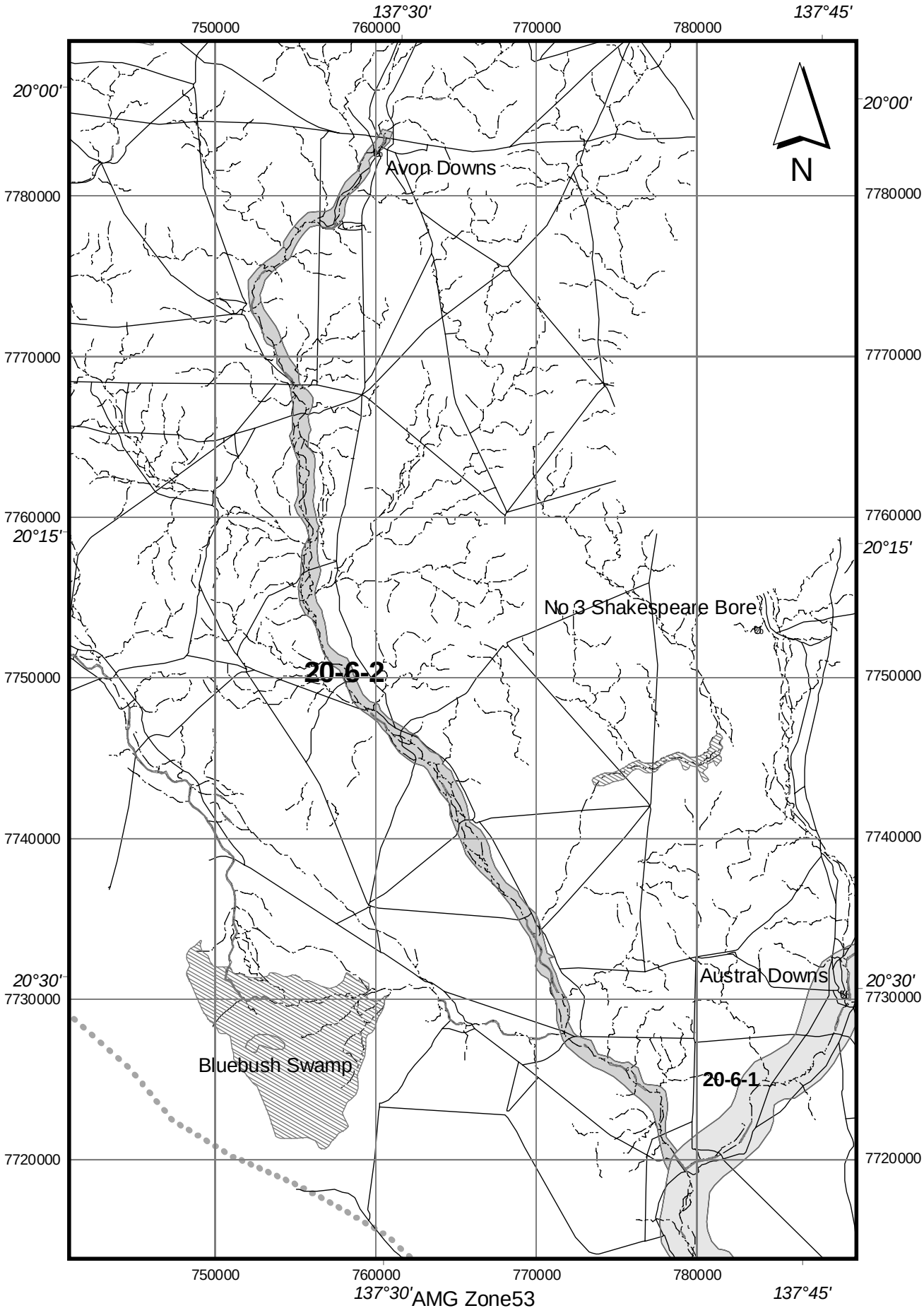
Taxa of bioregional significance: *Goodenia strangfordii* {MGD (southern range limit) [S]}, *Spermacoce pogostoma* {MGD (eastern range limit) [E]}

Botanically Significant Waterholes at the site: James River Waterhole, Split Lagoon

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 96 (40 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 62 (59 %): *Acacia georginae* (Gidyea) low open-woodland with *Astrebla pectinata* (Bull Mitchell Grass) open-grassland understorey.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Avon Downs
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Austral Downs
Bluebush Swamp
20-6-1
AMG Zone53

8.4 SITES OF UNDETERMINED SIGNIFICANCE IN THE NT PORTION OF THE MITCHELL GRASS DOWNS BIOREGION

Site: 19-5-PL1 Alroy Downs Gidgee

Level of significance: undetermined

Location: 19º 20' S 135º 56' E; West of Alroy Downs Homestead.

Area: only mapped as point location **Map sheet:** Alroy SE 53-15

Bioregion: Mitchell Grass Downs (MGD)

Tenure: Pastoral Lease - Alroy Downs Pastoral Lease

Description: This area has been identified as supporting interesting Gidgee communities.

Notes: This area has a diversity of geologies and pedologies within a limited area including travertine, detrital laterite, pistolitic ironstone and chert, sand, gravel, and red and black clays. Further survey in this area is warranted.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

8.5 WATERHOLES OF BOTANICAL SIGNIFICANCE IN THE NT PORTION OF THE MITCHELL GRASS DOWNS BIOREGION

Brunette Downs Homestead Waterhole

Significance: national

Included within Brunette Creek Waterholes site of significance, site no. 18-5-1

Reference coordinates (decimal degrees of latitude and longitude): -18.6333º , 135.93333º

Significant plant taxa: *Iotasperma sessilifolia* {3k}, *Mukia A90788 Tobermorey Station* {3V}, *Nymphaea immutabilis subsp. immutabilis* {3v}, *Rumex crystallinus* {3r}

James River Waterhole

Significance: bioregional

Included within James River Waterholes site of significance, site no. 20-6-2

Reference coordinates (decimal degrees of latitude and longitude): -20º , 137.5º

Significant plant taxa: *Nymphaea immutabilis subsp. immutabilis* {3v}

Lake Nash Waterhole

Significance: bioregional

Included within Georgina River site of significance, site no. 20-6-1

Reference coordinates (decimal degrees of latitude and longitude): -20.9º , 137.9º

Significant plant taxa: *Commelina tricarinata* {3k}, *Corchorus pascuorum* {3k}, *Iotasperma sessilifolia* {3k}

Lily Woodcutter Waterhole

Significance: bioregional

Included within Brunette Creek Waterholes site of significance, site no. 18-5-1

Reference coordinates (decimal degrees of latitude and longitude): -18.5º , 136.15º

Significant plant taxa: *Nymphaea immutabilis subsp. immutabilis* {3v}

Lorne Waterhole

Significance: bioregional

Included within Lorne Creek Waterholes site of significance, site no. 19-6-2

Reference coordinates (decimal degrees of latitude and longitude): -19.8º , 137.1º

Significant plant taxa: *Nymphaea immutabilis subsp. immutabilis* {3v}

Split Lagoon

Significance: bioregional

Included within James River Waterholes site of significance, site no. 20-6-2

Reference coordinates (decimal degrees of latitude and longitude): -20.4º , 137.5º

Significant plant taxa: *Nymphaea immutabilis subsp. immutabilis* {3v}

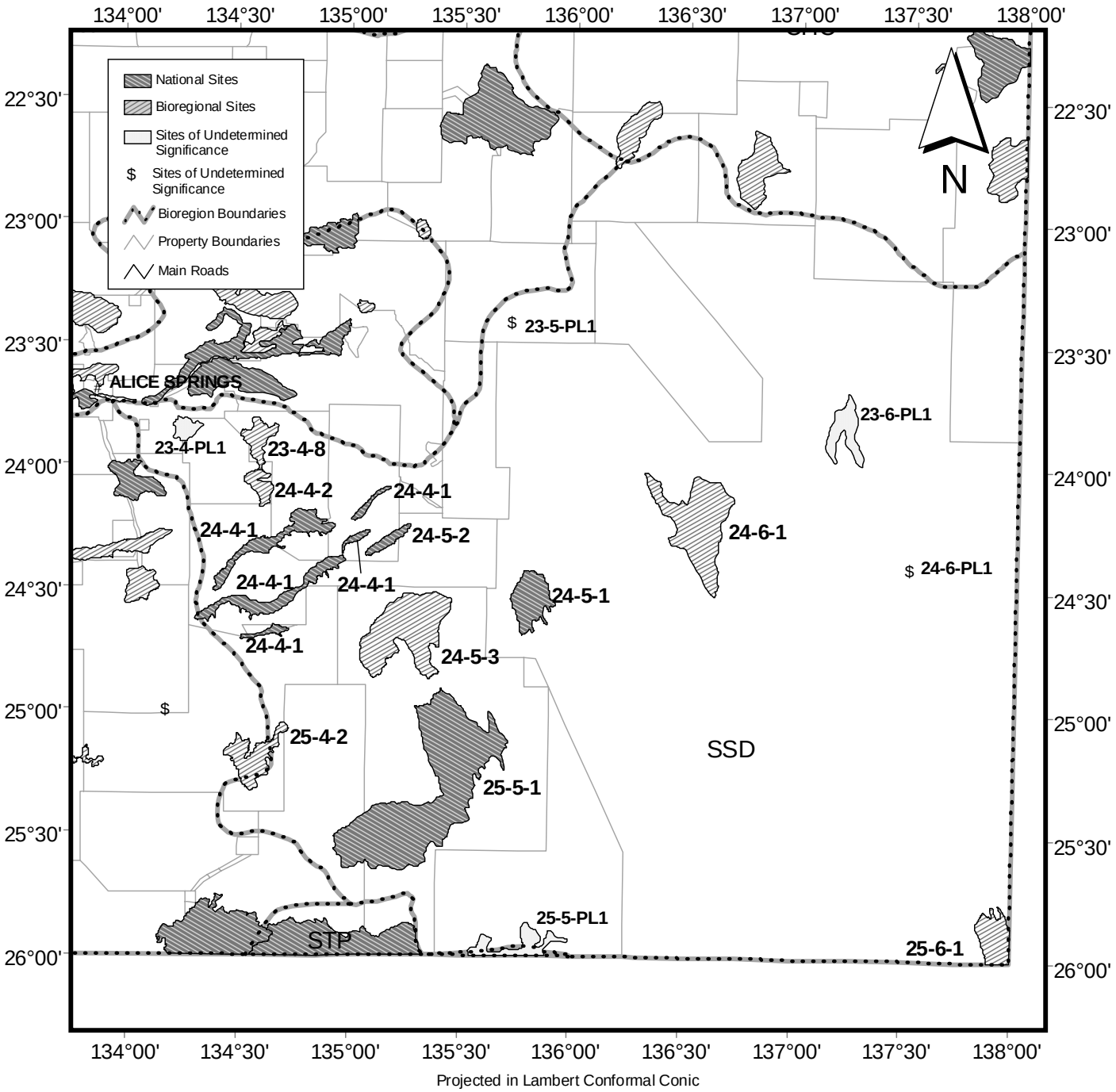
9. Simpson-Strzelecki Dunefields Bioregion

9.1 OVERVIEW OF THE NT PORTION OF THE SIMPSON-STRZELECKI DUNEFIELDS BIOREGION

The Simpson-Strzelecki Dunefields bioregion comprises an area of 277,800km^2, 38% (105,900km^2) of which is located in the Northern Territory, covering the entire south eastern corner of the study area. The remainder of this bioregion extends across New South Wales, Queensland and South Australia. The NT portion of the bioregion is relatively uniform. It presents as an immense plain with parallel siliceous red sand dunes. Typically the dunes are orientated longitudinally. Other landscapes which have comparatively minor occurrences in the NT portion of this bioregion include the weathered tablelands with cracking-clay soils on Andado Station, the floodouts of major watercourses (including Illogwa Creek, the Todd, Finke, Hale and Hay Rivers) and the saline lake systems in the far south east of the study area near Poepples Corner.

The vegetation of dune crests is commonly dominated by Sandhill Cane Grass (*Zygochloa paradoxa*) while the interdune areas support hummock grasslands (dominated by *Triodia basedowii*) with a sparse shrub overstorey of *Acacia* spp. and/or *Grevillea spp.* (Wilson *et al* 1990). A total of 118 indigenous vascular plant taxa are currently considered to be of conservation significance in the NT portion of the Simpson-Strzelecki Dunefields bioregion. These taxa are listed in volume 1, appendix 3.

Index to Sites in and adjacent to Simpson-Strzelecki Dunefields bioregion (NT portion)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9.2 SITES OF NATIONAL SIGNIFICANCE IN THE NT PORTION OF THE SIMPSON-STRZELECKI DUNEFIELDS BIOREGION

Site: 24-4-1 Rodinga

Level of significance: national

Location: 24º 24' S 134º 50' E; North west margin of the Simpson Desert.

Area: 787 km^2 **Map sheets:** Rodinga SG 53-2 & Hale River SG 53-3

Bioregions: Simpson-Strzelecki Dunefields (SSD 99.3%) & Finke (FIN 0.7%)

Tenure: Pastoral Lease - Alambi (51% of site), Ringwood (13% of site), Horseshoe Bend (3% of site) and Todd River (25% of site) Stations; Freehold - Pmere Nyente Aboriginal Land Trust (5% of site), Yewerre Aboriginal Land Trust (2% of site)

Description: This site includes an extensive system of low sandstone ranges and minor outlying hills fringing the Simpson Desert. It includes the Rodinga and Pillar Ranges and the Train Hills, mapped as 5 discrete polygons. The geology of the Rodinga Range and the associated ranges is mainly Silurian/Devonian sandstones of the Mereenie Group. These sandstones are porous and are the most important water bearing rock formations in central Australia. On the southern fall of these ranges the sequence includes Cambrian limestones, dolomites and siltstones. More recently, gypsum deposits have formed in places as a result of the precipitation of solutes from groundwaters. The soils of the ranges are generally shallow lithosols. At the foot of the ranges there is little colluvium and some sand dunes continue onto the range.

Notes: The site is largely free of spinifex (*Triodia* spp.), and as such contrasts with much of the Macdonnell Ranges where *Triodia* dominated understoreys are almost ubiquitous. *Acacia desmondii* is endemic to these ranges and hence the site contains the type population. The undulating sand plains at the northern fall of the Rodinga Range support the most easterly stands of *Allocasuarina decaisneana*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Acacia desmondii* {3R [NSEW]}, *Harnieria kempeana subsp. kempeana* {3RC-}

Taxa of NT significance: *Bulbine alata* {3k}, *Ixiochlamys nana* {3kC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Corymbia eremaea subsp. oligocarpa* {SSD (eastern range limit) [E] only known in SSD from this site}, *Josephinia eugeniae* s.lat. {SSD (disjunct)}, *Ozothamnus kempei* {SSD (southern range limit) [S]}, *Solanum orbiculatum subsp. macrophyllum* {SSD (eastern range limit) [E] only known in SSD from this site}

Other taxa only known in SSD bioregion (NT portion) from this site: *Amaranthus interruptus*, *Aristida strigosa*, *Cymbopogon ambiguus*, *Cyperus bulbosus*, *Eragrostis lacunaria*, *Eriachne mucronata*, *Goodenia hirsuta*, *Grahamia australiana*, *Hibiscus sturtii var. campylochlamys*, *Paspalidium clementii*, *Streptoglossa bubakii*

Type locations of the following were collected from the site: *Acacia desmondii*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 92 (17 %): *Triodia brizoides* (Hillside Spinifex) hummock grassland with mixed species low open-woodland overstorey.

Map unit 61 (2 %): Complex of mixed species low open-woodland between dunes with *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 63 (1 < %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.

Map unit 27 (1 < %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

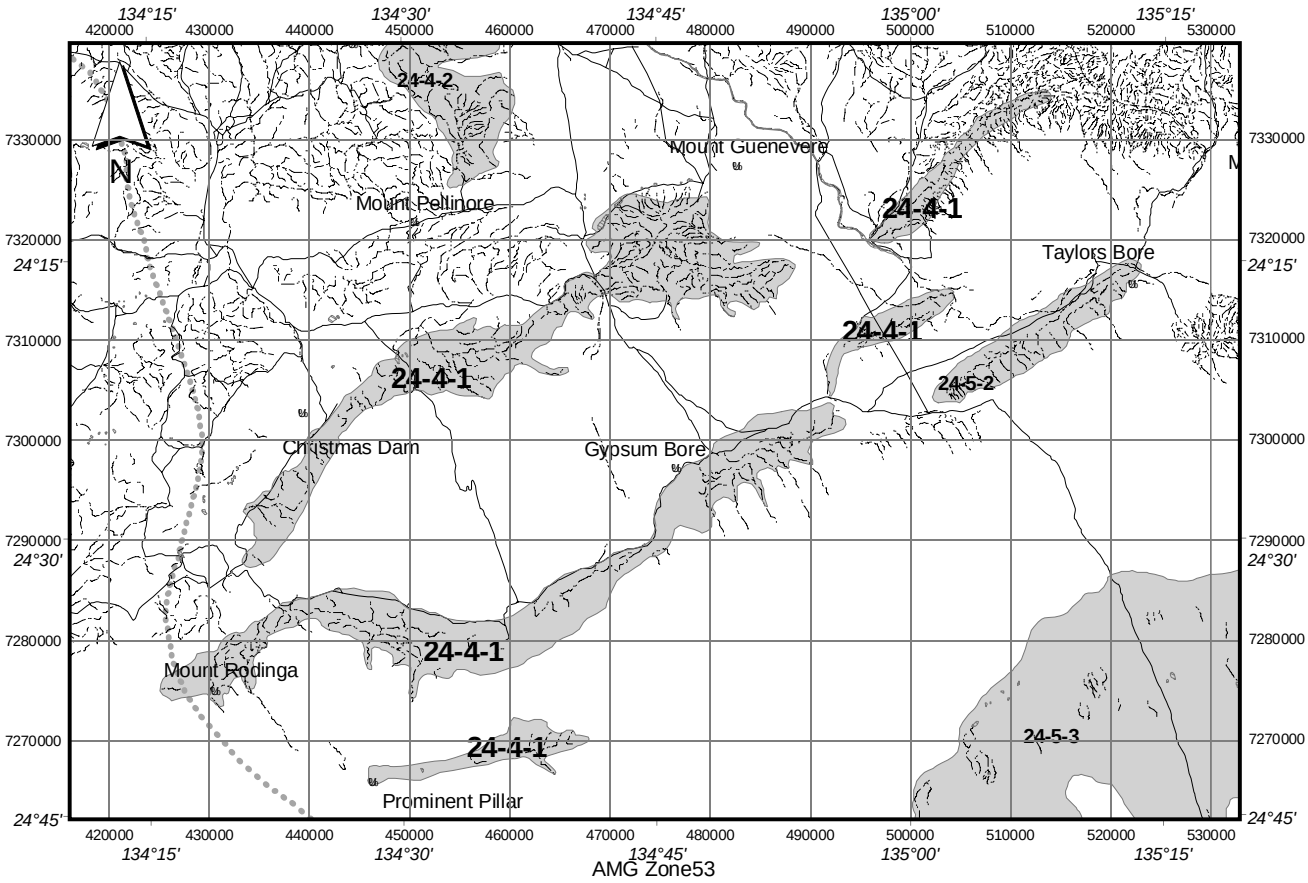
Map unit 66 (3 %): *Acacia aneura* (Mulga) tall open-shrubland with *Senna*, *Eremophila* (Fuchsia) open-shrubland understorey.

Map unit 83 (1 < %): *Triodia basedowii* (Hard Spinifex) or *Triodia pungens* (Soft Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee), *Acacia* tall sparse-shrubland overstorey.

Map unit 70 (18 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.

Map unit 85 (42 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 87 (14 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.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Mount Pellinore
Mount Guenevere
24-4-1
Taylors Bore
24-5-2
Christmas Dam
Gypsum Bore
Mount Rodinga
Prominent Pillar
24-5-3
AMG Zone53

Site: 24-5-1 Allitra Tablelands

Level of significance: national

Location: 24º 33' S 135º 49' E; North West Simpson Desert

Area: 348 km^2 **Map sheet:** Hale River SG 53-3

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Freehold - Pmere Nyente Aboriginal Land Trust (100% of site)

Description: Site incorporates a large residual tableland, which at its highest point projects some 50m above the surrounding dune fields. It is composed of weathered Cretaceous sediments predominantly shales, mudstones and sandstone and is capped by resistant Tertiary sandstones and silcrete. The site is bounded to the north and west by the floodout of the Hale River. To the south and east the site boundary approximates the floodouts and outwash generated by the tableland itself and includes some claypans and adjacent parallel dunes.

Notes: The site is remote, rarely visited and poorly known botanically. The site supports one of the largest known populations of the 'vulnerable' and unreserved *Acacia pickardii*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Acacia pickardii* {3V}

Taxa of NT significance: *Calotis kempei* {3k}, *Maireana appressa* {3k}, *Osteocarpum pentapterum* {3r}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Acacia cyperophylla* {SSD (disjunct) only known in SSD from this site}

Other taxa only known in SSD bioregion (NT portion) from this site: *Lysiana spathulata*

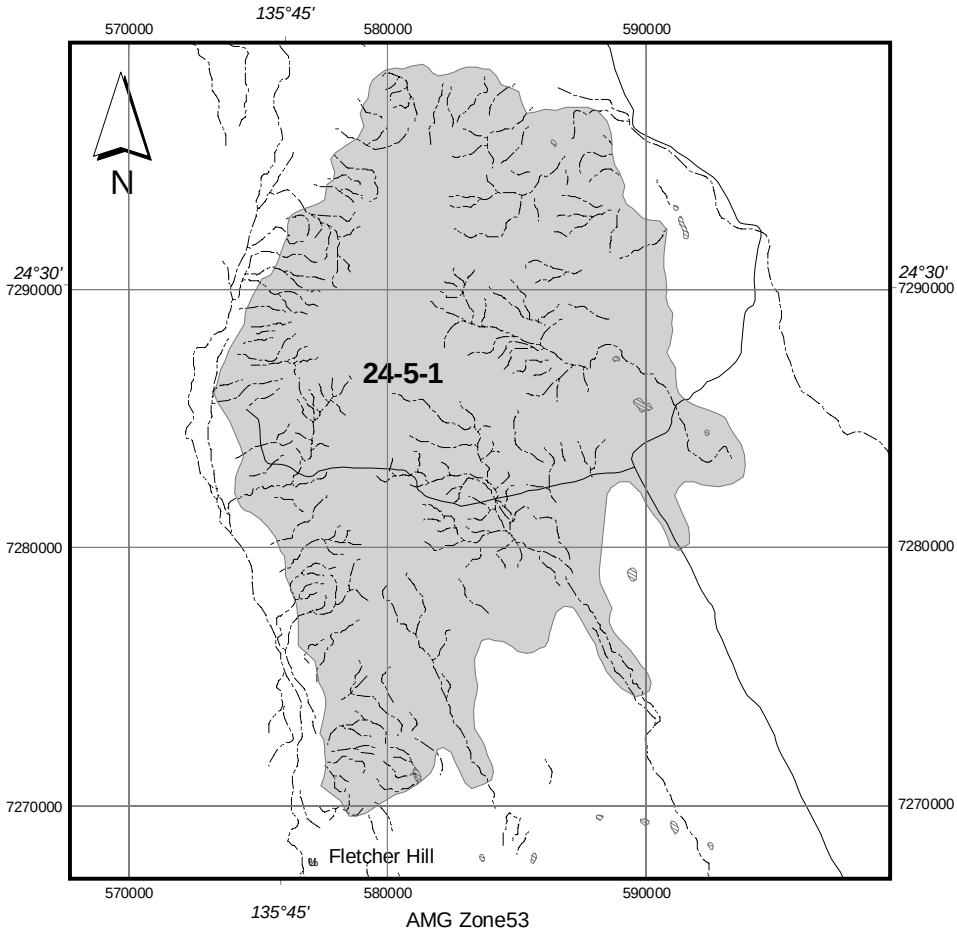
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 61 (9 %): Complex of mixed species low open-woodland between dunes with *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 27 (1 < %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 70 (34 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.

Map unit 85 (56 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.


135°45'
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580000
590000
N
24°30'
7290000
24-5-1
7280000
7270000
Fletcher Hill
135°45'
AMG Zone53

Site: 24-5-2 Arookara Range

Level of significance: national

Location: 24º 19' S 135º 10' E; North western margin of the Simpson Desert.

Area: 84 km^2 **Map sheet:** Hale River SG 53-3

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Pastoral Lease - Ringwood Station (80% of site); Freehold - Pmere Nyente Aboriginal Land Trust (19% of site)

Description: The site bounds the Arookara Range, an outcrop composed of porous Mereenie Sandstone of Silurian age. The range is oriented NE-SW. To the north and west the range is bounded by the floodout of the Todd River. To the south and east the range abuts the extensive parallel dune systems of the Simpson Desert.

Notes: The Arrokara Range supports the only known population of the undescribed *Eremophila A90760 Arookara Range*. It also has the most easterly record of the 'rare' *Harnieria kempeana subsp. kempeana*. Like neighbouring low sandstone ranges, *Triodia* species are absent from the Arookara Range.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Eremophila A90760 Arookara Range* {2R [NSE]}, *Harnieria kempeana subsp. kempeana* {3RC- [E]}

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Josephinia eugeniae* s.lat. {SSD (disjunct)}, *Ozothamnus kempei* {SSD (southern range limit) [S]}

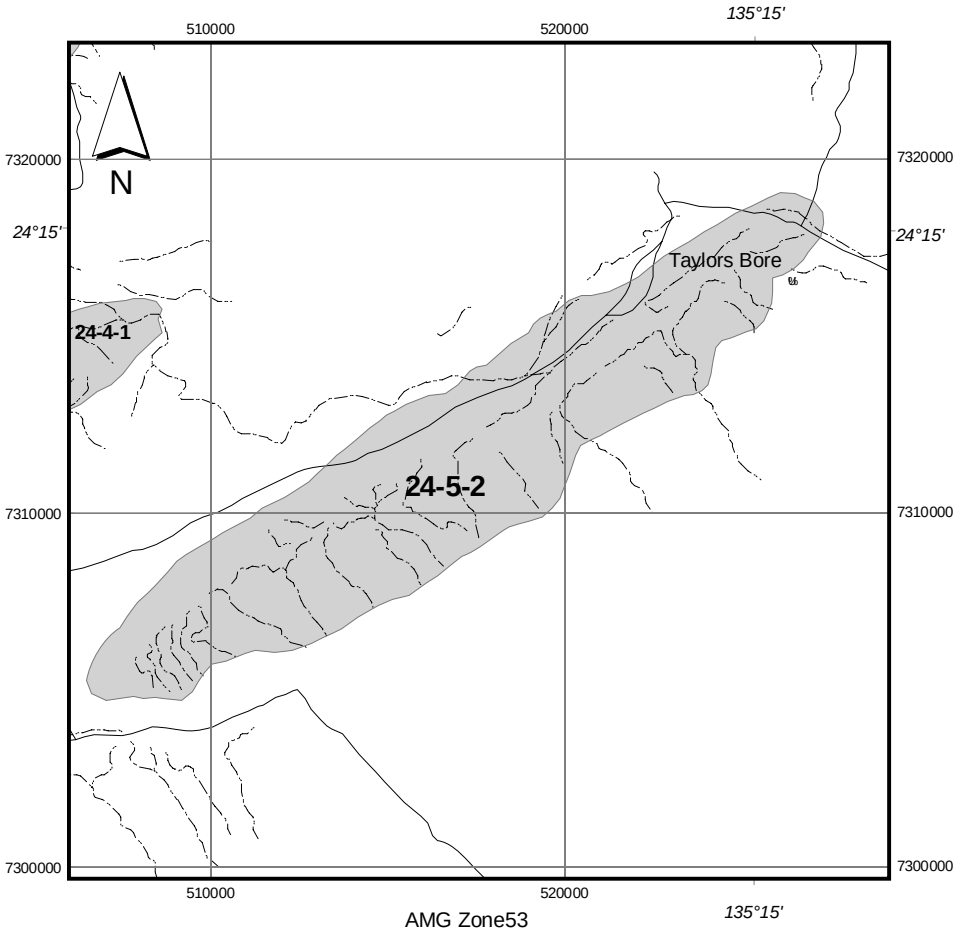
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 85 (17 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 70 (29 %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna, Eremophila* (Fuchsia) low sparse-shrubland understorey.

Map unit 27 (1 < %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 61 (52 %): Complex of mixed species low open-woodland between dunes with *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.


135°15′
510000
520000
N
7320000
24°15′
Taylors Bore
24-4-1
24-5-2
7310000
7300000
AMG Zone53

Site: 25-5-1 Andado

Level of significance: national

Location: 25º 26' S 135º 19' E; This is a large site in the south east of the study area.

Area: 2455 km^2 **Map sheets:** McDills SG 53-7, Finke SG 53-6 & Hale River SG 53-3

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Pastoral Lease - Andado Station (88% of site) and New Crown Station (9% of site); Mac Clarke (*Acacia peuce*) Conservation Reserve (1% of site)

Description: The site is a large outlier of heavy finely-textured soils and gibber plains enclosed by the dunefields of the Simpson Desert. These soils have largely resulted from the deep weathering of the Rumbalara sediments, which are principally shales and siltstones and tertiary sandstones belonging to the Etingambra formation. These sediments outcrop extensively within the site as low hills, 'jump-ups' and breakaways.

Notes: This site incorporates the major area for the conservation of *Acacia peuce* in the Northern Territory. It also supports many interesting disjunctions of plant taxa with arido-temperate distributions, which are more common and widespread in similar land systems in South Australia and also has several disjunctions of plant taxa with arido-tropical distributions. As such, this is an important site for the conservation of species at or near the edge of their continental range. The site also contains several important ephemeral swamps including Indemina Swamp, Indinna Swamp, Andado swamp and *Casuarina* Swamp. Also of note is a disjunct occurrence of *Acacia stowardii* dominated shrubland, which is more prevalent in the Channel Country bioregion. This vegetation type is uncommon in both the study area and the NT portion of the Simpson-Strzelecki Dunefields bioregion.

Criteria satisfied: A1 a i), A1 a i), B1 b1 i), B1 b2 i)

Taxa of Australian significance: *Acacia peuce* {3VCi [W] only known in NT from this site}, *Acacia pickardii* {3V [W]}, *Atriplex morrisii* {3K [N] only known in NT from this site}, *Bergia occultipetala* {3R only known in SSD from this site}, *Eleocharis papillosa* {3R [E] only known in SSD from this site}, *Ptilotus aristatus var. eichlerianus* {3R [N] only known in SSD from this site}

Taxa of NT significance: *Abutilon halophilum* {3r [N]}, *Arabidella nasturtium* {3r only known in SSD from this site}, *Arabidella procumbens* {3r [N] only known in NT from this site}, *Atriplex angulata* {3k}, *Atriplex crassipes var. crassipes* {3k}, *Atriplex eardleyae* {3r}, *Atriplex intermedia* {3r [N] only known in NT from this site}, *Atriplex lobativalvis* {3r only known in SSD from this site}, *Atriplex turbinata* {3r [N] only known in SSD from this site}, *Bulbine alata* {3k}, *Calandrinia disperma* {3k only known in SSD from this site}, *Calandrinia polyandra* {3kC-}, *Centipeda D18576 Andado* {3k}, *Cullen graveolens* {3k}, *Cyperus gilesii* {3k only known in SSD from this site}, *Dentella pulvinata* {3r}, *Eclipta alatocarpa* {3k only known in SSD from this site}, *Eragrostis lanipes* {3r only known in NT from this site}, *Erodium angustilobum* {3kC-}, *Gilesia biniflora* {3k}, *Gunniopsis quadrifida* {3r only known in SSD from this site}, *Lythrum wilsonii* {3r only known in SSD from this site}, *Maireana eriantha* {3r (border) only known in NT from this site}, *Maireana microcarpa* {3r only known in SSD from this site}, *Osteocarpum pentapterum* {3r}, *Peplidium foecundum* {3k}, *Plagiobothrys plurisepalus* {3r only known in SSD from this site}, *Pomax A89438 Sand Dunes* {3kC- only known in SSD from this site}, *Rumex crystallinus* {3r only known in SSD from this site}, *Sclerolaena parallelicuspis* {3rC-}, *Senna phyllodinea* {3k only known in SSD from this site}, *Spergularia A43234 Andado* {3r only known in SSD from this site}, *Tetragonia eremaea* {3k only known in SSD from this site}, *Teucrium albicaule* {3r only known in NT from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Bergia ammannioides* {SSD (disjunct)}, *Crinum flaccidum* {SSD (apparently rare and disjunct) only known in SSD from this site}, *Cyperus nervulosus* {SSD (disjunct) only known in SSD from this site}, *Heliotropium pleiopterum* {SSD (eastern range limit) [E]}, *Hibiscus trionum var. vesicarius* {SSD (disjunct and southern range limit) [S] only known in SSD from this site}, *Isoetes muelleri* {SSD (disjunct and apparently rare) only known in SSD from this site}, *Sclerolaena costata* {SSD (eastern range limit) [E]}, *Wurmbea deserticola* {SSD (eastern range limit) [E]}

Other taxa only known in SSD bioregion (NT portion) from this site: *Aeschynomene indica, Alternanthera nodiflora, Ammannia multiflora, Astrebla elymoides, Atriplex lindleyi subsp. conduplicata, Bergia pedicellaris, Bergia trimera, Bulbostylis barbata, Centrolepis eremica, Cleome viscosa, Crassula colorata var. acuminata, Cyperus difformis, Dichanthium sericeum subsp. humilius, Diplatia grandibractea, Erodium cygnorum subsp. cygnorum, Glossostigma diandrum, Heliotropium asperrimum, Hibiscus brachysiphonius, Ipomoea lonchophylla, Ixiolaena leptolepis, Maireana aphylla, Mollugo cerviana, Myriocephalus rudallii, Neobassia proceriflora, Plantago debilis, Pluchea rubelliflora, Polycarpaea arida, Potamogeton tricarinatus, Ptilotus latifolius var. latifolius, Rhodanthe microglossa, Schoenia ramosissima, Sclerolaena calcarata, Sida trichopoda, Synaptantha tillaeacea var. tillaeacea, Templetonia egena, Teucrium racemosum, Uranthoecium truncatum, Velleia glabrata*

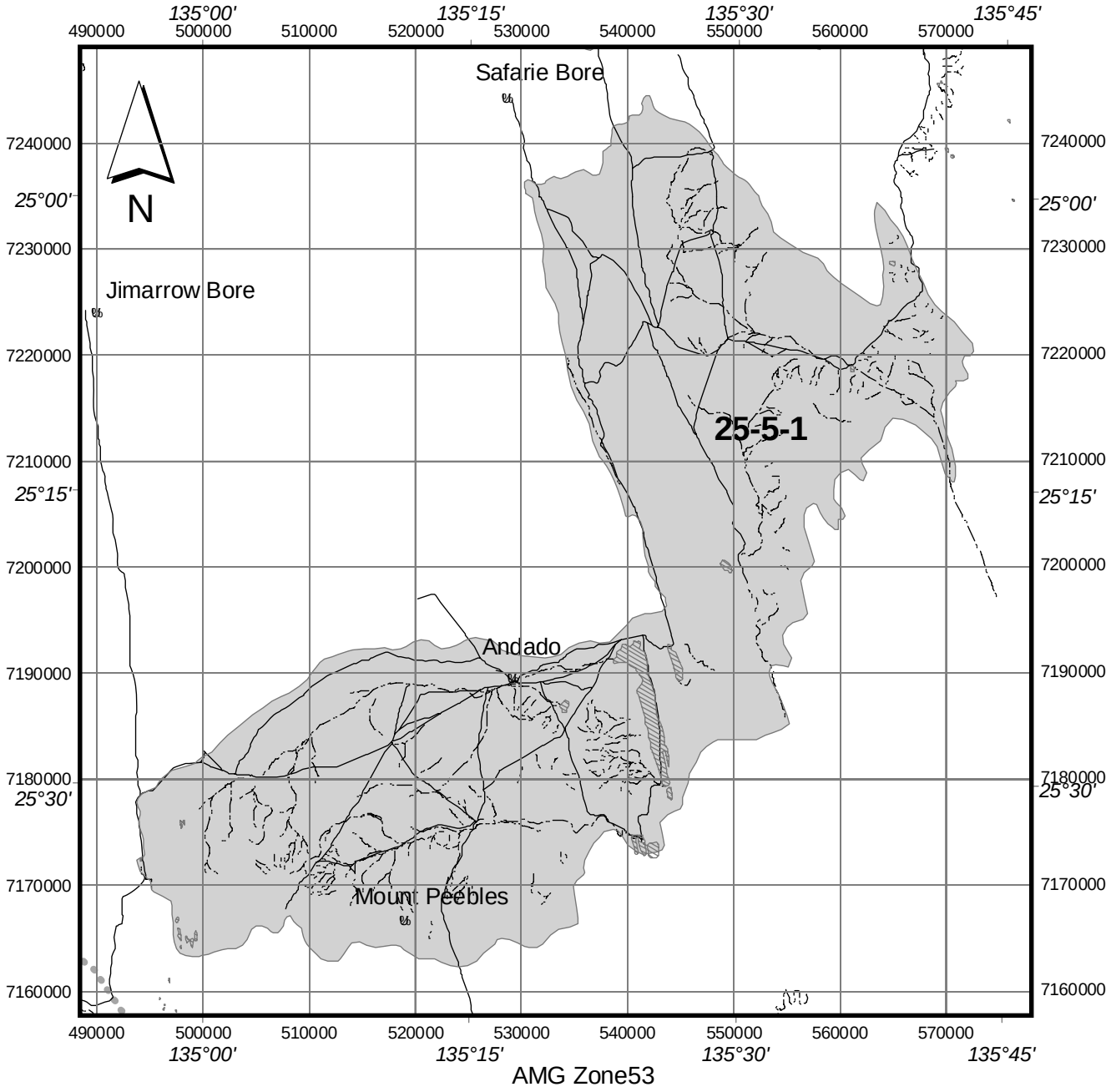
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 84 (1 < %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Eucalyptus gamophylla* (Blue Mallee) tall sparse-shrubland overstorey.

Map unit 85 (37 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 74 (2 %): *Acacia stowardii* (Bastard Mulga), *Senna*, *Eremophila* (Fuchsia) sparse-shrubland.

Map unit 110 (60 %): *Atriplex vesicaria* (Bladder Saltbush) low sparse-shrubland with ephemeral open-herb/grassland.



9.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE NT PORTION OF THE SIMPSON-STRZELECKI DUNEFIELDS BIOREGION

Site: 23-4-8 Wyeecha

Level of significance: bioregional

Location: 23º 54' S 134º 36' E; ca. 80 km east of Alice Springs.

Area: 169 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Pastoral Lease - Todd River Station (94% of site); Freehold - Santa Teresa Aboriginal Land Trust (5% of site)

Description: This site includes the low sandstone ranges north of Wyeecha Spring and areas of intervening and fringing plains. The un-named range is composed of Arumbera Sandstone and has minor outcroppings of dolomite and limestone.

Notes: The botanical values of this site are concentrated on the small outcrops of dolomite, which is the favoured rock substrate for *Minuria tridens*. However, the sandstone areas support the most northerly and somewhat disjunct population of the rare *Harnieria kempeana subsp. kempeana*.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Harnieria kempeana subsp. kempeana* {3RC-}, *Minuria tridens* {3VCi}

Taxa of NT significance: *Sida A90797 Rainbow Valley* {3kC-}

Taxa of Southern NT (study area) significance: none

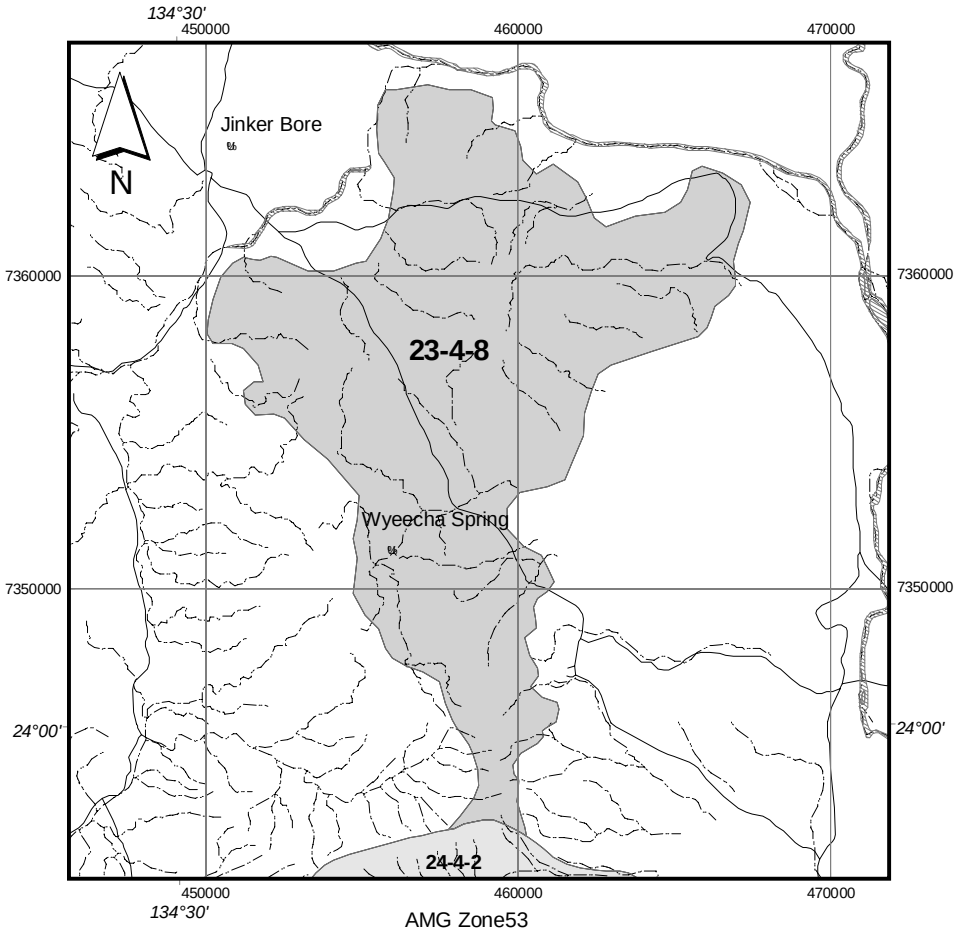
Taxa of bioregional significance: *Austrostipa scabra subsp. scabra* {SSD (disjunct)}

Other taxa only known in SSD bioregion (NT portion) from this site: *Anemocarpa saxatilis, Oxalis perennans, Stemodia viscosa, Zygophyllum apiculatum*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 87 (72 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 63 (27 %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.


134°30'
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N
Jinker Bore
7360000
23-4-8
Wyeecha Spring
7350000
24°00'
24-4-2
AMG Zone53

Site: 24-4-2 Mount Capitor

Level of significance: bioregional

Location: 24º 6' S 134º 36' E; Approximately 20 km east of Santa Teresa.

Area: 118 km^2 **Map sheet:** Rodinga SG 53-2

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Freehold - Santa Teresa Aboriginal Land Trust (96% of site); Pastoral Lease - Todd River Station (1% of site); Crown Land (2% of site)

Description: The site is defined by both watershed and geology. The northern and western edge of the site is bounded by the top of the sandstone escarpment of the Allambarinja Range, which rises to around 550 m ASL (some 200 m above the surrounding plains). The eastern and southern boundary is defined by the base of Mount Capitor and the adjacent low range to the south. Both are predominantly composed of dolomite, with lenses of calcareous sandstone and rise to around 500 m ASL .

Notes: The site is notable for supporting a population of *Minuria tridens*, as does the adjoining site of significance to the north site (23-4-8). Other occurrences of note include a highly disjunct population of the rare *Acacia grasbyi* and the presence of the poorly known *Kohautia australiensis*. Note also that the neighbouring sandplains to the east of the site supports an isolated stand of *Allocasuarina decaisneana*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Harnieria kempeana subsp. kempeana* {3RC-}, *Kohautia australiensis* {3KC- [S] only known in SSD from this site}, *Minuria tridens* {3VCi}

Taxa of NT significance: *Acacia grasbyi* {3rC- [E] only known in SSD from this site}, *Amyema miraculosa subsp. boormanii* {3k only known in SSD from this site}, *Dysphania sphaerosperma* {3r}, *Eragrostis A51007 Limestone* {3k only known in SSD from this site}, *Lythrum paradoxum* {3k only known in SSD from this site}, *Ptilotus aervoides* {3k only known in SSD from this site}

Taxa of Southern NT (study area) significance: none

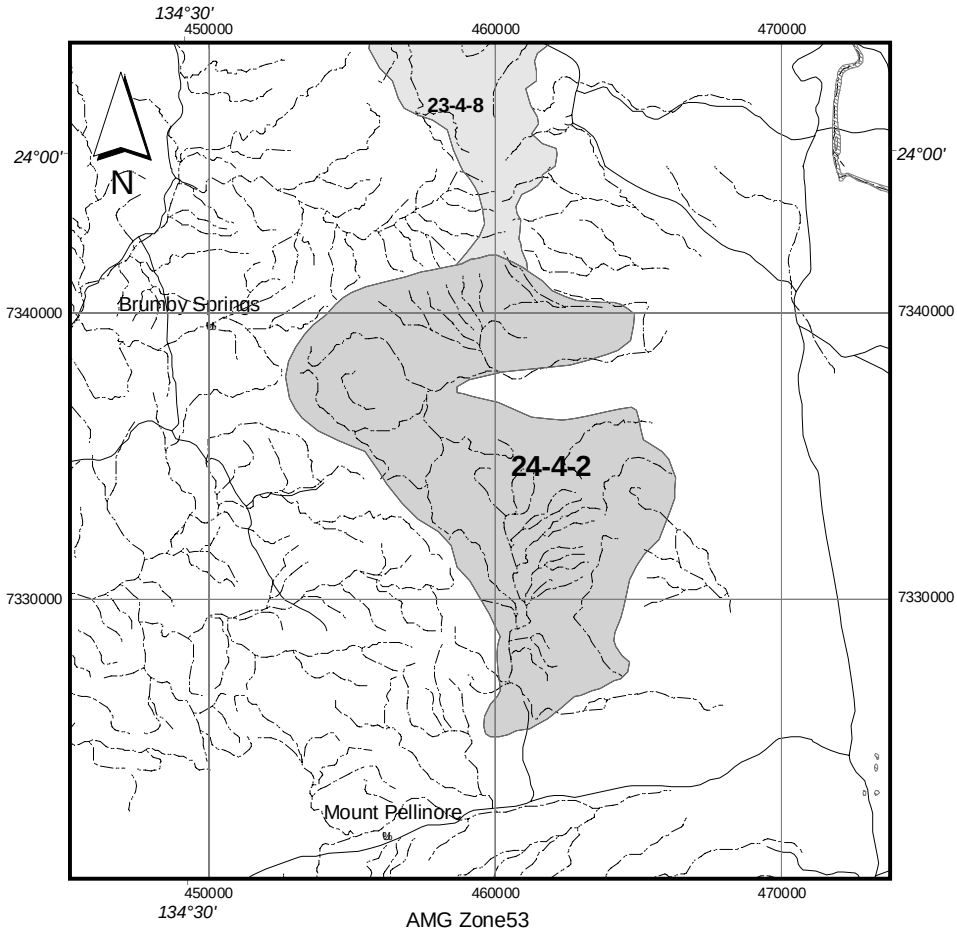
Taxa of bioregional significance: *Austrostipa scabra subsp. scabra* {SSD (disjunct)}, *Convolvulus remotus* {SSD (disjunct) only known in SSD from this site}

Other taxa only known in SSD bioregion (NT portion) from this site: *Enneapogon eremophilus* {[S]}, *Indigofera A86365 MacDonnell Ranges, Ptilotus clementii, Sporobolus blakei, Stenopetalum velutinum, Swainsona burkei, Zygophyllum eichleri, Zygophyllum eremaeum*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 63 (56 %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.

Map unit 87 (43 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.


134°30'
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23-4-8
24-4-2
Brumby Springs
Mount Pellinore
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7330000
AMG Zone53

Site: 24-5-3 Old Todd River Floodout

Level of significance: bioregional

Location: 24º 41' S 135º 15' E; North west Simpson Desert

Area: 948 km^2 **Map sheet:** Hale River SG 53-3

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Pastoral Lease - Andado Station (100% of site)

Description: The site approximates the extent of an old floodout (presumed) of the Todd River, which now empties into the Simpson Desert to the north east. The site is primarily recent aeolian sands, alluvium and lenses of river gravels. There are numerous interdune claypans and more extensive systems of playas where past flooding has broken through the NNW oriented parallel dunes. Running through the site roughly oriented NE-SW are a series of low outcrops of sandstone, mudstone and conglomerate, which once impeded the floodwaters of the Todd River from draining to the south.

Notes: The area is remote and rarely visited. A high percentage of the limited number of botanical collections are of some conservation interest. The site still receives some subsurface drainage and supports a diversity of habitats and plant communities.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Atriplex eardleyae* {3r}, *Bulbine alata* {3k}, *Gilesia biniflora* {3k}, *Osteocarpum acropterum var. acropterum* {3k only known in SSD from this site}

Taxa of Southern NT (study area) significance: none

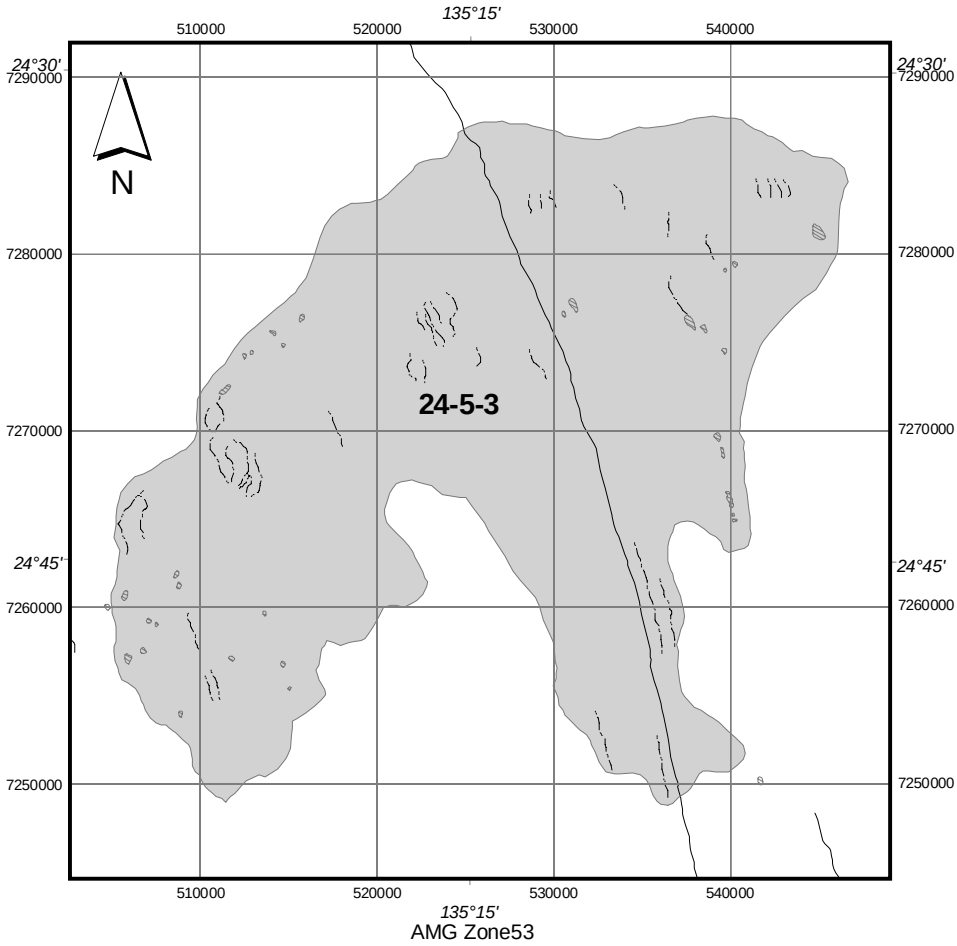
Taxa of bioregional significance: *Acacia paraneura* {SSD (apparently rare) only known in SSD from this site}, *Bergia ammannioides* {SSD (disjunct)}, *Peplidium muelleri* {SSD (apparently rare) only known in SSD from this site}

Other taxa only known in SSD bioregion (NT portion) from this site: *Calandrinia eremaea*, *Lysiana subfalcata*, *Sida platycalyx*, *Stackhousia intermedia*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 61 (3 %): Complex of mixed species low open-woodland between dunes with *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 85 (96 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.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24-5-3
AMG Zone53

Site: 24-6-1 Prior floodout of the Plenty River

Level of significance: bioregional

Location: 24º 14' S 136º 34' E; North West Simpson Desert

Area: 923 km^2 **Map sheets:** Simpson Desert North SG 53-4 & Hale River SG 53-3

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Vacant Crown Land (99% of site); Freehold - Atnetye Aboriginal Land Trust (<1% of site)

Description: This site encloses a series of lakes which possibly denotes the paleo-floodout of the Plenty River. The site includes extensive areas of lakes and interdune claypans, dunefields, evaporite deposits (principally calcrete and gypsum) and alluvium, with minor outcroppings of cretaceous marine sediments (sandstones, limestone, siltstones and mudstones) and tertiary siltstone.

Notes: The site supports extensive but disjunct woodlands/shrublands of *Acacia georginae* and *Acacia aneura*. The numerous ephemeral lakes and playas are of varying salinity. This remote region has only been visited occasionally by botanists.

Criteria satisfied: A1a ii), B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Atriplex eardleyae* {3r [N]}, *Bulbine alata* {3k}, *Calandrinia polyandra* {3kC-}, *Cullen discolor* {3k}, *Frankenia cupularis* {3r only known in NT from this site}, *Glinus orygioides* {3r}, *Ixiochlamys nana* {3kC-}, *Maireana appressa* {3k}, *Swainsona laxa* {3r}, *Trichanthodium skirrophorum* {3kC-}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Blennodia pterosperma* {SSD (northern range limit) [N]}, *Swainsona unifoliolata* {SSD (disjunct and eastern range limit) [E] only known in SSD from this site}, *Triumfetta winneckeana* {SSD (disjunct)}

Other taxa only known in SSD bioregion (NT portion) from this site: *Ptilotus exaltatus var. glaber* {[S]}, *Solanum cleistogamum, Zygophyllum aurantiacum subsp. aurantiacum, Zygophyllum compressum*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

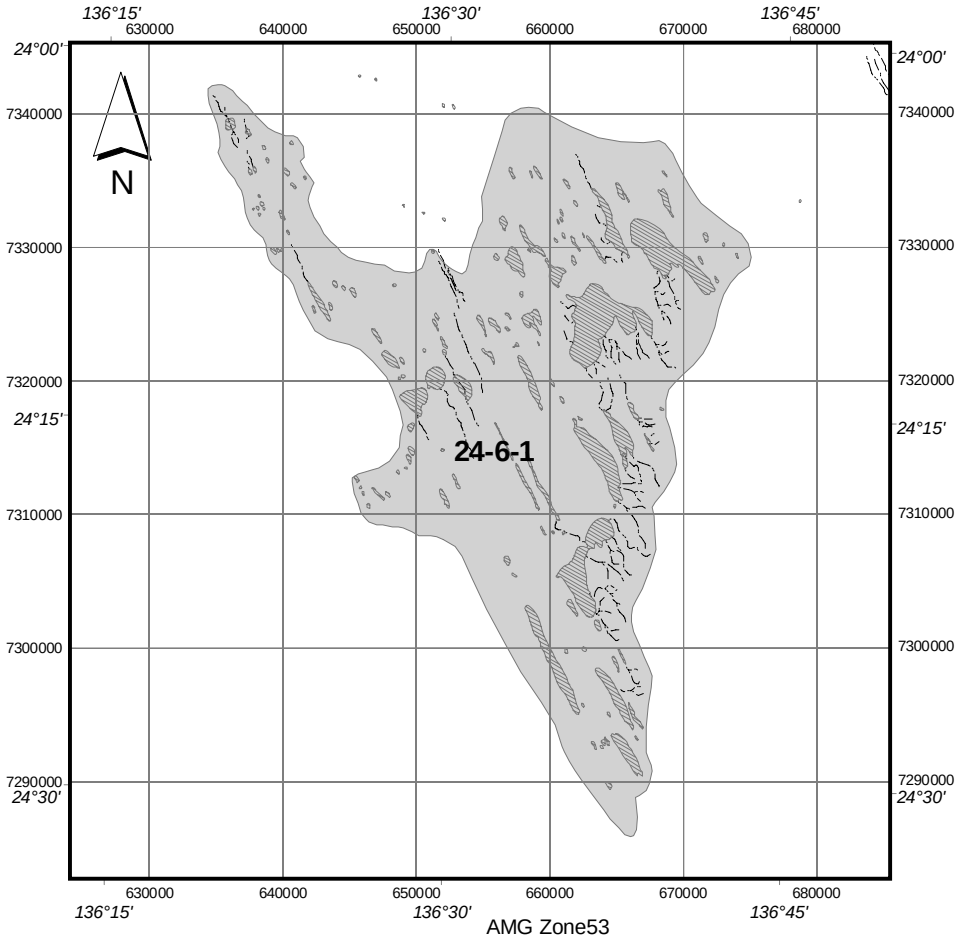
Map unit 109 (28 %): Chenopod open-herbland with ephemeral open-herb/grassland.

Map unit 71 (6 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 111 (12 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 63 (17 %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.

Map unit 85 (34 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.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7300000
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24°30'
N
24-6-1
AMG Zone53

Site: 25-6-1 Lake Poeppel

Level of significance: bioregional

Location: 25º 54' S 137º 56' E; Central Simpson Desert

Area: 291 km^2 **Map sheet:** Simpson Desert South SG 53-8

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Vacant Crown Land (100% of site)

Description: The site centres on Lake Poeppel, adjacent saline lakes and the intervening dunefields in the far south-east corner of the Northern Territory. The site includes extensive tracts of parallel dunes, ephemeral swamps and saline interdune areas.

Notes: There have been very few botanical collections made at this site. Further survey in this area and adjacent saline discharge areas such as Mirranponga Pungunna Lake should be carried out.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Cullen discolor* {3k}, *Dysphania sphaerosperma* {3r [E]}, *Nitraria billardieri* {3r only known in SSD from this site}, *Swainsona laxa* {3r}, *Trichanthodium skirrophorum* {3kC-}

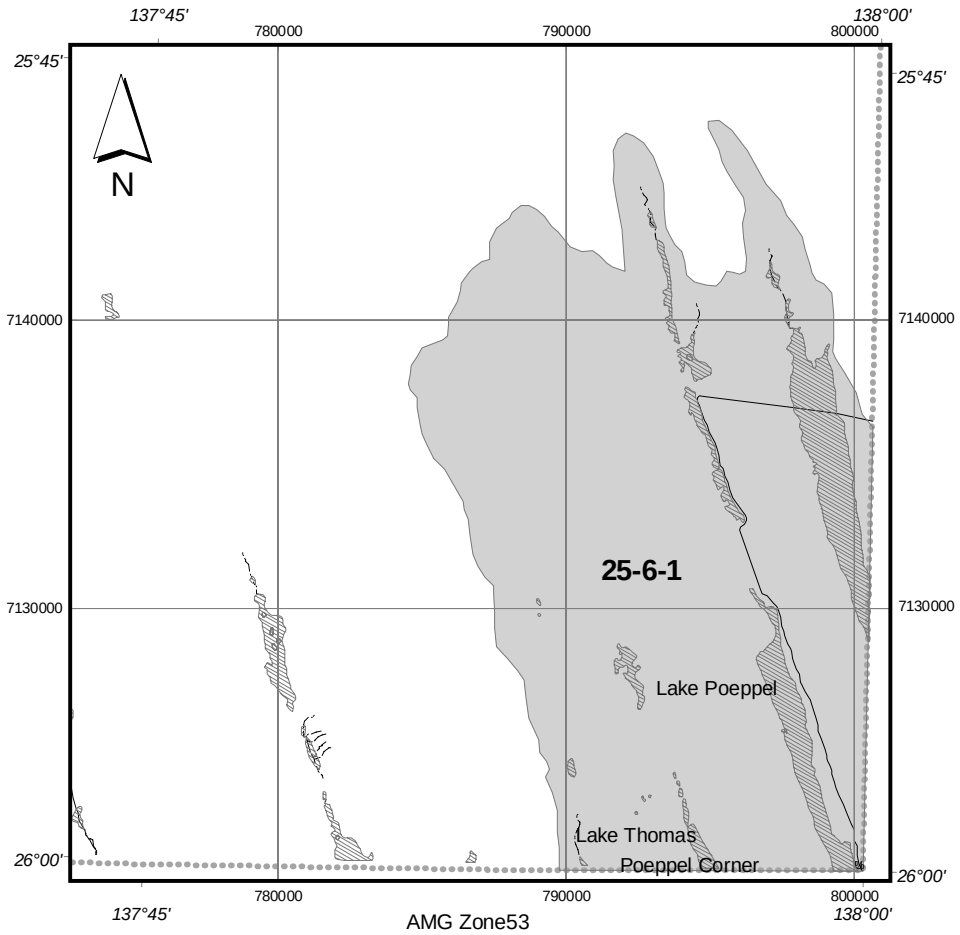
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Halosarcia pergranulata subsp. elongata* {SSD (disjunct and apparently rare) only known in SSD from this site}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 85 (83 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 111 (16 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.



9.4 SITES OF UNDETERMINED SIGNIFICANCE IN THE NT PORTION OF THE SIMPSON-STRZELECKI DUNEFIELDS BIOREGION

Site: 23-4-PL1 Santa Teresa

Level of significance: undetermined

Location: 23º 52' S 134º 16' E; Approximately 45 km south west of Alice Springs

Area: 93 km^2 **Map sheet:** Alice Springs SF 53-14

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Freehold - Santa Teresa Aborignal Land Trust (ca 65% of site); Pastoral Lease - Undoolya Station (ca. 34% of site)

Description: This site has a small area of Mereenie Sandstone, a geology which is strongly correlated with the presence of rare and interesting plants. It also has geomorphological affinities with sites 23-4-8 and 24-4-2

Notes: This area requires further investigation.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in SSD bioregion (NT portion) from this site: *Gunniopsis zygophylloides*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 87 (23 %): *Triodia* (Spinifex) open-hummock grassland with *Acacia aneura* tall sparse-shrubland overstorey.

Map unit 80 (14 %): *Triodia longiceps* (Bull Spinifex) hummock grassland with *Acacia* tall open-shrubland overstorey.

Map unit 72 (29 %): *Acacia kempeana* (Witchetty Bush) sparse-shrubland to tall sparse-shrubland with grassland understorey.

Map unit 63 (33 %): *Acacia georginae* (Gidyea) low open-woodland with open-grassland understorey.

Site: 23-5-PL1 Gidgee Bore

Level of significance: undetermined

Location: 23º 25' S 135º 44' E; Gidgee Bore, Indiana Station

Area: only mapped as point location **Map sheet:** Illogwa Creek SF 53-15

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Pastoral Lease - Indiana Station.

Description: The site is poorly defined but is centred on an extensive area of *Acacia georginae* woodland/shrubland.

Notes: Site requires further investigation.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Site: 23-6-PL1 Lake Caroline

Level of significance: undetermined

Location: 23º 49' S 137º 13' E; Lake Caroline and environs, ca. 340 km east of Alice Springs.

Area: 251 km^2 **Map sheet:** Hay River SF 53-16

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Freehold - Atnetye Aboriginal Land Trust (66% of site) and vacant Crown land (33% of site)

Description: This site includes Lake Caroline and associated saline lakes and wetlands.

Notes: Further collecting following seasonal rains is required to establish the significance of this area.

Taxa of Australian significance: *Corchorus elderi* {3K}

Taxa of NT significance: *Calotis kempei* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Calandrinia reticulata* {SSD (northern range limit) [N]}, *Goodenia berardiana* {SSD (northern range limit) [N]}

Other taxa only known in SSD bioregion (NT portion) from this site: *Polycarpaea breviflora*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 111 (29 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 85 (70 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Site: 24-6-PL1 Hay River Floodout

Level of significance: undetermined

Location: 24º 25' S 137º 31' E; Northern Simpson Desert, ca. 420 km SSE of Alice Springs.

Area: only mapped as point location **Map sheet:** Simpson Desert North SG 53-04

Bioregion: Simpson-Strzelecki Dunefields (SSD)

Tenure: Vacant Crown land

Description: The site approximates the termination of the Hay River in the Simpson Desert.

Notes: This remote floodout is rarely visited and has never been subjected to grazing by domestic stock.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

10. Stony Plains Bioregion

10.1 OVERVIEW OF THE NT PORTION OF THE STONY PLAINS BIOREGION

The Stony Plains bioregion comprises an area of 181,600km^2, 1% (1,700km^2) of which is located in the Northern Territory. This bioregion primarily occupies a large arid region in north central South Australia, only the northern extremity extending into the NT. The Stony Plains in the NT includes the Beddome Range and the Wilyunpa Tablelands. These areas are low dissected tablelands. The soils are predominantly deeply weathered desert loams strewn with gibber stones. Red cracking clay soils occur in gilgai depressions.

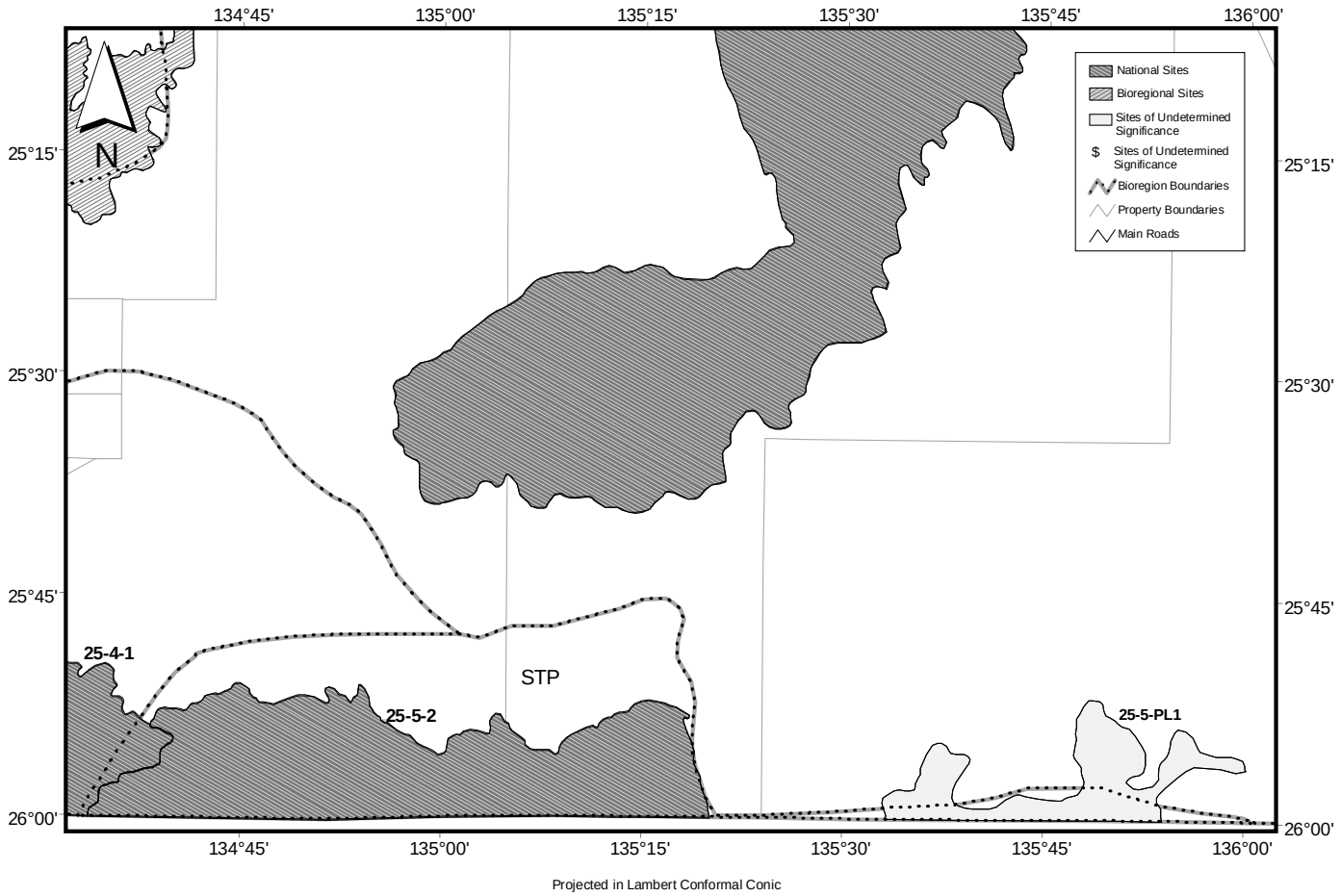
The vegetation is typically sparse chenopod shrublands or Acacia shrublands (*A.aneura* or *A.georginae*). The flora of these areas has a large component of ephemeral and annual species.

The climate is arid temperate. Rainfall is low (mean annual rainfall recorded from nearby areas is 100 – 150 mm) and particularly unreliable and severe frosts are common in the winter months.

A total of 34 indigenous vascular plant taxa are currently considered to of conservation significance in the NT portion of the Stony Plains bioregion. These taxa are listed in volume 1, appendix 3.

Index to Sites in and adjacent to Stony Plains bioregion (NT portion)

Site No.	Site Name	Significance	Principal Bioregion	Page
25-4-1	Beddome Range	national	Finke	118
25-5-2	Wilyunpa Tablelands	national	Stony Plains	266
25-5-PL1	Dakota	undetermined	Stony Plains	269



10.2 SITES OF NATIONAL SIGNIFICANCE IN THE NT PORTION OF THE STONY PLAINS BIOREGION

Site: 25-5-2 Wilyunpa Tablelands

Level of significance: national

Location: 25º 57' S 134º 57' E; South of the floodout of the Finke River in the far south of the study area.

Area: 892 km^2 **Map sheets:** McDills SG 53-7 & Finke SG 53-6

Bioregions: STP (99.9%) & Simpson-Strzelecki Dunefields (SSD slither)

Tenure: Pastoral Lease - Andado Station (31% of site) and New Crown Station (64% of site); Freehold - Apatula Aboriginal Land Trust (2% of site)

Description: The site is bounded to the south by the South Australia border and by the Finke River and its floodout the north. The site includes the catchment of Coglin Creek which drains the Wilyunpa tableland, a peneplain of clay soils and eroded siltstone and sandstone.

Notes: The site is particularly important in the history of plant taxonomy in Central Australia and includes the type location for 11 plant taxa: *Brachyachne ciliaris*, *Eragrostis leptocarpa*, *Eragrostis laniflora*, *Urochloa gilesii*, *Gilesia biniflora*, *Cyperus gilesii*, *Ptilotus aristatus*, *Ptilotus blackii*, *Sclerolaena longicuspis*, *Crotalaria smithiana* and *Dichromochlamys dentatifolia*. Of particular interest within the site are extensive Coolabah (*Eucalyptus coolabah*) Woodlands and Saltbush shrublands (dominated by *Atriplex nummularia subsp.ommissa*). A large number of taxa are only known in the NT portion of the Stony Plains bioregion from this site. This is less significant for this site than for most others as it is a result of this site covering over half of the NT portion of the bioregion.

Criteria satisfied: C1 b i), B1 b1 i)

Taxa of Australian significance: *Bergia occultipetala* {3R only known in STP from this site}, *Plantago multiscapa* {3K only known in STP from this site}, *Ptilotus aristatus var. aristatus* {3R (border) [N] only known in NT from this site}, *Ptilotus aristatus var. eichlerianus* {3R only known in STP from this site}

Taxa of NT significance: *Abutilon halophilum* {3r only known in STP from this site}, *Agrostis avenacea* {3rC- only known in STP from this site}, *Anemocarpa podolepidium* {3r (border) only known in NT from this site}, *Arabidella nasturtium* {3r only known in STP from this site}, *Astrebla lappacea* {3k}, *Atriplex angulata* {3k [W] only known in STP from this site}, *Atriplex fissivalvis* {3r (border) [N] only known in STP from this site}, *Atriplex incrassata* {3r (border) [N] only known in NT from this site}, *Atriplex lobativalvis* {3r only known in STP from this site}, *Atriplex nummularia subsp. omissa* {3k (border) [N] only known in STP from this site}, *Atriplex turbinata* {3r only known in STP from this site}, *Bulbine alata* {3k only known in STP from this site}, *Centipeda D18576 Andado* {3k only known in STP from this site}, *Chenopodium pumilio* {3k only known in STP from this site}, *Cullen discolor* {3k only known in STP from this site}, *Cullen graveolens* {3k only known in STP from this site}, *Dentella pulvinata* {3r only known in STP from this site}, *Eremophila battii* {3r only known in STP from this site}, *Eremophila rotundifolia* {3r (border) [N] only known in NT from this site}, *Eriachne benthamii* {3kC- only known in STP from this site}, *Euphorbia stevenii* {3k only known in STP from this site}, *Gilesia biniflora* {3k only known in STP from this site}, *Gunniopsis papillata* {3r only known in NT from this site}, *Maireana ciliata* {3r (border) only known in NT from this site}, *Maireana microcarpa* {3r only known in STP from this site}, *Mentha australis* {3r (border) only known in STP from this site}, *Osteocarpum acropterum var. acropterum* {3k only known in STP from this site}, *Paractaenum novae-hollandiae subsp. reversum* {3kC- only known in STP from this site}, *Peplidium foecundum* {3k only known in STP from this site}, *Pimelea simplex subsp. continua* {3r only known in STP from this site}, *Plagiobothrys plurisepalus* {3r only known in STP from this site}, *Pycnosorus pleiocephalus* {3r (border) only known in NT from this site}, *Rhodanthe uniflora* {3r (border) only known in NT from this site}, *Sclerolaena parallelicuspis* {3rC- only known in STP from this site}, *Streptoglossa cylindriceps* {3kC- only known in STP from this site}, *Tetragonia eremaea* {3k only known in STP from this site}, *Threlkeldia inchoata* {3k only known in STP from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Capparis spinosa var. nummularia* {STP (southern range limit) [S]}, *Peplidium muelleri* {STP (apparently rare) only known in STP from this site}

Other taxa only known in STP bioregion (NT portion) from this site: *Abutilon fraseri*, *Abutilon leucopetalum*, *Abutilon malvaefolium*, *Acacia cyperophylla*, *Acacia sessiliceps*, *Acacia tetragonophylla*, *Acacia victoriae*, *Alternanthera angustifolia*, *Alternanthera nodiflora*, *Amaranthus mitchellii*, *Ammannia multiflora*, *Amyema preissii*, *Aristida anthoxanthoides*, *Astrebla elymoides*, *Astrebla pectinata*, *Atalaya hemiglauca*, *Atriplex limbata*, *Atriplex lindleyi subsp. conduplicata*, *Atriplex nummularia subsp. nummularia*, *Atriplex spongiosa*, *Atriplex velutinella*, *Atriplex vesicaria*, *Bergia henshallii*, *Bergia trimera*, *Brachyachne ciliaris*, *Brachycome ciliaris* complex, *Calandrinia ptychosperma*, *Calocephalus platycephalus*, *Calotis hispidula*, *Calotis porphyroglossa*, *Capparis mitchellii*, *Centaurium spicatum*, *Chenopodium auricomum*, *Chloris pectinata*, *Crotalaria smithiana*, *Cucumis melo subsp. agrestis*, *Cullen patens*, *Cyperus bulbosus*, *Cyperus iria*, *Cyperus pygmaeus*, *Cyperus squarrosus*, *Cyperus victoriensis*, *Dichanthium sericeum*, *Dichanthium sericeum subsp. humilius*, *Digitaria ammophila*, *Digitaria ctenantha*, *Dipteracanthus australasicus subsp. australasicus*, *Dodonaea viscosa subsp. angustissima*, *Dysphania platycarpa*, *Einadia nutans subsp. eremaea*, *Eleocharis pallens*, *Elytrophorus spicatus*, *Enchylaena tomentosa var. glabra*, *Enteropogon acicularis*, *Eragrostis australasica*, *Eragrostis basedowii*, *Eragrostis confertiflora*, *Eragrostis cumingii*, *Eragrostis dielsii*, *Eragrostis falcata*, *Eragrostis leptocarpa*, *Eragrostis setifolia*, *Eragrostis tenellula*, *Eragrostis xerophila*, *Eremophila latrobei var. latrobei*, *Eremophila macdonnellii*, *Eriachne aristidea*, *Eriochloa australiensis*, *Erodium cygnorum subsp. glandulosum*, *Eucalyptus camaldulensis var. obtusa*, *Euphorbia drummondii* s.lat., *Euphorbia parvicaruncula*, *Euphorbia tannensis subsp. eremophila*, *Evolvulus alsinoides*, *Frankenia cordata*, *Frankenia serpyllifolia*, *Gnephosis arachnoidea*, *Gnephosis eriocarpa*, *Goodenia fascicularis*, *Goodenia lunata*, *Goodenia modesta*, *Hakea eyreana*, *Heliotropium tenuifolium*, *Hibiscus krichauffianus*, *Hydrocotyle trachycarpa*, *Indigofera colutea*, *Indigofera linnaei*, *Indigofera psammophila*, *Ipomoea muelleri*, *Iseilema eremaeum*, *Isotoma petraea*, *Ixiolaena chloroleuca*, *Lechenaultia divaricata*, *Lepidium muelleriferdinandi*, *Lepidium oxytrichum*, *Leptochloa fusca subsp. fusca*, *Lysiana exocarpi subsp. exocarpi*, *Maireana aphylla*, *Maireana coronata*, *Maireana georgei*, *Maireana integra*, *Maireana spongiocarpa*, *Marsilea exarata*, *Minuria denticulata*, *Minuria integerrima*, *Mollugo cerviana*, *Mukia maderaspatana*, *Myriocephalus rudallii*, *Neurachne munroi*, *Nicotiana megalosiphon subsp. sessilifolia*, *Nicotiana occidentalis subsp. obliqua*, *Othonna gregorii*, *Panicum decompositum* s.lat., *Panicum laevinode*, *Paractaenum refractum*, *Paspalidium jubiflorum*, *Plantago drummondii*, *Pluchea dunlopii*, *Polycarpaea arida*, *Portulaca filifolia* s.lat., *Pterocaulon sphacelatum*, *Ptilotus gaudichaudii*, *Ptilotus gaudichaudii var. gaudichaudii*, *Ptilotus helipteroides var. minor*, *Ptilotus latifolius*, *Ptilotus macrocephalus*, *Ptilotus obovatus var. obovatus*, *Rhagodia spinescens*, *Rhodanthe charsleyae*, *Rhodanthe floribunda*, *Rhodanthe moschata*, *Rhyncharrhena linearis*, *Salsola kali*, *Scaevola spinescens*, *Schoenoplectus dissachanthus*, *Sclerolaena calcarata*, *Sclerolaena cuneata*, *Sclerolaena glabra*, *Sclerolaena lanicuspis*, *Sclerostegia tenuis*, *Senna artemisioides subsp. alicia*, *Senna artemisioides subsp. filifolia*, *Senna artemisioides subsp. quadrifolia*, *Senna glutinosa subsp. pruinosa*, *Setaria dielsii*, *Sida fibulifera*, *Sida trichopoda*, *Solanum ellipticum*, *Solanum esuriale*, *Spartothamnella teucriiflora*, *Sphaeromorphaea australis*, *Sporobolus actinocladus*, *Sporobolus blakei*, *Stackhousia clementii*, *Streptoglossa adscendens*, *Streptoglossa bubakii*, *Streptoglossa liatroides*, *Swainsona campylantha*, *Swainsona oligophylla*, *Swainsona oroboides*, *Synaptantha tillaeacea var. tillaeacea*, *Tephrosia sphaerospora*, *Tripogon loliiformis*, *Typha domingensis*, *Uranthoecium truncatum*, *Urochloa piligera*, *Urochloa praetervisa*, *Vigna lanceolata*, *Wahlenbergia queenslandica*, *Zygochloa paradoxa*

Type locations of the following were collected from the site: *Brachyachne ciliaris*, *Crotalaria smithiana*, *Cyperus gilesii*, *Dichrodochlamys dentatifolia*, *Eragrostis laniflora* (1880s), *Eragrostis leptocarpa* (1880s), *Gilesia biniflora*, *Ptilotus aristatus var. aristatus* (1939), *Ptilotus blackii*, *Sclerolaena longicuspis*, *Urochloa gilesii subsp. gilesii*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 110 (25 %): *Atriplex vesicaria* (Bladder Saltbush) low sparse-shrubland with ephemeral open-herb/grassland.

Map unit 64 (38 %): *Acacia georginae* (Gidyea) low open-woodland with herbland understorey.

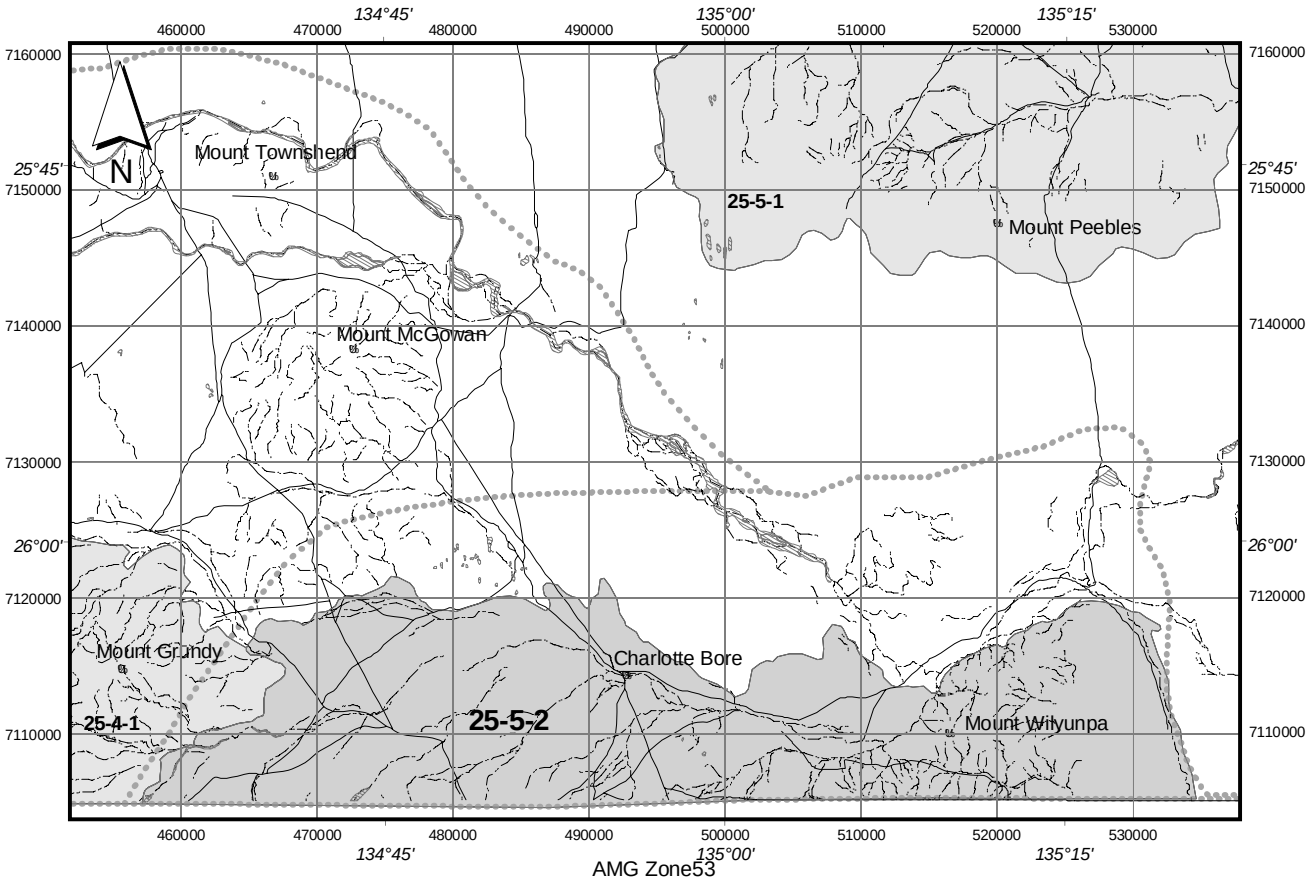
Map unit 71 (19 %): *Acacia aneura* (Mulga) tall sparse-shrubland with grassland understorey.

Map unit 85 (1 < %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 70 (1 < %): *Acacia aneura* (Mulga) tall sparse-shrubland with *Senna*, *Eremophila* (Fuchsia) low sparse-shrubland understorey.

Map unit 109 (15 %): Chenopod open-herbland with ephemeral open-herb/grassland.

Map unit 61 (1 < %): Complex of mixed species low open-woodland between dunes with *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.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25-5-1
Mount Peebles
Mount McGowan
Mount Grundy
Charlotte Bore
25-4-1
25-5-2
Mount Wilyunpa
AMG Zone53

10.3 SITES OF UNDETERMINED SIGNIFICANCE IN THE NT PORTION OF THE STONY PLAINS BIOREGION

Site: 25-5-PL1 Dakota

Level of significance: undetermined

Location: 25º 55' S 135º 50' E; West of the floodout of the Finke River and abutting the south Australian border - in the far south of the study area.

Area: 236 km^2 **Map sheet:** McDills SG 53-07

Bioregions: Simpson-Strzelecki Dunefields (SSD 64.5%) & Stony Plains (STP 35.5%)

Tenure: Freehold - Pmer Ulperre Ingwemirne Arletherre Aboriginal Land Trust (100% of site)

Description: The site includes Mount Etingambra, the Walla Hills and the surrounding alluvial soils.

Notes: This area has not been the subject of any collecting or botanical exploration but supports similar landsystems to the neighbouring site of significance 25-5-2 (Wilyunpa Tablelands).

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in (NT portion) from this site: *Synaptantha tillaeacea var. hispidula*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 85 (71 %): *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse shrubland overstorey between dunes and *Zygochloa paradoxa* (Sandhill Cane Grass) open-hummock grassland on dune crests.

Map unit 109 (16 %): Chenopod open-herbland with ephemeral open-herb/grassland.

Map unit 110 (12 %): *Atriplex vesicaria* (Bladder Saltbush) low sparse-shrubland with ephemeral open-herb/grassland.

11. Tanami Bioregion

11.1 OVERVIEW OF THE NT PORTION OF THE TANAMI BIOREGION

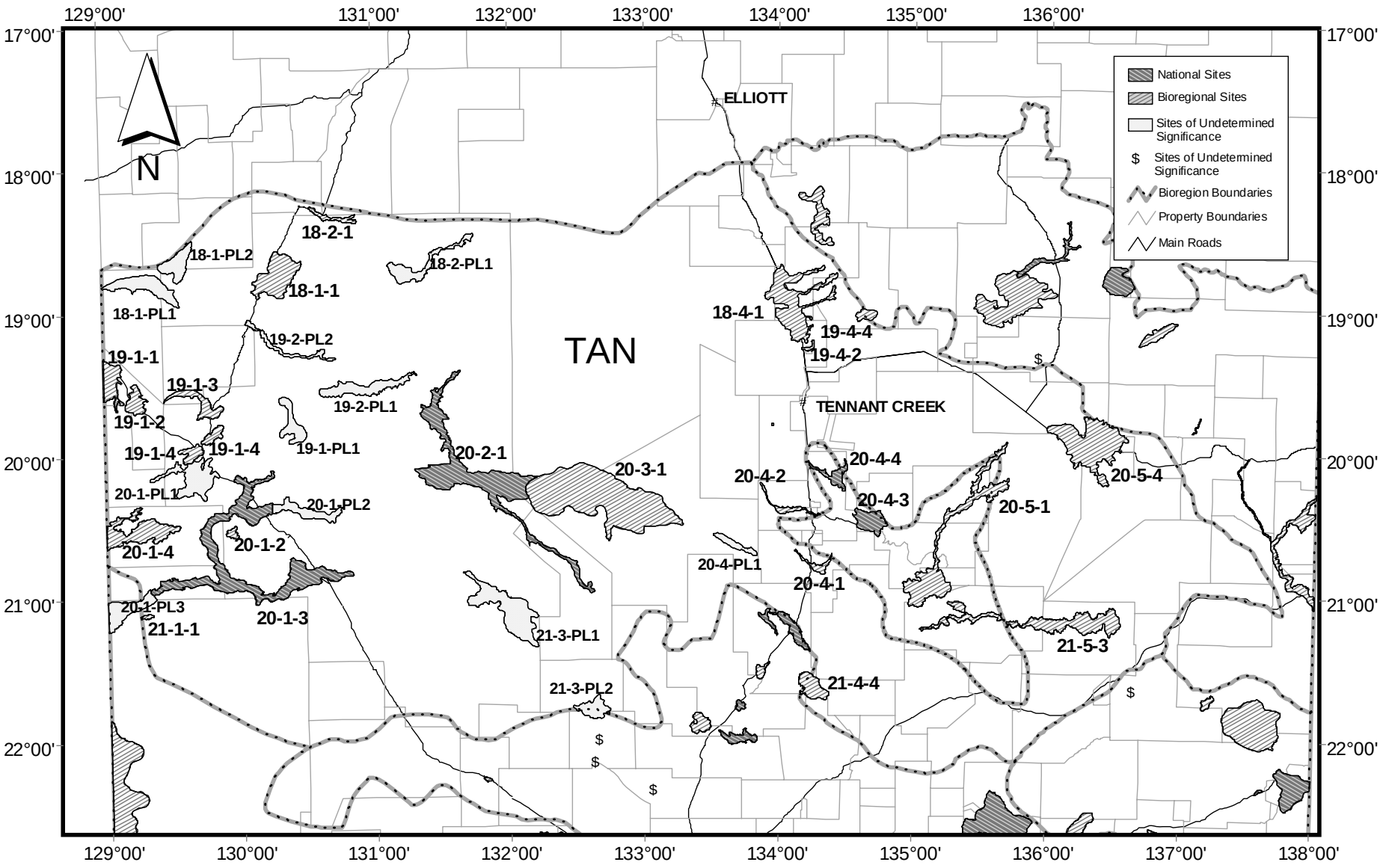
The Tanami bioregion comprises an area of 298,100km^2, 91% (271,200km^2) of which is located in the Northern Territory. The Tanami bioregion extends into Western Australia (figure 2). The NT portion of the bioregion is dominated by the vast Quaternary sandplains of the Tanami Desert. The sandplains, largely comprised of hard-setting earthy sands with gravelly mantles of ironstone, are punctuated by low laterite capped mesas, silcrete covered hills and rises, and narrow mounds of calcrete on the margins of drainage depressions. Other features include low ranges or hills composed of Permian and Proterozoic sandstones such as the Gardiner and Pargee Ranges and the uplands north of Tennant Creek.

The bioregion has a tropical semi-arid climate. The climate is dry with highly variable rainfall which mostly falls in the summer months in association with monsoonal troughs. The bioregion is not subjected to winter frosts.

The characteristic vegetation on sand plains in the bioregion is dominated by *Hakea, Acacia, Corymbia and Grevillea* spp. over *Triodia pungens* and *Triodia schinzii* hummock grasslands. Significant areas of halophytic vegetation occur around salt lakes and within paleodrainage systems.

A total of 288 indigenous vascular plant taxa are currently considered to of conservation significance in the NT portion of the Tanami bioregion. These taxa are listed in volume 1, appendix 3.

Index to Sites in and adjacent to Tanami Desert bioregion (NT portion)



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11.2 SITES OF NATIONAL SIGNIFICANCE IN THE NT PORTION OF THE TANAMI BIOREGION

Site: 20-1-3 Western Tanami Paleodrainage Systems

Level of significance: national

Location: 20º 46' S 130º 25' E; Central Tanami Desert

Area: 2383 km^2 **Map sheets:** The Granites SF 52-3, Highland Rocks SF 52-7 & Mount Solitaire SF 52-4

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Aboriginal Land Trust (67% of site), Yiningarra Aboriginal Land Trust (17% of site), Lake Mackay Aboriginal Land Trust (2% of site) and Mangkururrpa Aboriginal Land Trust (12% of site)

Description: This site incorporates several of the large paleo-drainage features in the central Tanami Desert. The landscape is a complex mosaic of evaporites (halite, gypcrete and calcrete), aeolian deposits of sand, playa deposits in salinas and claypans, and outcrops of silicified calcrete and laterite capping.

Notes: The site includes the type location for *Halosarcia pergranulata subsp. elongata*, *Marsilea latzii*, *Tecticornia verrucosa* and *Stylidium desertorum*.

Criteria satisfied: A1 a i), A1 b i), A2 e i), A3 c i), B1 b1 i)

Taxa of Australian significance: *Bergia occultipetala* {3R}, *Bonamia alatisemina* {3K}, *Corynotheca asperata* {3K [E]}, *Eleocharis papillosa* {3R [NW]}, *Goodenia A44284 Subsaline* {3K}, *Marsilea latzii* {3R [NSEW] endemic to/only known from this site}

Taxa of NT significance: *Acacia synchronicia* {3k [E] only known in NT from this site}, *Acacia wiseana* {3r}, *Brachyachne prostrata* {3r}, *Calandrinia pleiopetala* {3rC- only known in TAN from this site}, *Centipeda racemosa* {3k}, *Corchorus walcottii* {3k}, *Dysphania sphaerosperma* {3r only known in TAN from this site}, *Eriachne flaccida* {3r [E] only known in NT from this site}, *Gomphrena leptophylla* {3k}, *Gonocarpus eremophilus* {3k}, *Halosarcia halocnemoides subsp. tenuis* {3k}, *Halosarcia indica subsp. bidens* {3k only known in TAN from this site}, *Heliotropium diversifolium* {3k}, *Heliotropium glanduliferum* {3k}, *Indigofera ammobia* {3k}, *Lawrencia viridi-grisea* {3r only known in TAN from this site}, *Mimulus prostratus* {3k}, *Peplidium A88036 Tanami* {3k}, *Pluchea tetranthera* {3k}, *Sclerolaena minuta* {3k}, *Senna artemisioides subsp. symonii* {3r}, *Tephrosia brachycarpa* {3k}, *Tephrosia uniovulata* {3k}, *Trianthema glossostigma* {3r}, *Trianthema turgidifolia* {3k}

Taxa of Southern NT (study area) significance: *Byblis filifolia* {(disjunct)}, *Cyperus castaneus* {(disjunct)}, *Fimbristylis rara* {(disjunct) [S]}, *Sporobolus virginicus* {(disjunct)}

Taxa of bioregional significance: *Acacia jennerae* {TAN (northern range limit) [N]}, *Angianthus cyathifer* {TAN (northern range limit) [N]}, *Drosera petiolaris* {TAN (southern range limit) [S]}, *Enneapogon purpurascens* {TAN (southern range limit) [S]}, *Eremophea spinosa* {TAN (northern range limit) [N]}, *Goodenia maideniana* {TAN (disjunct and northern range limit) [N] only known in TAN from this site}, *Goodenia virgata* {TAN (northern range limit) [N]}, *Heliotropium flintii* {TAN (disjunct)}, *Iseilema eremaeum* {TAN (disjunct and apparently rare) only known in TAN from this site}, *Lepidium phlebopetalum* {TAN (northern range limit) [N]}, *Mitrasacme exserta* {TAN (southern range limit) [S]}, *Peplidium aithocheilum* {TAN (northern range limit) [N] only known in TAN from this site}, *Rotala occultiflora* {TAN (disjunct)}, *Swainsona unifoliolata* {TAN (disjunct and northern range limit) [N]}, *Triglochin hexagonum* {TAN (disjunct)}, *Zygophyllum compressum* {TAN (northern range limit) [N]}

Other taxa only known in TAN bioregion (NT portion) from this site: *Bracteantha bracteata*, *Indigofera psammophila*, *Iseilema dolichotrichum*, *Ruppia maritima*, *Sclerolaena clelandii*, *Sida ammophila*, *Tephrosia sphaerospora*, *Vigna lanceolata var. lanceolata* {only known in study area from this site}

Type locations of the following were collected from the site: *Halosarcia pergranulata subsp. elongata* (1970s), *Marsilea latzii* (1980), *Stylidium desertorum* (1973), *Tecticornia verrucosa* (1970)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

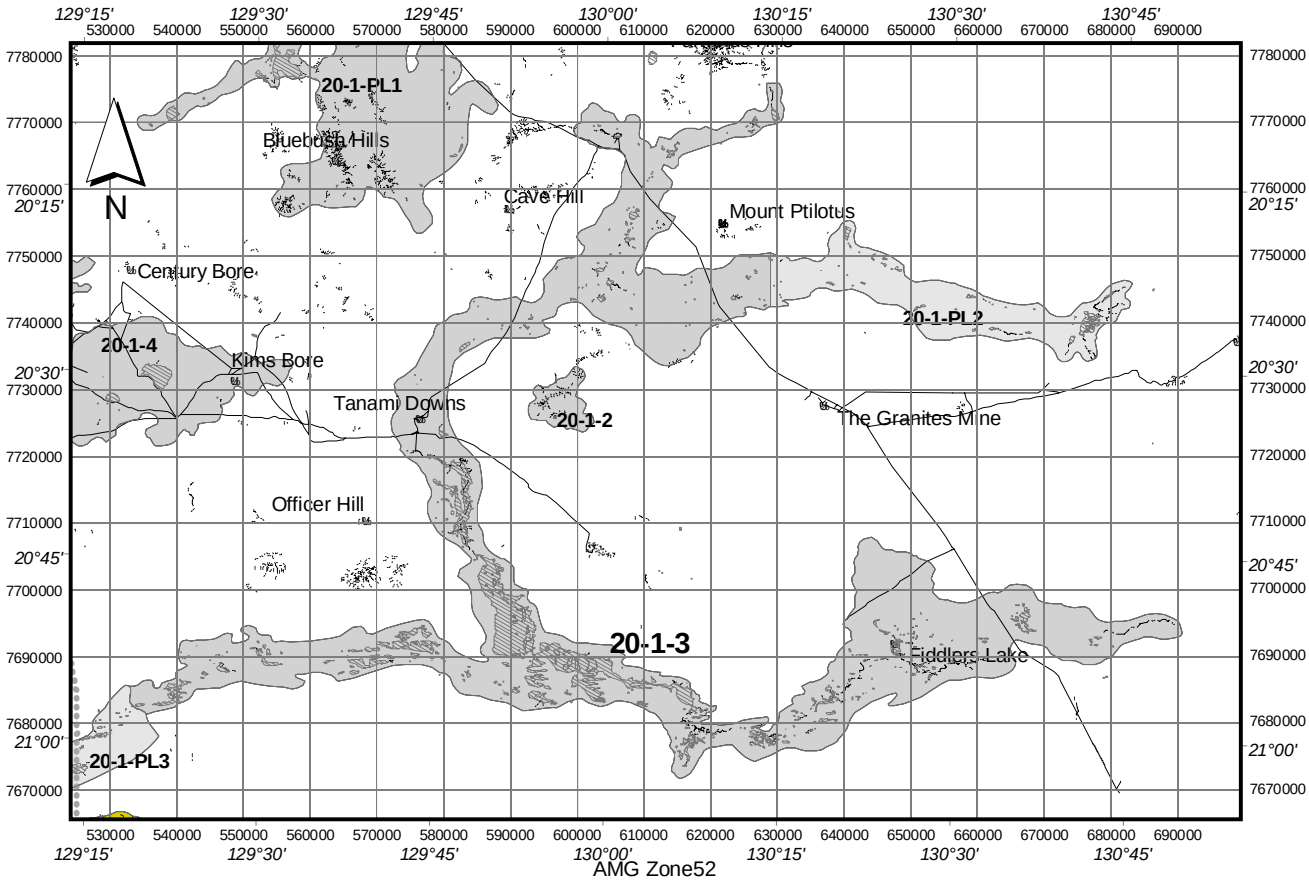
Map unit 77 (3 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Map unit 76 (41 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 111 (24 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 52 (16 %): *Melaleuca glomerata* (Inland Teatree) open-shrubland.

Map unit 86 (14 %): *Triodia pungens* (Soft Spinifex) or *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.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Cave Hill
Mount Ptilotus
Century Bore
20-1-4
Kims Bore
Tanami Downs
20-1-2
20-1-PL2
The Granites Mine
Officer Hill
20-1-3
Fiddlers Lake
20-1-PL3
AMG Zone52

Site: 20-2-1 Lake Surprise and the Lander River Floodout

Level of significance: national

Location: 20º 7' S 131º 30' E; Central Tanami Desert

Area: 2021 km^2 **Map sheets:** Mount Solitaire SF 52-4, Tanami East SE 52-16 & Lander River SF 53-1

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal Land Trust (90% of site) and Karlantijpa North Aboriginal Land Trust (9% of site)

Description: This site includes the Lander River downstream of Curlew Waterhole, Lake Surprise and the river's floodout in the cental Tanami Desert. It also incorporates the reticulate dune fields to the east and west of Lake Surprise. The site is predominantly comprised of recent lacustrine, aeolian, and alluvial deposits, although there are minor outcroppings of calcrete, siltstone and claystone on the edges of the Lander River Floodout. Soil textures vary throughout the site from deep dune sands, to clay deposits on the floor on Lake Surprise.

Notes: A geomorphologically diverse site, which has rarely been visited by botanists. The reticulate dune systems in the vicinity of Lake Surprise are known to support stands of *Eucalyptus camaldulensis var. obtusa*. This is also the type location for *Corymbia sphaerica* and *Bonamia deserticola*. This site is contiguous with site 20-3-1 (Paleo-Lander River).

Criteria satisfied: A1 a i), A1 b i), A2 e i),, B1 b1 i)

Taxa of Australian significance: *Comesperma A77288 Tanami* {3R}, *Corymbia pachycarpa subsp. glabrescens* {3K [SE]}, *Eleocharis papillosa* {3R}, *Heliotropium subreniforme* {3K}, *Logania centralis* {3KC- [N]}, *Olax spartea* {3K}, *Rothia indica subsp. australis* {3KC-}

Taxa of NT significance: *Centipeda racemosa* {3k}, *Corymbia candida subsp. dipsodes* {3k}, *Elacholoma hornii* {3rC-}, *Gompholobium simplicifolium* {3r}, *Gomphrena leptophylla* {3k}, *Heliotropium diversifolium* {3k}, *Indigofera ammobia* {3k}, *Phyllanthus carpentariae* {3k}

Taxa of Southern NT (study area) significance: *Cyperus castaneus* {(disjunct)}, *Desmodium filiforme* {(disjunct) only known in TAN from this site}, *Gonocarpus chinensis* s.lat. {(disjunct)}

Taxa of bioregional significance: *Acacia kempeana* {TAN (northern range limit) [N]}, *Calotis erinacea* {TAN (disjunct and northern range limit) [N]}, *Corymbia sphaerica* {TAN (western range limit) [W]}, *Euphorbia petala* {TAN (western range limit) [W]}, *Halgania solanacea var. A4206 Mt Doreen* {TAN (eastern range limit) [E]}, *Lomandra leucocephala subsp. robusta* {TAN (disjunct and northern range limit) [N]}, *Paspalidium reflexum* {TAN (northern range limit) [N]}, *Scaevola basedowii* {TAN (northern range limit) [N]}, *Stackhousia megaloptera* {TAN (northern range limit and disjunct) [N]}

Other taxa only known in TAN bioregion (NT portion) from this site: *Myriophyllum verrucosum*

Type locations of the following were collected from the site: *Bonamia deserticola* (1973), *Corymbia sphaerica* (1988)

Botanically Significant Waterholes at the site: Mallopan Waterhole

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

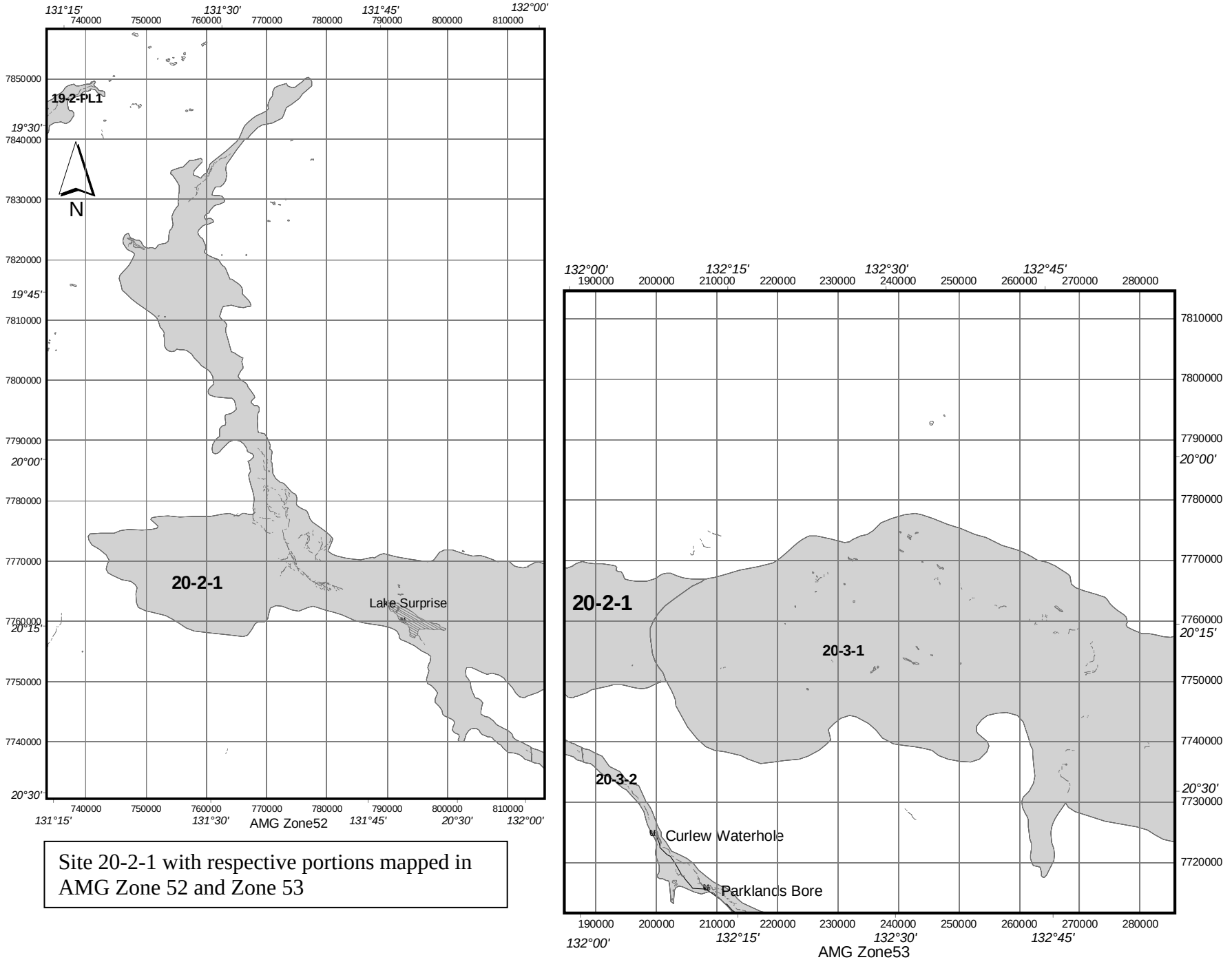
Map unit 112 (1 < %): Bare salt pan.

Map unit 52 (4 %): *Melaleuca glomerata* (Inland Teatree) open-shrubland.

Map unit 76 (12 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 27 (12 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 77 (69 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.



Site 20-2-1 with respective portions mapped in AMG Zone 52 and Zone 53

Site: 20-3-2 Upper Lander River

Level of significance: national

Location: 20º 40' S 132º 16' E; ca. 130 km WNW of Barrow Creek.

Area: 261 km^2 **Map sheet:** Lander River SF 53-01

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal Land Trust (7% of site) and Wirlyajarrayi Aboriginal Land Trust (92% of site)

Description: Lander River corridor from Little Sandy Creek downstream to just north west of Curlew Waterhole.

Notes: Site includes the braided channels and anabranches of the Lander River, waterholes and adjacent swamps and claypans. *Lindernia A4814 Willowra* is endemic to this site and it is the type location for *Eremophea spinosa*.

Criteria satisfied: B1 b1 i)

Taxa of Australian significance: *Eleocharis papillosa* {3R}, *Isotoma luticola* {3R}, *Lindernia A4814 Willowra* {1R [NSEW] endemic to/only known from this site}

Taxa of NT significance: *Fimbristylis velata* {3k}, *Rumex crystallinus* {3r only known in TAN from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Other taxa only known in TAN bioregion (NT portion) from this site: *Cyperus victoriensis, Nicotiana megalosiphon subsp. sessilifolia, Sclerolaena deserticola, Triglochin calcitrapum*

Botanically Significant Waterholes at the site: Curlew Waterhole, Dingo Waterhole

Type locations of the following were collected from the site: *Eremophea spinosa, Lindernia A814 Willowra*

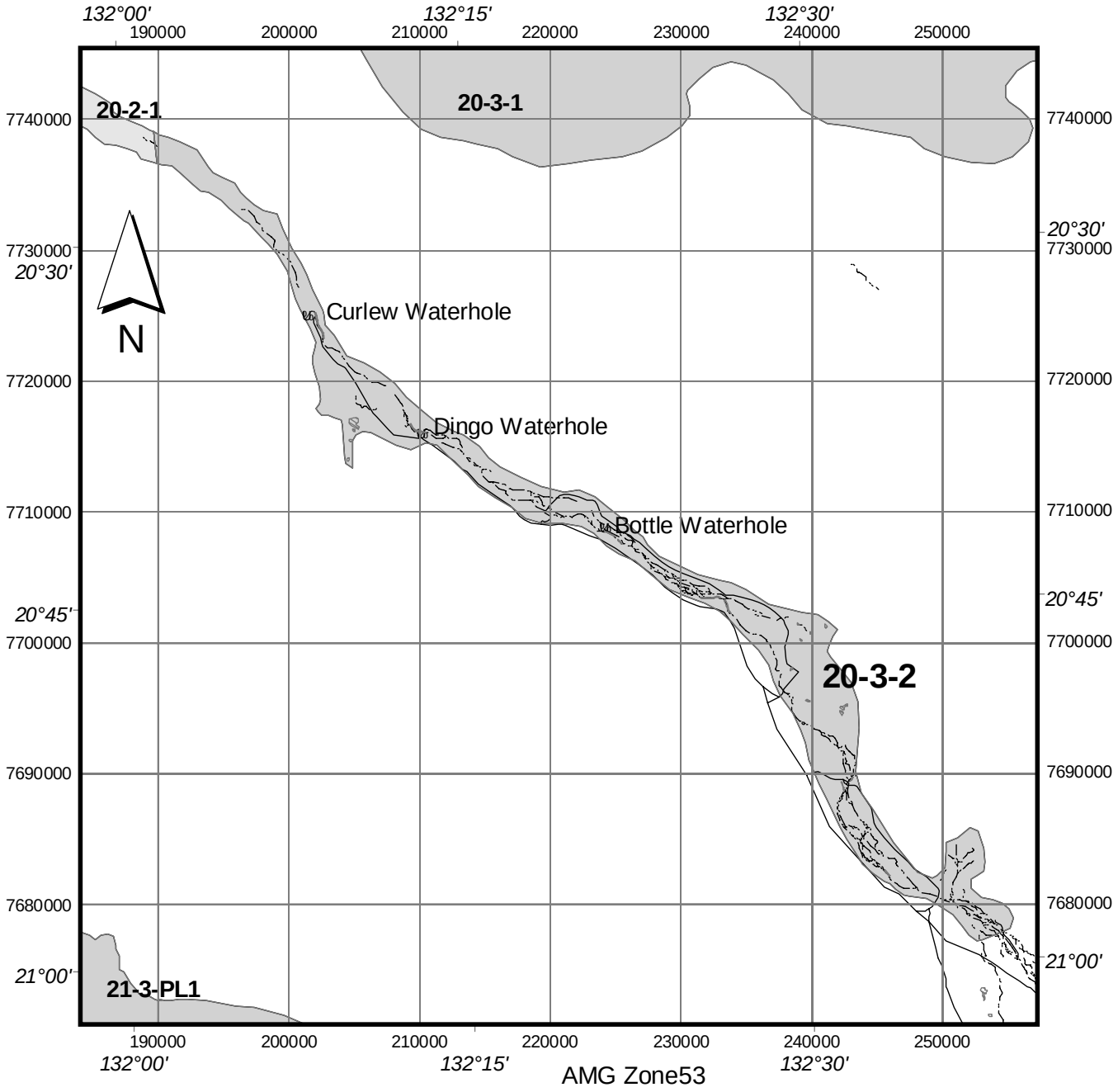
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 27 (62 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 52 (1 %): *Melaleuca glomerata* (Inland Teatree) open-shrubland.

Map unit 77 (1 < %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Map unit 76 (34 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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21-3-PL1
AMG Zone53

11.3 SITES OF BIOREGIONAL SIGNIFICANCE IN THE NT PORTION OF THE TANAMI BIOREGION

Site: 18-1-1 Winnecke Hills

Level of significance: bioregional

Location: 18º 45' S 130º 18' E; Northern edge of the Tanami Desert.

Area: 774 km^2 **Map sheet:** Birrundudu SE 52-11

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal Land Trust (100% of site)

Description: The site incorporates the catchment of Winnecke Creek, which drain the Winneke Hills. The geology of the area is made up of interbedded sandstones - sub-lithic arenite, conglomerates, tuffaceous sandstones and minor occurrences of porphyritic acid lava.

Notes: An important and remote area where the flora of the Victoria River Region 'overlaps' the flora of the Tanami. This site includes the type localities of *Levenhookia chippendalei* and *Acacia stipuligera*.

Criteria satisfied: A1 a ii), B1 b1 ii)

Taxa of Australian significance: *Corymbia pachycarpa subsp. glabrescens* {3K}

Taxa of NT significance: *Acacia stipulosa* {3k}, *Heliotropium pulvinum* {3K}, *Phyllanthus carpentariae* {3k}, *Stylidium floribundum* {3k only known in study area from this site}, *Trachymene villosa* {3k}

Taxa of Southern NT (study area) significance: *Byblis filifolia* {(disjunct)}

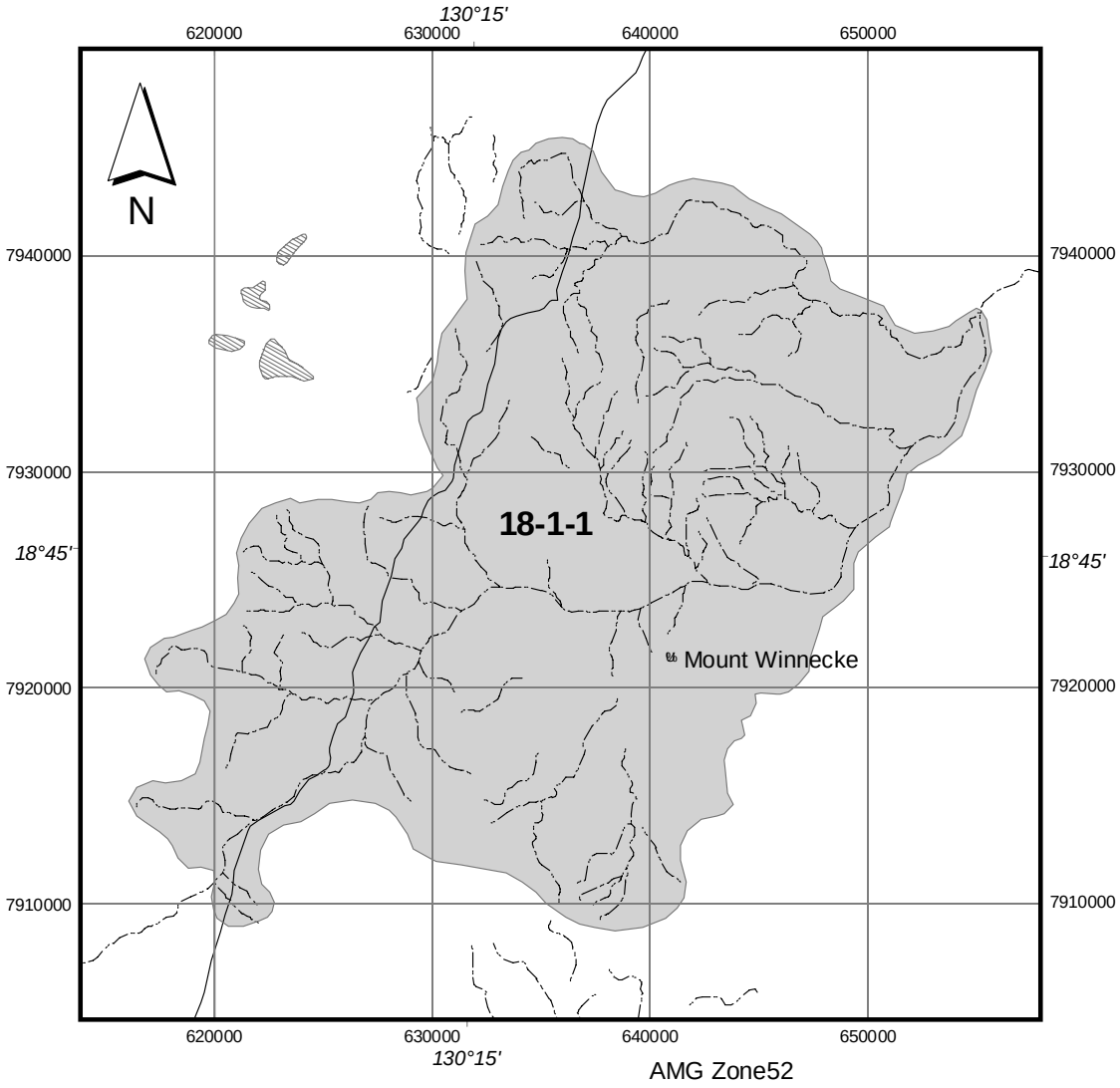
Taxa of bioregional significance: *Acacia estrophiolata* {TAN (northern range limit) [N]}, *Acacia lycopodiifolia* {TAN (southern range limit) [S] only known in study area from this site}, *Lechenaultia filiformis* {TAN (southern range limit) [S]}

Type locations of the following were collected from the site: *Levenhookia chippendalei* (1956), *Acacia stipuligera*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (2 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 38 (97 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.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AMG Zone52

Site: 18-2-1 Hooker Creek and Floodout

Level of significance: bioregional

Location: 18º 21' S 130º 43' E; Northern edge of the Tanami Desert.

Area: 117 km^2 **Map sheet:** Winnecke Creek SE 52-12

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal Land Trust (75% of site), Hooker Creek Aboriginal Land Trust (24% of site); Pastoral Lease - Wave Hill Station (<1% of site)

Description: This site comprises the floodout of Hooker Creek downstream of Lajamanu. The geology of the site is principally alluvial deposits of sand and loam. There are minor occurrences of lateritic gravels and outcropping dolomitic sandstones.

Notes: The site has good populations of the Tanami endemic *Corymbia pachycarpa subsp. glabrescens* and is also includes the type location for *Tephrosia brachycarpa*. A poorly known site which requires further botanical survey.

Criteria satisfied: A 1 a ii)

Taxa of Australian significance: *Corymbia pachycarpa subsp. glabrescens* {3K [N]}

Taxa of NT significance: *Tephrosia brachycarpa* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Ampelocissus frutescens* {TAN (southern range limit) [S] only known in study area from this site}, *Hibiscus panduriformis var. australis* {TAN (apparently rare) only known in study area from this site}, *Mnesithea rottboellioides* {TAN (apparently rare) only known in study area from this site}

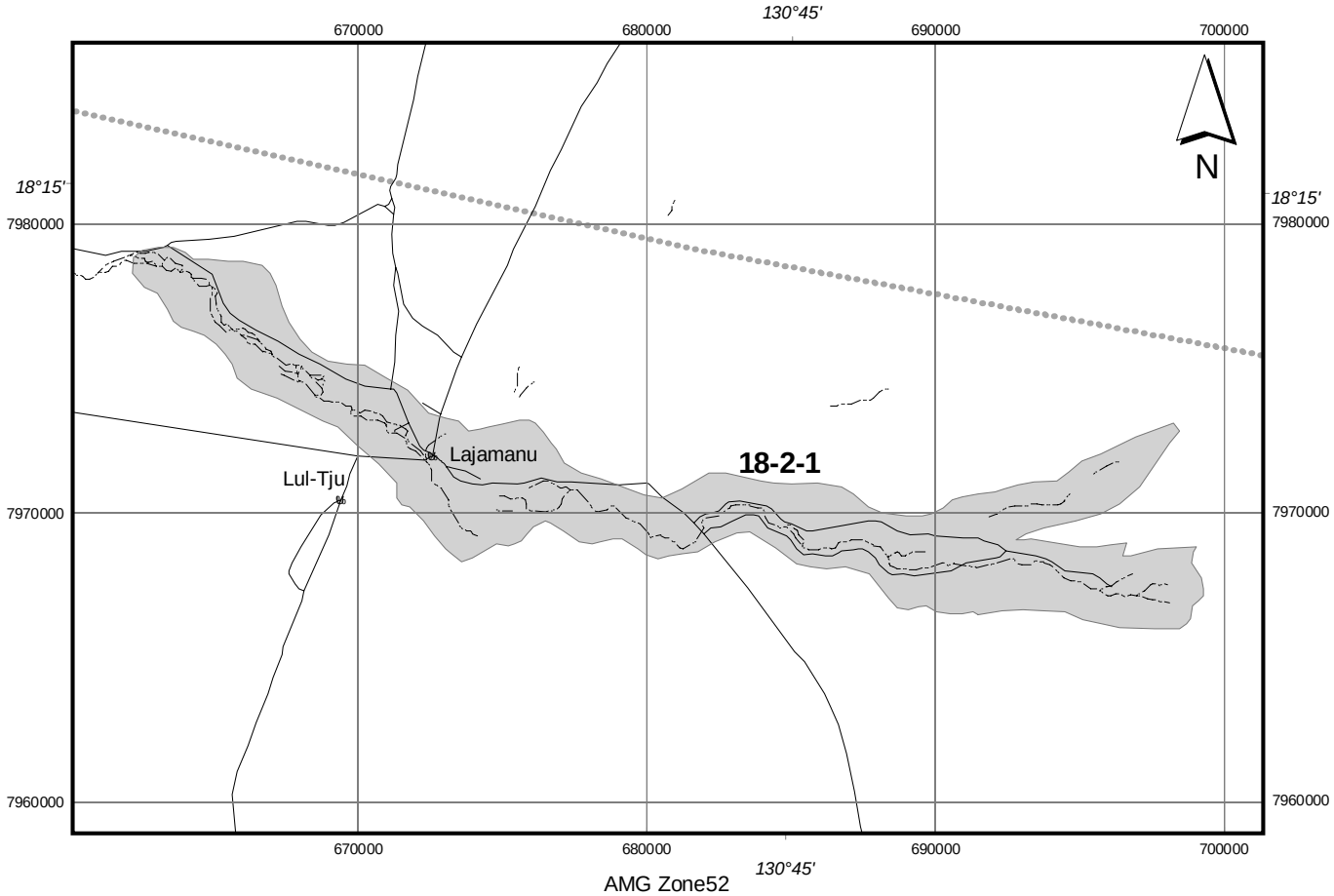
Other taxa only known in TAN bioregion (NT portion) from this site: *Cyperus vaginatus*

Type locations of the following were collected from the site: *Tephrosia brachycarpa*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 27 (32 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 76 (67 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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18-2-1
AMG Zone52

Site: 18-4-1 Whittington and Short Ranges

Level of significance: bioregional

Location: 18º 57' S 134º 7' E; Short Range

Area: 1169 km^2 **Map sheets:** Helen Springs SE 53-10 & Tennant Creek SE 53-14

Bioregion: Tanami (TAN)

Tenure: Pastoral Lease - Banka Banka Station (62% of site), Brunchilly Station (8% of site), Phillip Creek Station (21% of site); Freehold - Karlantijpa North (6% of site) and Warumungu (<1% of site) Aboriginal Land Trusts

Description: The site includes catchments of the major creeks draining the Whittington and Short Ranges, (Gibson Creek, Attack Creek, Morphett Creek, and Kuerschner Creek) and the floodouts of these watercourses. The ranges are predominantly quartz sandstone, limestone and dolomite.

Notes: The site is important in the history of botanical discovery in central Australia and includes the type locations for a number of plant taxa. The type specimens were collected by John Macdonnell Stuart in the 1860's.

Criteria satisfied: A1 a. ii), A1 b. ii), B1 b1 ii), B1 c ii)

Taxa of Australian significance: *Heliotropium subreniforme* {3K [N]}, *Striga squamigera* {3K only known in TAN from this site}

Taxa of NT significance: *Commelina tricarinata* {3k [W] only known in TAN from this site}, *Corchorus pumilio* {3kC-}, *Distichostemon barklyanus* {3k}, *Fimbristylis corynocarya* {3k}, *Fimbristylis signata* {3k}, *Gomphrena leptophylla* {3k}, *Heliotropium ballii* {3k}, *Mukia micrantha* {3k only known in study area from this site}, *Senna artemisioides subsp. symonii* {3r}, *Tephrosia brachycarpa* {3k}, *Thaumastochloa pubescens* {3k}, *Triodia latzii* {3k}, *Triumfetta johnstonii* {3k}, *Velleia macrocalyx* {3r only known in TAN from this site}

Taxa of Southern NT (study area) significance: *Acacia shirleyi* {(apparently rare) only known in study area from this site}, *Arundinella setosa* {(disjunct) [W] only known in study area from this site}, *Cyperus cristulatus* {(disjunct & apparently rare) only known in study area from this site}, *Fimbristylis nuda* {(disjunct & apparently rare)}, *Fimbristylis tristachya* {(apparently rare) only known in study area from this site}, *Goodenia odonnellii* {(disjunct) only known in study area from this site}, *Panicum mindanaense* {(disjunct)}, *Schizachyrium pseudeulalia* {(disjunct) only known in TAN from this site}, *Triumfetta micracantha* {(apparently rare) only known in TAN from this site}

Taxa of bioregional significance: *Acacia difficilis* {TAN (southern range limit) [S] only known in study area from this site}, *Acacia spondylophylla* {TAN (northern range limit) [N]}, *Eriocaulon pygmaeum* {TAN (southern range limit) [S]}, *Goodenia larapinta* {TAN (northern range limit) [N]}, *Heliotropium skeleton* {TAN (northern limit) [N]}, *Mukia A50961 Glen Helen Station* {TAN (northern range limit) [N]}, *Sclerolaena cuneata* {TAN (northern range limit) [N]}, *Tribulopis bicolor* {TAN (eastern and southern range limit) [E]}

Other taxa only known in TAN bioregion (NT portion) from this site: *Anisomeles malabarica* {only known in study area from this site}, *Cyperus holoschoenus* {only known in study area from this site}, *Iseilema fragile*, *Mnesithea formosa*, *Mollugo molluginis* {[E]}, *Ptilotus incanus var. elongatus* {[E] only known in NT from this site}, *Ptilotus spicatus subsp. leianthus var. leianthus*, *Xenostegia tridentata* {only known in study area from this site}

Type locations of the following were collected from the site: *Acacia perryi* (1946), *Gastrolobium grandiflorum* (1860s), *Goodenia ramelii* (1860s), *Ipomoea costata* (1860s), *Isotropis atropurpurea* (1860s), *Ptilotus incanus var. elongatus* (1948), *Senna oligoclada*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 42 (4 %): *Corymbia opaca* (Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

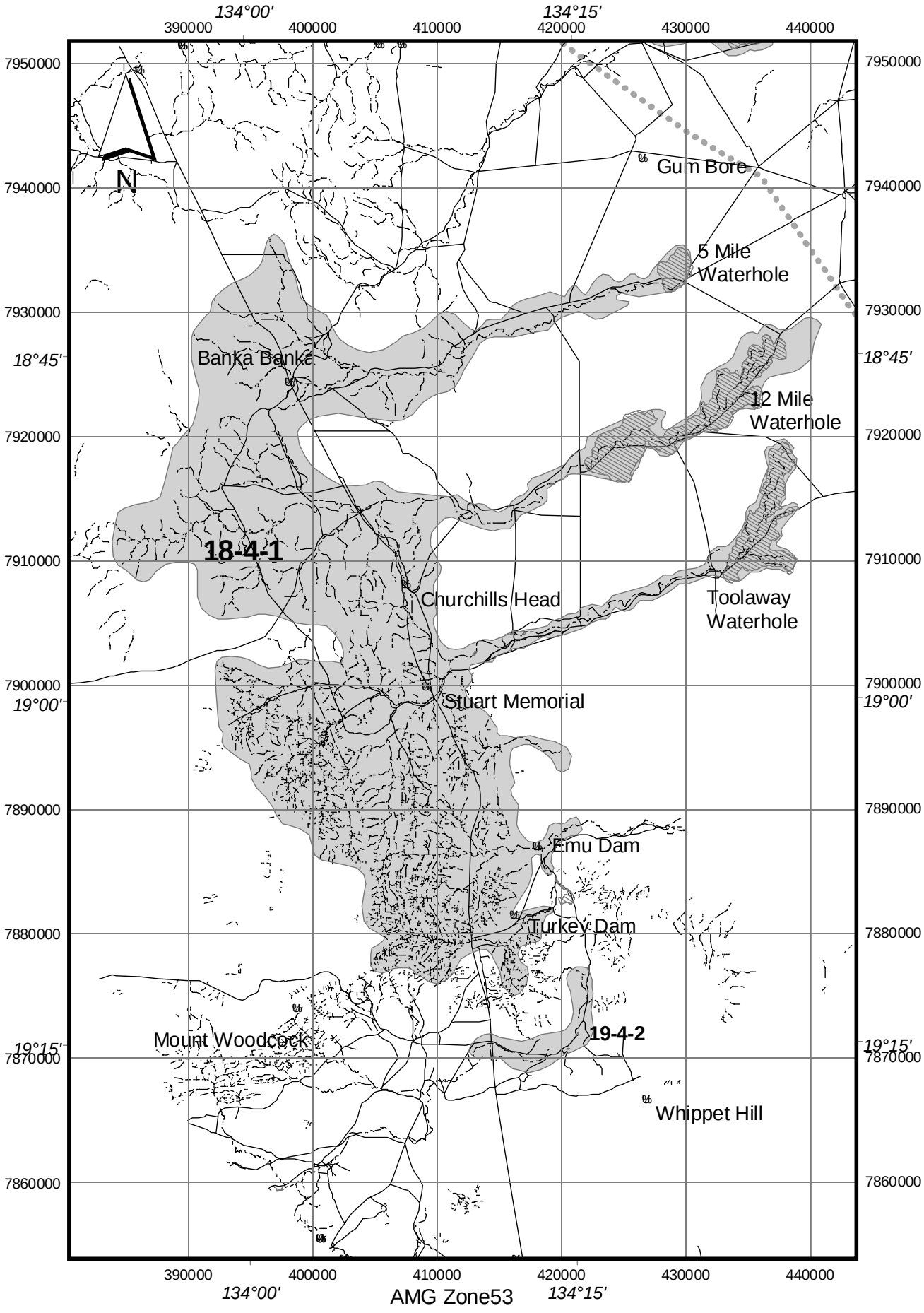
Map unit 39 (1 %): *Eucalyptus pruinosa* (Silver Box), *Lysiphyllum cunninghamii* (*Bauhinia*) low open-woodland with hummock/tussock grassland understorey.

Map unit 36 (1 %): *Eucalyptus leucophloia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex), *Triodia bitextura* (Curly Spinifex) open-hummock grassland understorey.

Map unit 27 (19 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 34 (70 %): *Eucalyptus* dichromophloia (Variable-barked Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 96 (2 %): *Astrebla pectinata* (Barley Mitchell grass) grassland.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5 Mile Waterhole
Banka Banka
12 Mile Waterhole
18-4-1
Churchills Head
Toolaway Waterhole
Stuart Memorial
Emu Dam
Turkey Dam
19-4-2
Mount Woodcock
Whippet Hill
AMG Zone53

Site: 19-1-1 Gardiner Range

Level of significance: bioregional

Location: 19º 28' S 129º 4' E; Central western Tanami Desert.

Area: 353 km^2 **Map sheet:** Tanami SE 52-15

Bioregion: Tanami (TAN)

Tenure: Freehold - Mount Frederick Aboriginal Land Trust (98% of site) and Mount Frederick (No.2) Aboriginal Land Trust (1% of site)

Description: This site includes the Gardiner Ranges, Pingidijarra Hills and Mallee Hill and their internal catchments and floodouts (the floodout woodlands are dominated by *Corymbia flavescens*). The site is bounded to the west by the Western Australian border. The ranges are predominantly composed of Gardiner sandstone.

Notes: In addition to its importance for the conservation of rare and poorly known plant taxa, this site is thought to support rare and restricted plant communities.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Corymbia pachycarpa subsp. glabrescens* {3K [W]}

Taxa of NT significance: *Acacia stipulosa* {3k [S]}, *Buchnera asperata* {3kC- (border) only known in study area from this site}, *Centipeda racemosa* {3k}, *Corchorus pumilio* {3kC-}, *Cullen corallum* {3k}, *Dicrastylis doranii* {3k}, *Eucalyptus cupularis* {3r}, *Gomphrena leptophylla* {3k}, *Indigofera ammobia* {3k}, *Jacksonia aculeata* {3k}, *Pluchea tetranthera* {3k}, *Polymeria A93357 Western Tanami* {3k (border) only known in NT from this site}, *Senna curvistyla* {3k}, *Trianthema oxycalyptra var. oxycalyptra* {3r}, *Triodia latzii* {3k}, *Triumfetta clivorum subsp. brevipetala* {3k only known in TAN from this site}, *Triumfetta johnstonii* {3k}

Taxa of Southern NT (study area) significance: *Ipomoea plebeia* {(apparently rare) only known in study area from this site}, *Microcarpaea minima* {(disjunct & rare) only known in TAN from this site}, *Tephrosia oblongata* {(disjunct) [S] only known in study area from this site}, *Vallisneria nana* {(disjunct)}, *Xyris complanata* {(disjunct)}, *Zornia chaetophora* {(disjunct)}

Taxa of bioregional significance: *Corynotheca micrantha var. divaricata* {TAN (northern range limit) [N]}, *Cyperus aquatilis* {TAN (apparently rare) only known in study area from this site}, *Cyperus microcephalus subsp. chersophilus* {TAN (apparently rare) only known in study area from this site}, *Dicliptera armata* {TAN (apparently rare) only known in study area from this site}, *Dodonaea polyzyga* {TAN (apparently rare and southern range limit) [S] only known in study area from this site}, *Eucalyptus gamophylla* {TAN (northern range limit) [N]}, *Leptosema chambersii* {TAN (northern limit) [N]}, *Oldenlandia spermacocoides* {TAN (apparently rare and southern range limit) [S] only known in study area from this site}, *Philydrum lanuginosum* {TAN (apparently rare) only known in study area from this site}, *Rotala occultiflora* {TAN (disjunct)}, *Stemodia A65613 Tanami* {TAN (western range limit) [W]}, *Trema tomentosa var. viridis* {TAN (apparently rare) only known in TAN from this site}

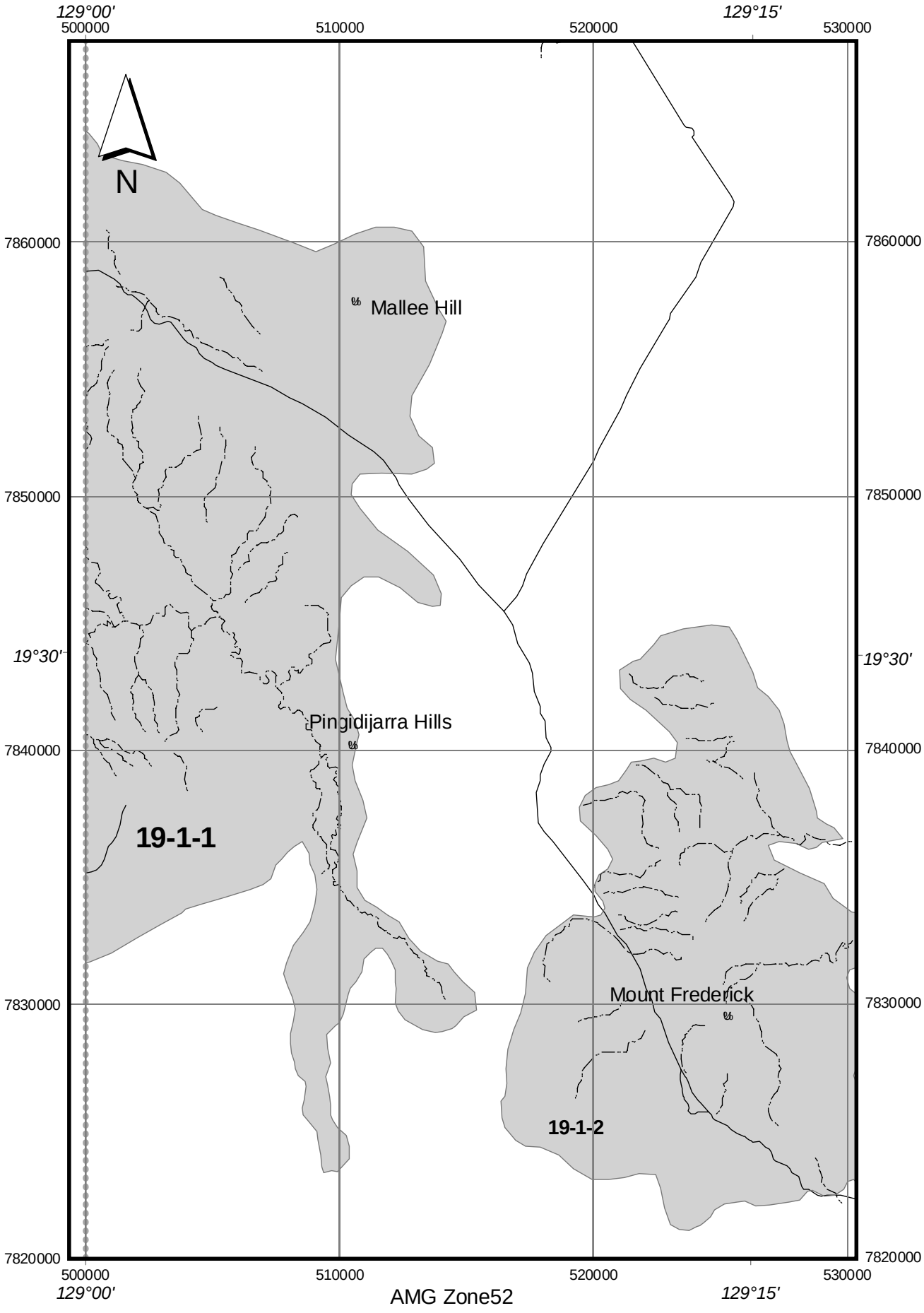
Other taxa only known in TAN bioregion (NT portion) from this site: *Cyperus cunninghamii subsp. cunninghamii*

Type locations of the following were collected from the site: *Triodia latzii*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (60 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 38 (40 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.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AMG Zone52

Site: 19-1-2 Pargee

Level of significance: bioregional

Location: 19º 37' S 129º 14' E; Central Tanami Desert

Area: 230 km^2 **Map sheet:** Tanami SE 52-15

Bioregion: Tanami (TAN)

Tenure: Freehold - Mount Frederick Aboriginal Land Trust (90% of site) and Mount Frederick (No.2) Aboriginal Land Trust (9% of site)

Description: This site is broadly delineated by the extent of outcropping sandstone which forms the Pargee Range. The Pargee range is low, rarely rising to above 500 m ASL (less than 100 m above the surrounding sandplain). The site includes the footslopes and floodouts associated with the range.

Notes: Many of the botanical values are centred on and around a few rockholes/waterholes in the ranges.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Corymbia pachycarpa subsp. glabrescens* {3K}

Taxa of NT significance: *Cyperus viscidulus* {3k (border) only known in study area from this site}, *Eucalyptus cupularis* {3r}

Taxa of Southern NT (study area) significance: *Cajanus acutifolius* {(disjunct & apparently rare) only known in TAN from this site}, *Cyperus cuspidatus* {(disjunct & apparently rare) only known in study area from this site}, *Fimbristylis nuda* {(disjunct & apparently rare)}, *Gonocarpus chinensis* s.lat. {(disjunct)}, *Sesbania benthamiana* {(disjunct) only known in study area from this site}

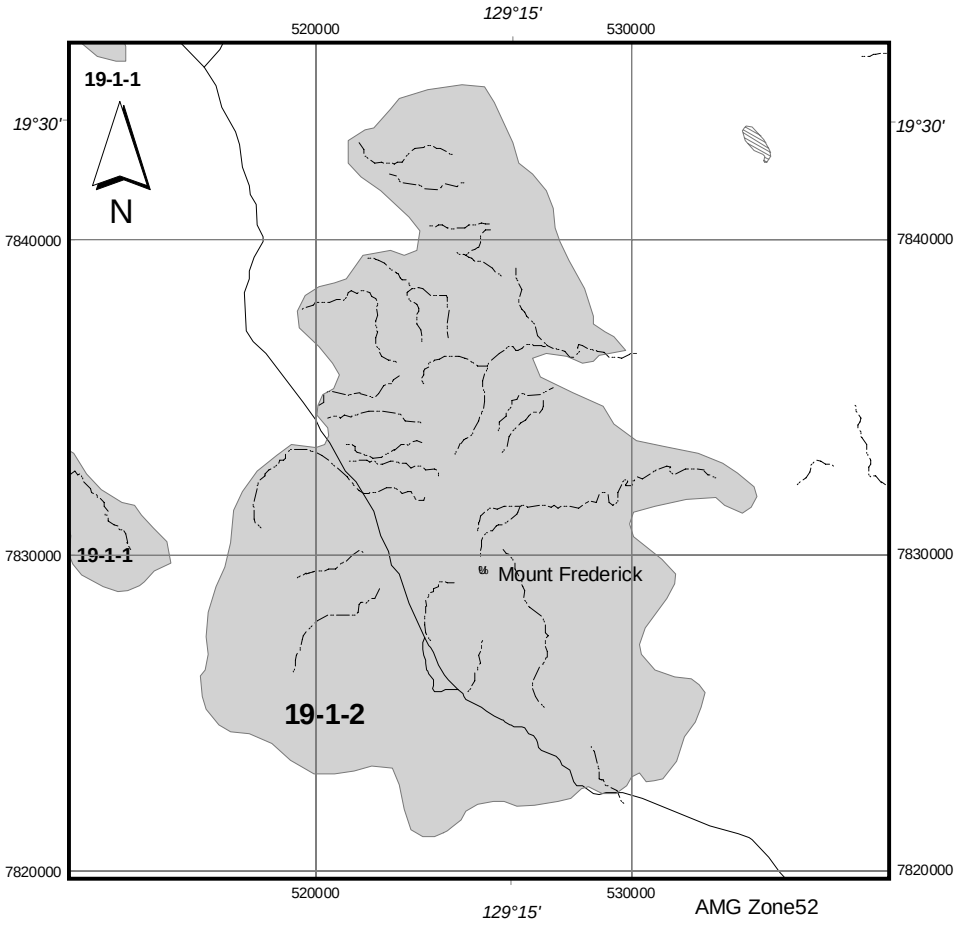
Taxa of bioregional significance: *Cyperus concinnus* {TAN (western range limit) [W]}, *Eleocharis nuda* {TAN (apparently rare and western range limit) [W] only known in study area from this site}, *Marsdenia viridiflora subsp. tropica* {TAN (southern range limit) [S]}, *Mukia A50961 Glen Helen Station* {TAN (western range limit) [W]}

Other taxa only known in TAN bioregion (NT portion) from this site: *Amphipogon caricinus var. sericeus, Gomphrena cunninghamii*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 38 (48 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 76 (51 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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AMG Zone52

Site: 19-1-3 Coomarie

Level of significance: bioregional

Location: 19º 34' S 129º 36' E; Central Tanami Desert

Area: 300 km^2 **Map sheet:** Tanami SE 52-15

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Aboriginal Land Trust (58% of site); Pastoral Lease - Suplejack Station (41% of site)

Description: The site incorporates a diverse area of springs, ephemeral lakes and low sandstone hills (the Coomarie Ranges) fringing the north eastern edge of a large granite dome (the Coomarie dome), which is thinly covered by a sheet of sand. The site includes areas of undulating sandplain with extensive calcrete and laterite deposits.

Notes: It is assumed that the plains immediate to the Coomarie dome collect some sub-surface run-off from it. The system of shallow ephemeral lakes which border the northern edge of the granite dome require further survey. The site contains the type location of *Heliotropium parviantrum*.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Acacia abbreviata* {3R [NE]}

Taxa of NT significance: *Acrachne racemosa* {3k}, *Brachyachne prostrata* {3r}, *Eucalyptus cupularis* {3r}, *Portulaca digyna* {3r only known in TAN from this site}

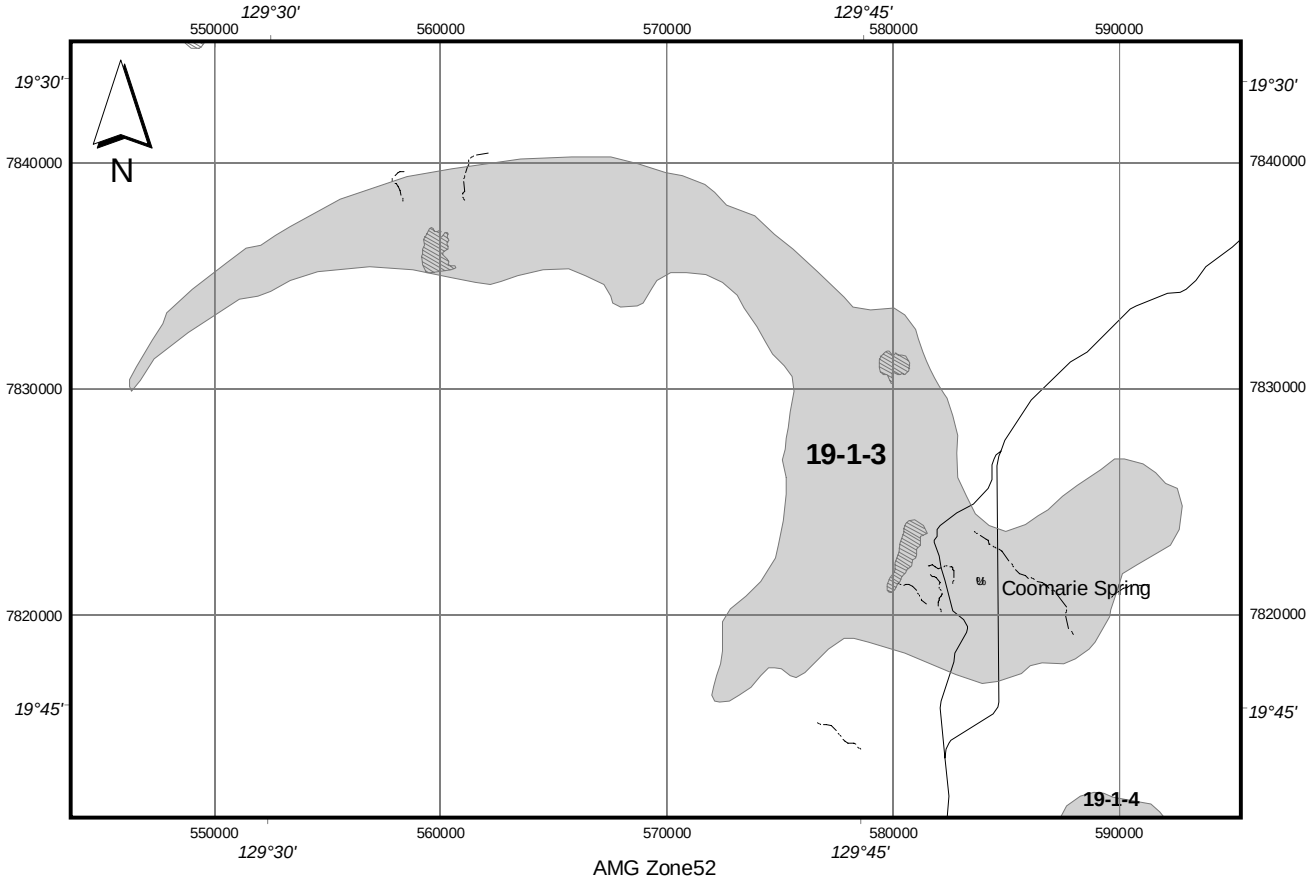
Taxa of Southern NT (study area) significance: *Echinochloa elliptica* {(disjunct) only known in study area from this site}, *Terminalia savannicola* {(disjunct) only known in study area from this site}

Taxa of bioregional significance: *Acacia stenophylla* {TAN (apparently rare) only known in TAN from this site}, *Teucrium integrifolium* {TAN (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 38 (24 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 76 (75 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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19-1-4
AMG Zone52

Site: 19-1-4 Tanami Range

Level of significance: bioregional

Location: 19º 55' S 129º 43' E; Central Tanami Desert

Area: 282 km^2 **Map sheets:** Tanami SE 52-15 & The Granites SF 52-03

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal land Trust (100% of site)

Description: This site is broadly delineated by the extent of outcropping sandstone, which forms the Tanami Range and the Black Hills and consists of two discrete polygons. The site includes part of the surrounding and intervening sandplain, which includes calcrete and laterite rises. These ranges are low, rarely rising more than 50 m above the surrounding sandplain.

Notes: This area is particularly important for the conservation of *Acacia abbreviata* where it grows on laterite rises beneath sandstone ranges. This is also the type locality for this species.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Acacia abbreviata* {3R [E]}, *Goodenia A44284 Subsaline* {3K [NW]}

Taxa of NT significance: *Acacia maconochieana* {3r}, *Acacia wiseana* {3r}, *Eucalyptus cupularis* {3r [S]}, *Gonocarpus eremophilus* {3k}, *Heliotropium diversifolium* {3k}, *Jacksonia aculeata* {3k}, *Newcastelia cladotricha* {3k}, *Senna curvistyla* {3k}, *Tephrosia brachycarpa* {3k}, *Triumfetta johnstonii* {3k}

Taxa of Southern NT (study area) significance: *Acacia conspersa* {(disjunct) [W]}, *Fimbristylis nuda* {(disjunct & apparently rare)}

Taxa of bioregional significance: *Eragrostis laniflora* {TAN (northern range limit) [N]}, *Triglochin hexagonum* {TAN (disjunct)}

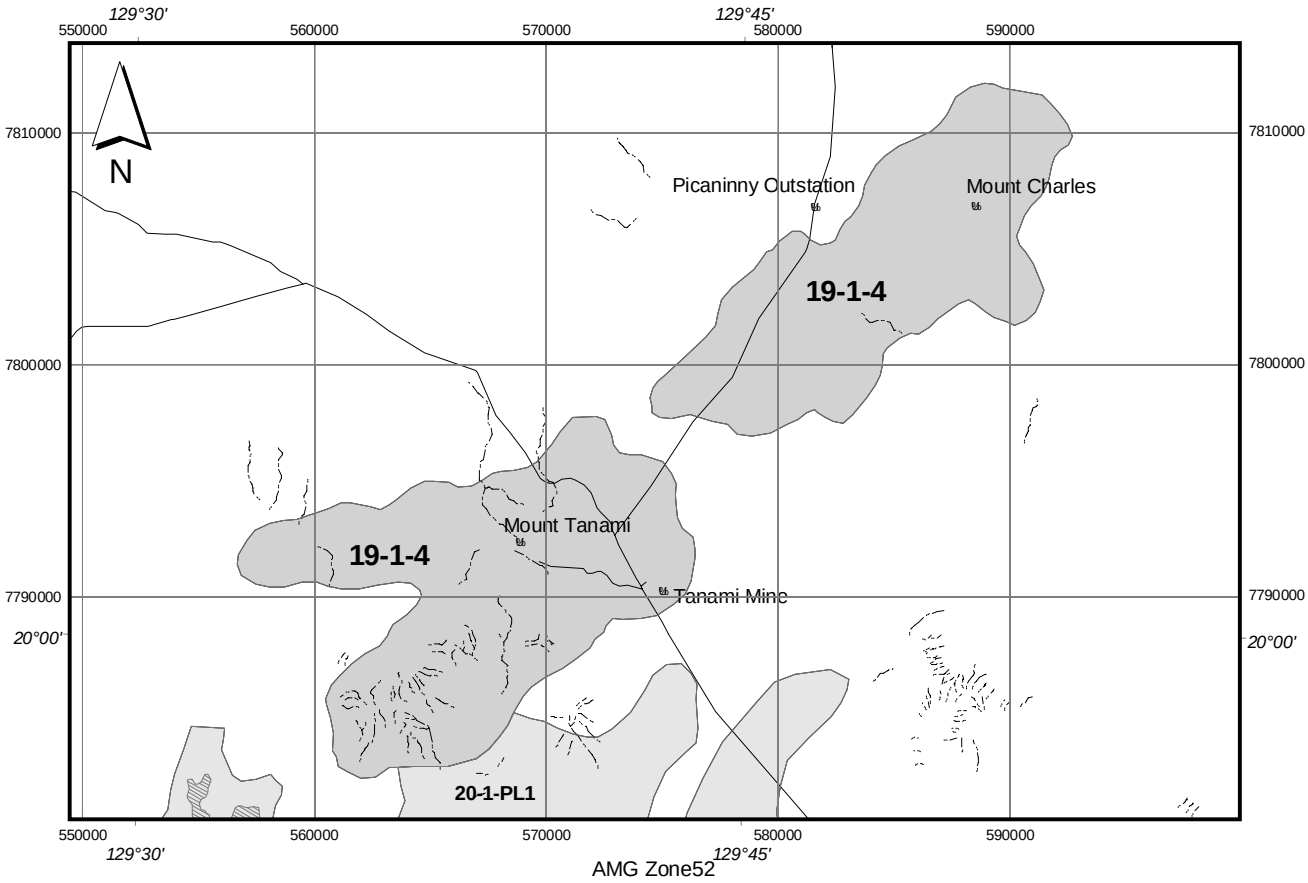
Other taxa only known in TAN bioregion (NT portion) from this site: *Cyperus microcephalus* {only known in study area from this site}, *Ptilotus decipiens*

Type locations of the following were collected from the site: *Acacia abbreviata* (1970)

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 38 (65 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 76 (34 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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Tanami Mine
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AMG Zone52

Site: 19-4-2 Short Range Waterholes

Level of significance: bioregional

Location: 19º 16' S 134º 14' E; Creek systems draining the southern Short Range.

Area: 28 km^2 **Map sheet:** Tennant Creek SE 53-14

Bioregion: Tanami (TAN)

Tenure: Freehold - Warumungu Aboriginal Land Trust (42% of site); Pastoral Lease - Phillip Creek Station (57% of site)

Description: This site includes the series of in-stream waterholes along Phillip Creek and nearby drainage systems.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Nesaea repens* {3k}, *Nymphaea immutabilis subsp. immutabilis* {3v}, *Yakirra muelleri* {3k}

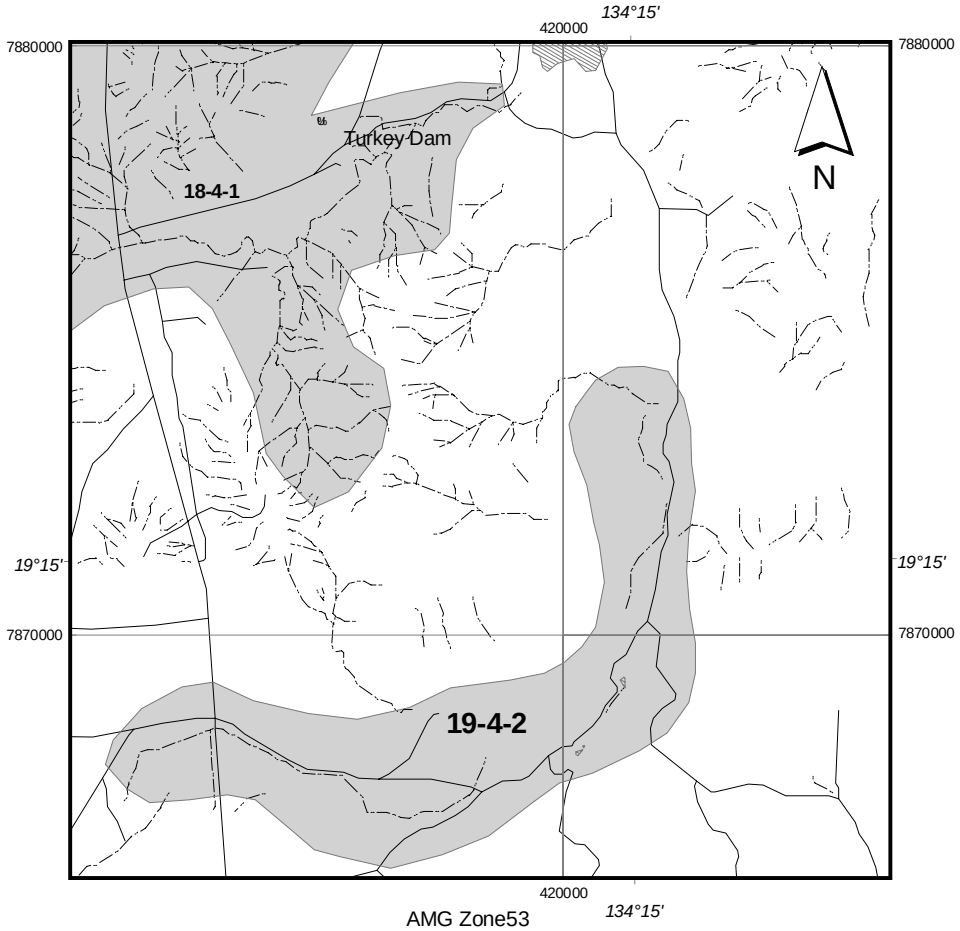
Taxa of Southern NT (study area) significance: *Ectrosia leporina* {(disjunct) [S] only known in study area from this site}

Taxa of bioregional significance: none

Botanically Significant Waterholes at the site: Coodna Waterhole

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 36 (100 %): *Eucalyptus leucophloia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex), *Triodia bitextura* (Curly Spinifex) open-hummock grassland understorey.



Site: 19-4-3 Little Lake Surprise (Ngwrratiji)

Level of significance: bioregional

Location: 19º 49' S 133º 57' E; Approximately 30km South West of Tennant Creek

Area: 2 km^2 **Map sheet:** Tennant Creek SE 53-14

Bioregion: Tanami (TAN)

Tenure: Pastoral Lease - Tennant Creek Station (100% of site)

Description: This site is an ephemeral freshwater lake.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Bergia occultipetala* {3R}

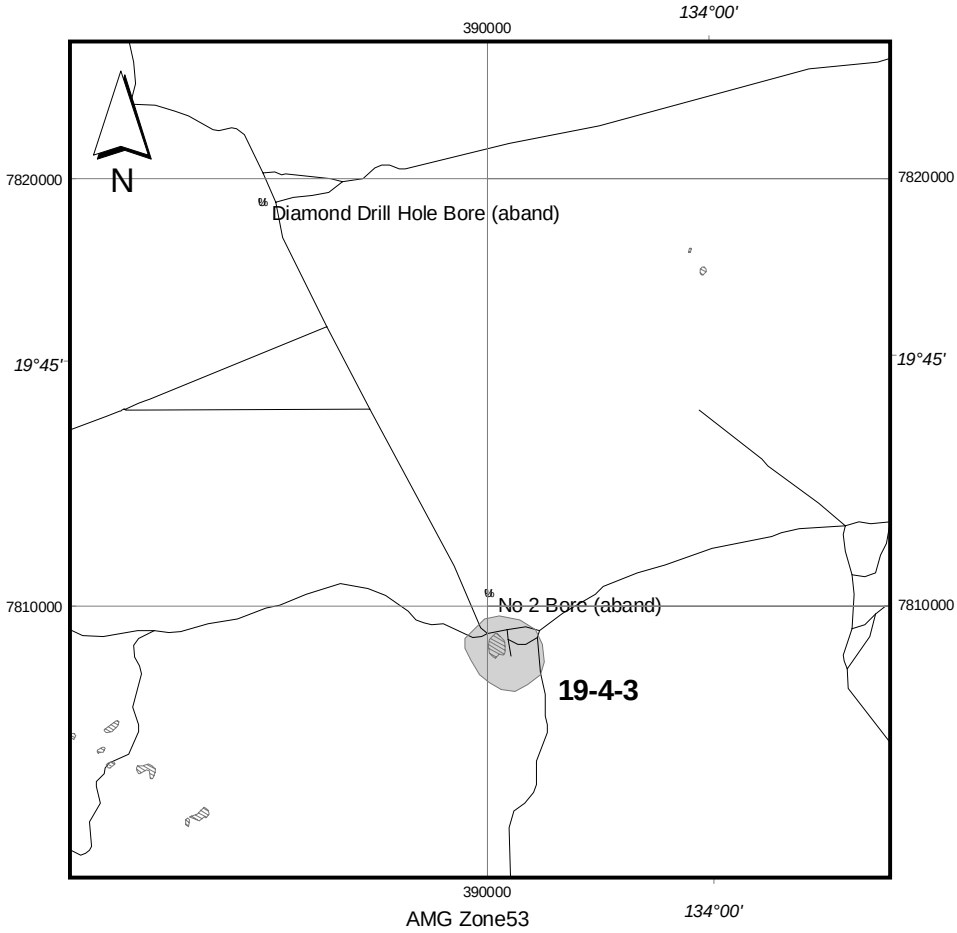
Taxa of NT significance: *Centipeda racemosa* {3k}, *Lythrum wilsonii* {3r only known in TAN from this site}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Bergia perennis subsp. obtusifolia* {TAN (eastern range limit) [E]}, *Coleocoma centaurea* {TAN (eastern range limit) [E]}, *Sclerolaena crenata* {TAN (eastern range limit) [E]}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (100 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.



Site: 20-1-2 Dead Bullock Soak

Level of significance: bioregional

Location: 20º 33' S 129º 56' E; 20 km east of Tanami Downs homestead.

Area: 55 km^2 **Map sheet:** The Granites SF 52-03

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal land Trust (100% of site)

Description: This site incorporates a series of low chert hills surrounded by sandplain. The hills support *Acacia pruinocarpa* and *Eucalyptus brevifolia* woodland/shrubland with a *Triodia*-dominated understorey.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Abutilon lepidum* {3r}, *Brachyachne prostrata* {3r}, *Trianthema glossostigma* {3r}, *Triumfetta centralis* {3k}

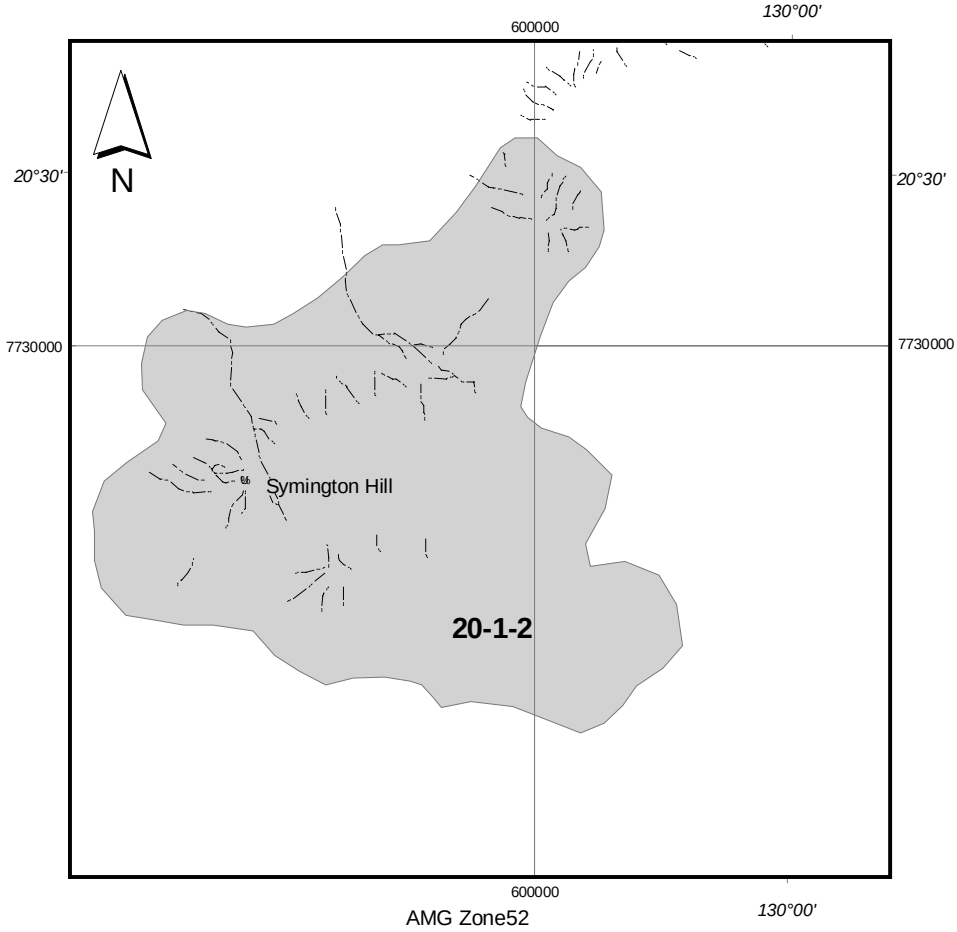
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (57 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 38 (42 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.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AMG Zone52

Site: 20-1-4 Mongrel Downs

Level of significance: bioregional

Location: 20º 31' S 129º 14' E; Central Tanami Desert abutting the Western Australian border.

Area: 758 km^2 **Map sheet:** The Granites SF 52-03

Bioregion: Tanami (TAN)

Tenure: Freehold - Mangkururrpa Aboriginal Land Trust (100% of site)

Description: Site is centred on an outlier of clay soil in the Tanami desert, which supports extensive grasslands dominated by *Eragrostis xerophila* and *Astrebla pectinata*. The site also incorporates a paleodrainage system which extends to the north east and includes several large wetlands (Lake Sarah, Lake Alec and Bullocks Head Lake) and the series of laterite capped rises known as the Pedestal Hills.

Notes: This site supports a number of interesting range disjunctions of species restricted to heavy soils. It is the only known location for an undescribed *Ptilotus* taxon. This site also includes the type location for *Acacia pachycarpa*.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Cleome oxalidea* {3r}, *Peplidium A88036 Tanami* {3k}

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Erodium cygnorum subsp. cygnorum* {TAN (disjunct and northern range limit) [N] only known in TAN from this site}, *Sclerolaena patenticuspis* {TAN (disjunct and northern range limit) [N] only known in TAN from this site}, *Swainsona burkei* {TAN (western range limit) [W]}, *Triglochin hexagonum* {TAN (disjunct)}

Other taxa only known in TAN bioregion (NT portion) from this site: *Maireana integra, Sesbania cannabina var. sericea* {only known in study area from this site}

Type locations of the following were collected from the site: *Acacia pachycarpa* (1971)

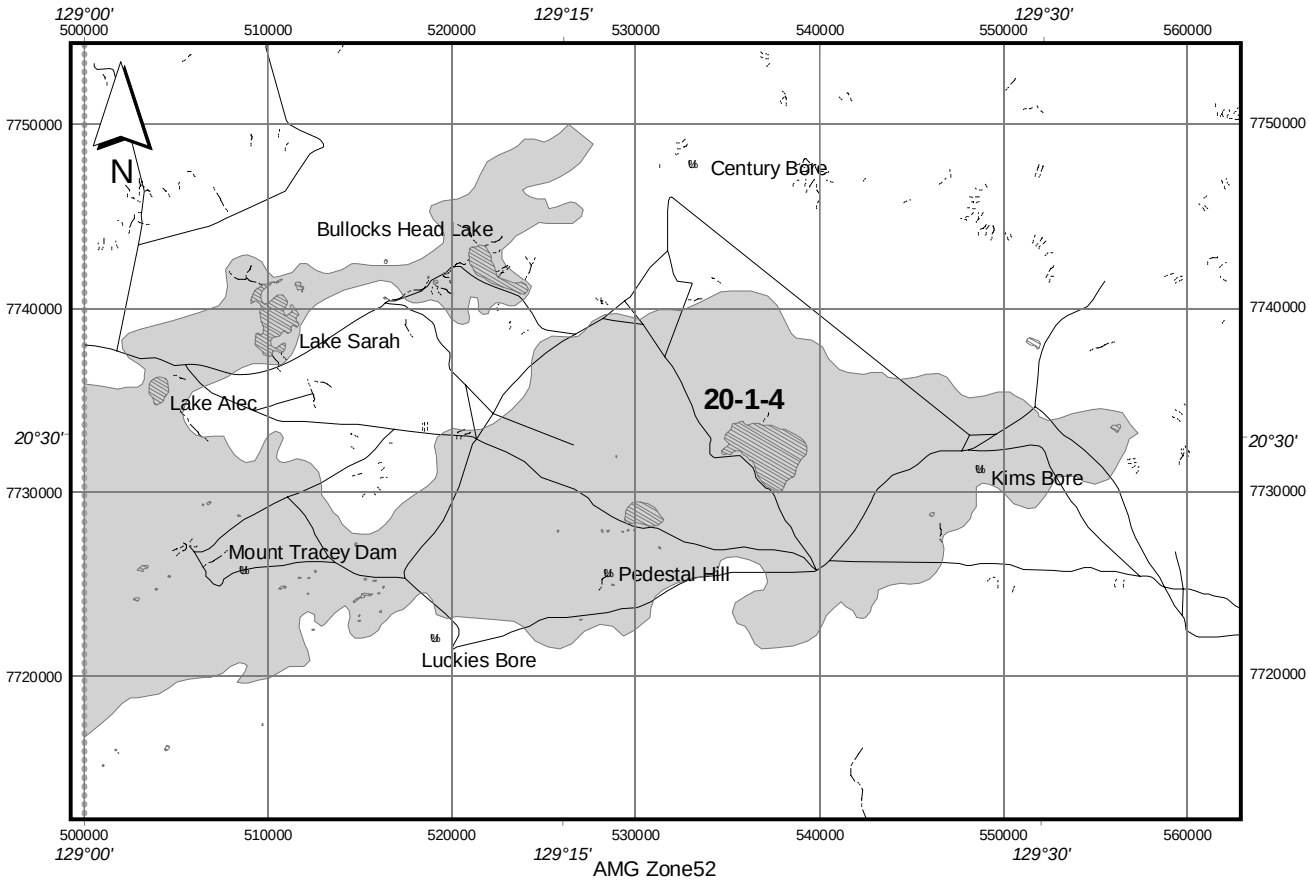
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 100 (68 %): *Eragrostis xerophila* (Neverfail) open-grassland with scattered trees and shrubs.

Map unit 111 (3 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 76 (20 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 86 (8 %): *Triodia pungens* (Soft Spinifex) or *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.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Bullocks Head Lake
Lake Sarah
Lake Alec
20-1-4
Kims Bore
Mount Tracey Dam
Pedestal Hill
Luckies Bore
AMG Zone52

Site: 20-3-1 Paleo-Lander River

Level of significance: bioregional

Location: 20º 20' S 132º 40' E; Central Tanami Desert

Area: 3567 km^2 **Map sheet:** Lander River SF 53-01

Bioregion: Tanami (TAN)

Tenure: Freehold - Karlantijpa South Aboriginal Land Trust (74% of site), Karlantijpa North Aboriginal Land Trust (25% of site) Central Desert Aboriginal Land Trust (<1% of site) and Wirlyajarrayi Aboriginal Land Trust (<1% of site)

Description: This site is centred on a large paleo-river channel - possibly that of the Lander River - where it breaks through the system of east west dunes in the central Tanami Desert. The site also includes the surrounding dune field and paleo-floodout.

Notes: This huge area includes reticulate and parallel dune systems, springs, soaks, Mulga woodlands, interdune ephemeral wetlands, playas and salinas. Extensive dune systems are relatively uncommon in the Tanami Desert and this area warrants further detailed survey. Note also that this site is contiguous with site 20-3-2 (Lake Surprise and the Lander River Floodout).

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Comesperma A77288 Tanami* {3R [E]}, *Logania centralis* {3KC- [NE]}, *Olax spartea* {3K [E]}

Taxa of NT significance: *Acacia wiseana* {3r}, *Chloris pumilio* {3kC- only known in TAN from this site}, *Gomphrena leptophylla* {3k}, *Halosarcia halocnemoides subsp. tenuis* {3k}, *Indigofera ammobia* {3k}

Taxa of Southern NT (study area) significance: *Fimbristylis rara* {(disjunct)}, *Gonocarpus chinensis* s.lat. {(disjunct)}, *Stylidium multiscapum* {(disjunct) [S]}, *Xyris complanata* {(disjunct)}

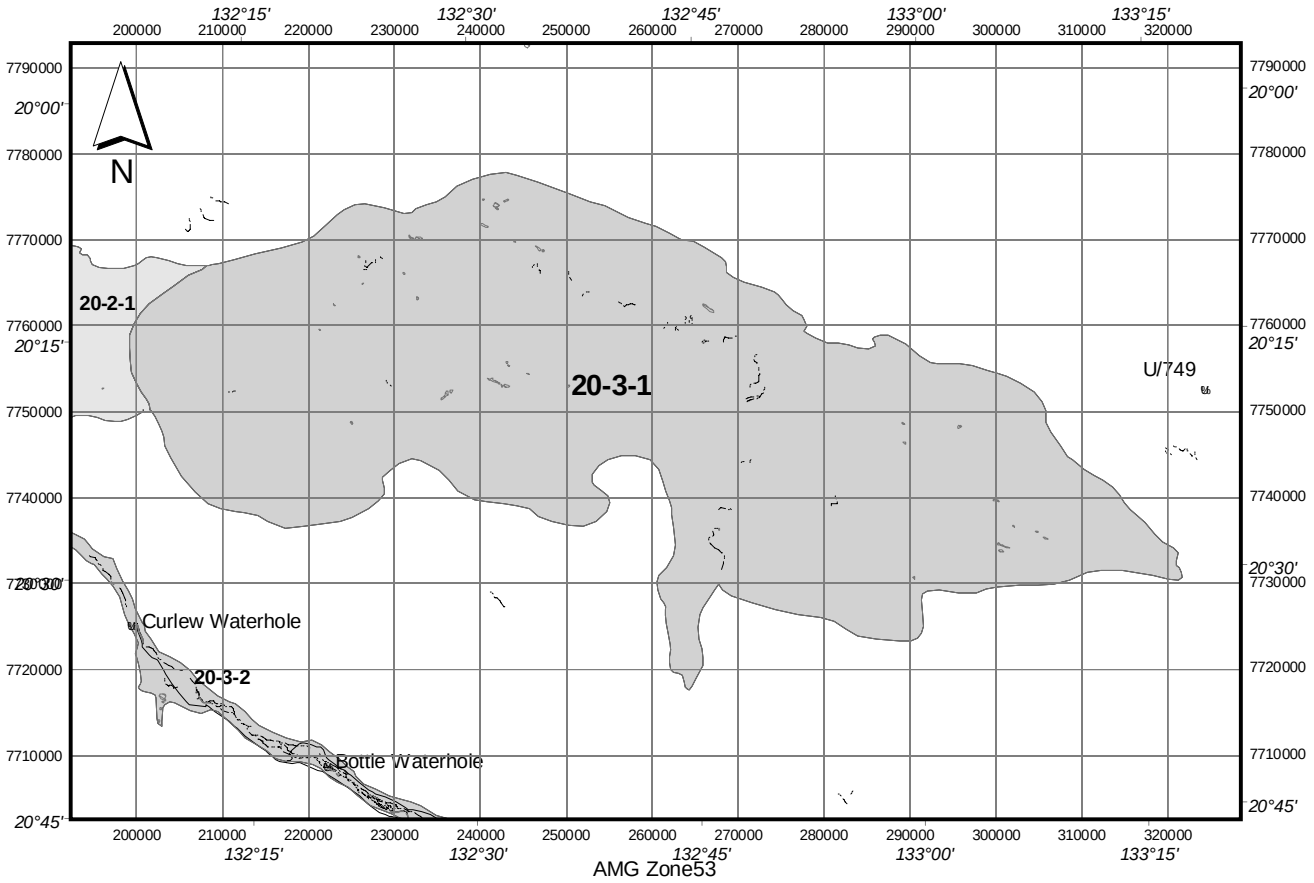
Taxa of bioregional significance: *Bergia perennis subsp. perennis* {TAN (eastern range limit) [E]}, *Calotis erinacea* {TAN (disjunct)}, *Eremophila willsii subsp. A90926 Mt Katapata* {TAN (northern range limit) [N]}, *Lomandra leucocephala subsp. robusta* {TAN (disjunct and northern range limit) [N]}, *Neobassia astrocarpa* {TAN (eastern range limit) [E]}, *Solanum gilesii* {TAN (eastern range limit) [E]}, *Stackhousia megaloptera* {TAN (disjunct)}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 77 (92 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Map unit 112 (7 %): Bare salt pan.

Map unit 76 (1 < %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.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Curlew Waterhole
20-3-2
Bottle Waterhole
AMG Zone53

Site: 20-4-1 Thring Swamp

Level of significance: bioregional

Location: 20º 48' S 134º 17' E; Wycliffe Well - Tanami Desert

Area: 102 km^2 **Map sheet:** Bonney Well SF 53-02

Bioregions: Tanami (TAN 98%) & Davenport Murchison Ranges (DAV 2%)

Tenure: Pastoral Lease - Singleton Station (99% of site); Freehold Iliyarne Aboriginal Land Trust (<1% of site)

Description: Floodout of Wycliffe Creek - Alluvial soils clays/clayloams. This site includes semi-permanent and permanent waterholes on Wycliffe Creek, and the associated floodout with alluvial clay/clay loam soils.

Notes: Type location for *Fimbristylis ammobia*. Significant site for the conservation of aquatic and semi-aquatic flora in central Australia, though only a small percentage of the site provides suitable habitat for the more significant taxa.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Isotoma luticola* {3R}

Taxa of NT significance: *Elacholoma hornii* {3rC-}, *Nymphaea immutabilis subsp. immutabilis* {3v}

Taxa of Southern NT (study area) significance: *Marsilea mutica* {(disjunct) only known in TAN from this site}, *Nymphoides indica* {(disjunct) only known in study area from this site}

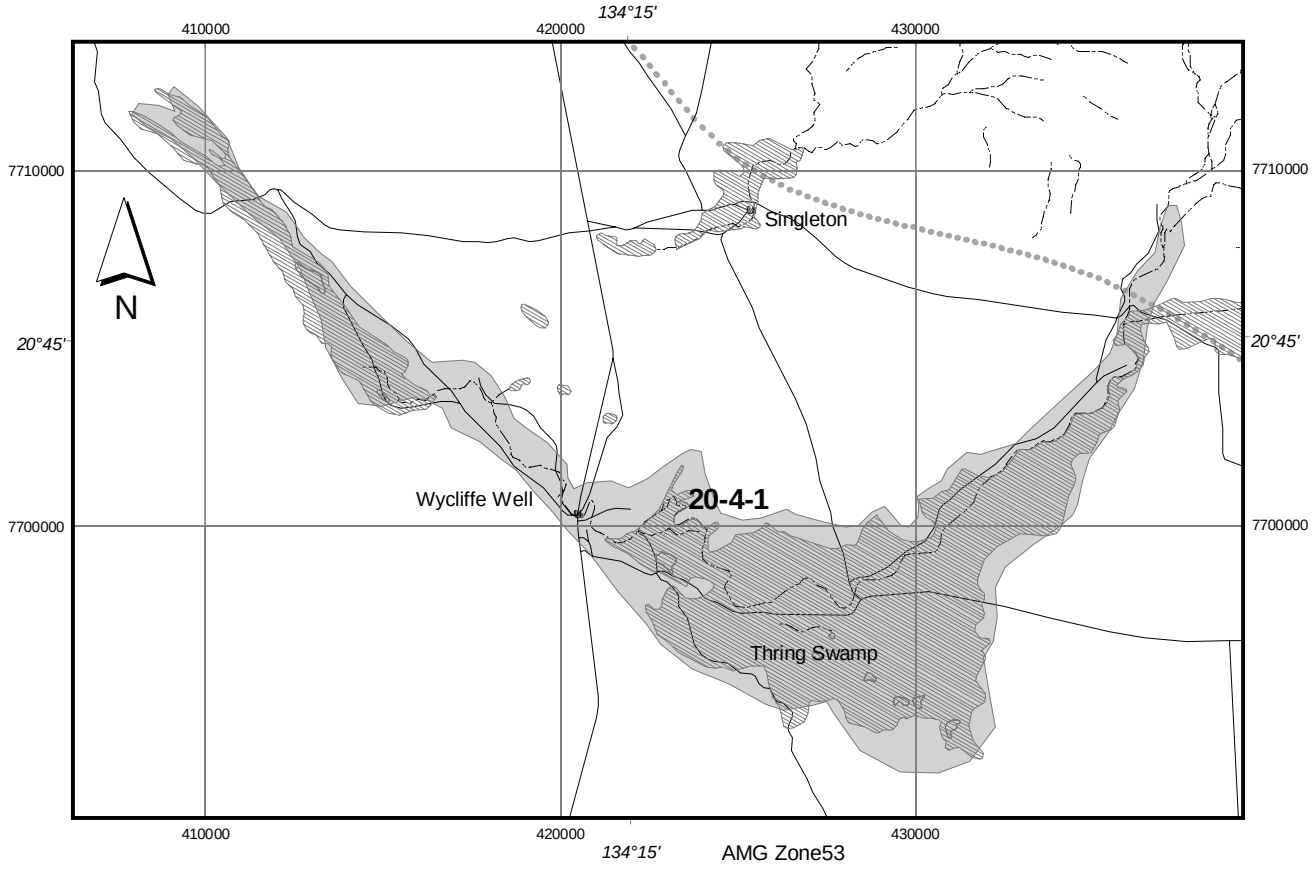
Taxa of bioregional significance: none

Type locations of the following were collected from the site: *Fimbristylis ammobia*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 27 (71 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 76 (28 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.



Site: 20-4-2 Algoolgoora Swamp

Level of significance: bioregional

Location: 20º 23' S 133º 58' E; Tanami Desert - 25km North West of Devils Marbles.

Area: 117 km^2 **Map sheet:** Bonney Well SF 53-02

Bioregions: Tanami (TAN 99.9%) & Davenport Murchison Ranges (DAV slither)

Tenure: Freehold - Mungkarta Aboriginal Land Trust (92% of site) and Mungkarta 2 Aboriginal Land Trust (7% of site)

Description: Floodout of Bonney Creek - alluvial soils clays/clayloams.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Isotoma luticola* {3R}

Taxa of NT significance: *Acacia grasbyi* {3rC-}, *Nesaea repens* {3k}

Taxa of Southern NT (study area) significance: none

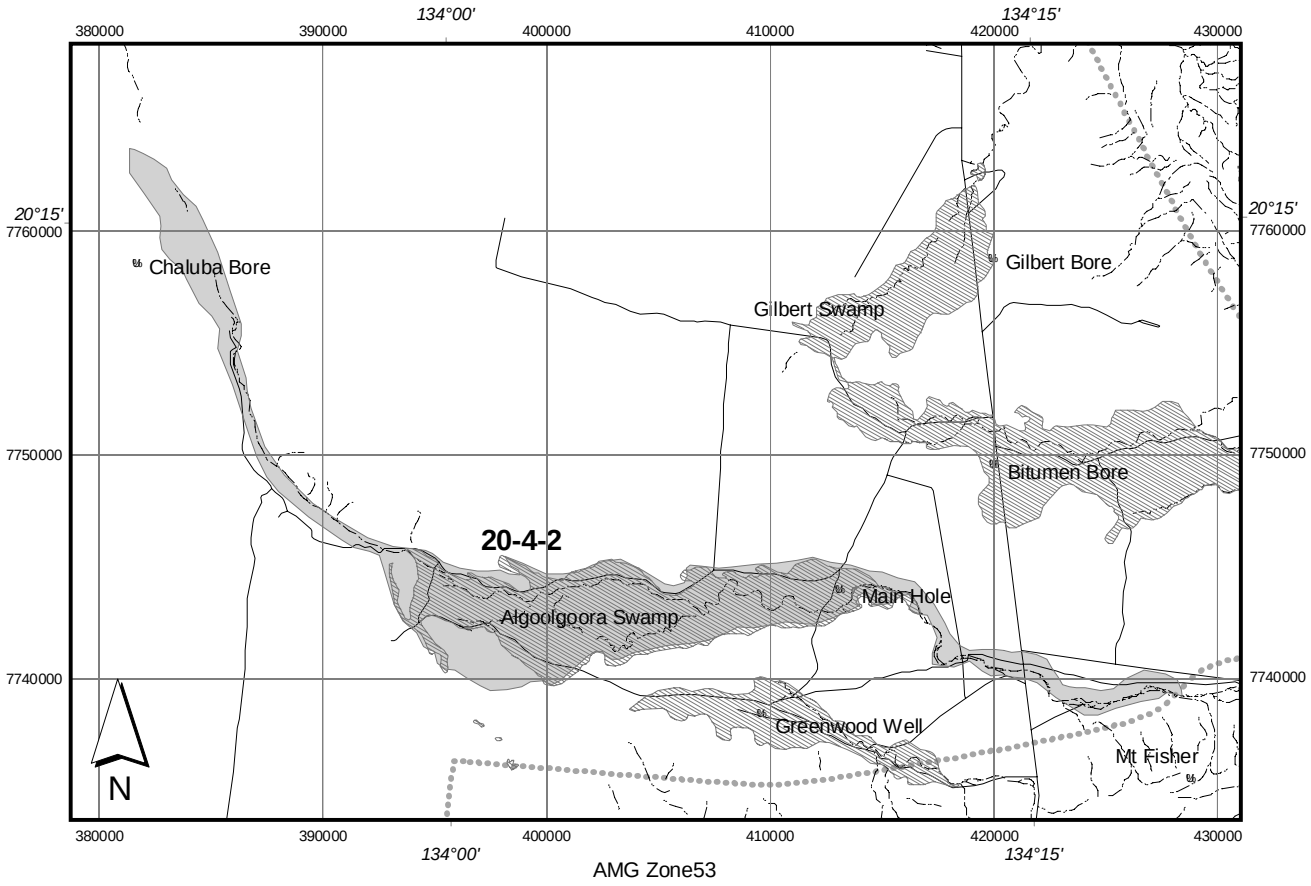
Taxa of bioregional significance: none

Other taxa only known in TAN bioregion (NT portion) from this site: *Cyperus exaltatus*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 27 (69 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 76 (30 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.



Site: 20-5-4 Wonarah Beds

Level of significance: bioregional

Location: 19º 56' S 136º 19' E; Wakaya Desert

Area: 1431 km^2 **Map sheets:** Frew River SF 53-03, Ranken SE 53-16 & Alroy SE-53-15

Bioregions: Tanami (TAN 98.5%) & Mitchell Grass Downs (MGD 1.5%)

Tenure: Freehold - Arruwurra Aboriginal Corporation (35% of site), Wakaya Aboriginal Land Trust (21% of site); Pastoral Lease - Dalmore Downs Station (38% of site), West Ranken Station (4% of site); Crown land (<1% of site)

Description: Comprises part of an extensive area characterised by the outcropping of the Wonarah Beds - low rises of chert chalcedony, tertiary travertine, silicified coquinite and limestone, and outcrops of Cambrian dolomite framed in a sandplain. The beds occur over a very large area and values of this site may not be unique or may extend over a much larger region.

Notes: This distinctive undulating desert landscape is unique to this area of the Wakaya desert. The only known collection of *Sporobolus latzii* has been made from this site. In addition, the site is the type location for *Acacia drepanocarpa subsp. latifolia*.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: *Bonamia alatisemina* {3K [E]}, *Rothia indica subsp. australis* {3KC-}, *Sporobolus latzii* {1K [NSEW] endemic to/only known from this site}

Taxa of NT significance: *Distichostemon barklyanus* {3k}, *Heliotropium ballii* {3k}, *Heliotropium pulvinum* {3K}, *Najas marina* {3rC- only known in TAN from this site}, *Triumfetta centralis* {3k}, *Triumfetta deserticola* {3k}

Taxa of Southern NT (study area) significance: *Grevillea dryandri subsp. dryandri* {(disjunct)}

Taxa of bioregional significance: *Eragrostis olida* {TAN (eastern range limit) [E]}, *Exocarpos sparteus* {TAN (northern range limit) [N]}, *Isoetes muelleri* {TAN (disjunct and apparently rare) only known in TAN from this site}, *Tephrosia stuartii* {TAN (eastern range limit) [E]}

Type locations of the following were collected from the site: *Acacia drepanocarpa subsp. latifolia* (1960), *Sporobolus latzii*

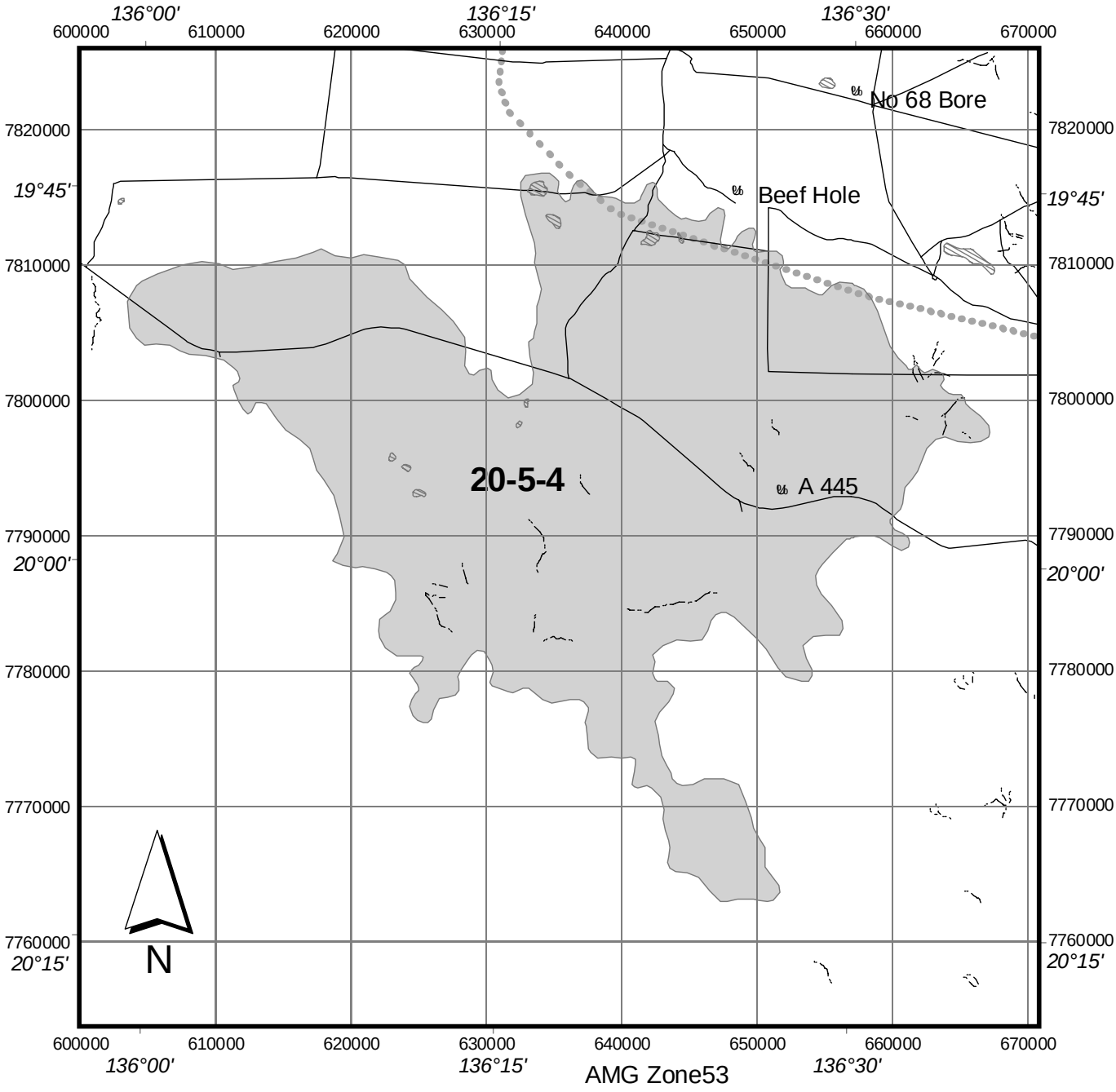
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 42 (94 %): *Corymbia opaca* (Bloodwood) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 96 (1 < %): *Astrebla pectinata* (Barley Mitchell grass) grassland.

Map unit 107 (1 %): *Chenopodium auricomum* (Bluebush) low open-shrubland with ephemeral grassland understorey.

Map unit 41 (4 %): *Corymbia opaca* (Bloodwood) low open-woodland with *Triodia bitextura* (Curly Spinifex) hummock grassland understorey.


136°00'
136°15'
136°30'
600000
610000
620000
630000
640000
650000
660000
670000
7820000
7810000
7800000
7790000
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7770000
7760000
19°45'
20°00'
20°15'
No 68 Bore
Beef Hole
A 445
20-5-4
N
AMG Zone53

Site: 21-1-1 False Mount Russell

Level of significance: bioregional

Location: 21º 7' S 129º 17' E; South western Tanami Desert

Area: 23 km^2 **Map sheet:** Highland Rocks SF 52-7

Bioregions: Tanami (TAN 99.7%) & GSD (0.3%)

Tenure: Freehold - Lake Mackay Aboriginal Land Trust (100% of site)

Description: Low outcrop of quartz arenite and sub-lithic arenite conglomerate rising some 50m above the surrounding sandplain.

Notes: Type location for *Cyperus concinnus*.

Criteria satisfied: B1 b1 ii)

Taxa of Australian significance: *Comesperma A77288 Tanami* {3R}

Taxa of NT significance: *Newcastelia cladotricha* {3k}, *Triumfetta deserticola* {3k}

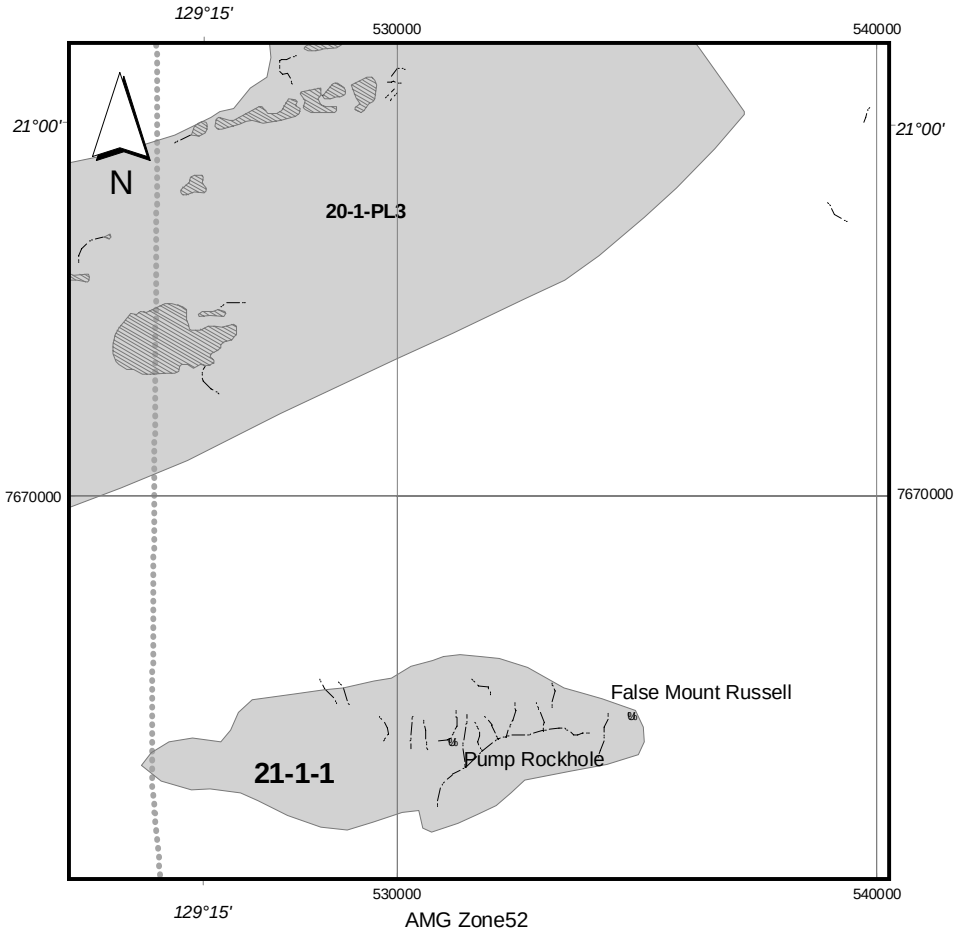
Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: *Cyperus concinnus* {TAN (western range limit) [W]}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 86 (7 %): *Triodia pungens* (Soft Spinifex) or *Triodia basedowii* (Hard Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Map unit 76 (92 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.


129°15'
530000
540000
21°00'
N
20-1-PL3
7670000
False Mount Russell
Pump Rockhole
21-1-1
AMG Zone52

Site: 21-4-4 Watt Range Floodouts and Fringing Sandplains

Level of significance: bioregional

Location: 21º 39' S 134º 15' E; Sandplains on the western margins of the Watts Range.

Area: 303 km^2 **Map sheet:** Barrow Creek SF 53-6

Bioregions: Tanami (TAN 76%) & Burt Plain (BRT 24%)

Tenure: Freehold - Alyawarra Aboriginal Land Trust (18% of site); Pastoral Lease - Neutral Junction Station (64% of site), Stirling Station (<1% of site), Murray Downs (<1% of site) and Mount Skinner Station (16% of site)

Description: Site is circumscribed rather arbitrarily. It includes the footslopes of the Watts Range, the floodouts on the plains beyond, and a 'tongue' of northwest-southeast oriented parallel dunes, which have botanical affinities with the central Tanami Desert. The sandplain is probably quite shallow in places and is underlain by Devonian sandstones. Values may extend to the south east towards the Sandover River, somewhat peripheral to the extent of outcropping Devonian geology.

Notes: A rarely visited area. The sandplains support scattered *Brachychiton gregorii* and these stands extend in a broad band to the south east of the site. This species is a useful indicator of the availability of subsurface water resources and/or the proximity of porous sedimentary geologies.

Criteria satisfied: A1 a ii), A1 b ii), B1 b1 ii)

Taxa of Australian significance: none

Taxa of NT significance: *Centipeda racemosa* {3k}, *Gymnanthera cunninghamii* {3r}, *Triumfetta johnstonii* {3k}

Taxa of Southern NT (study area) significance: *Bothriochloa bladhii subsp. bladhii* {(disjunct)}

Taxa of bioregional significance: *Acacia jensenii* {BRT (disjunct) only known in BRT from this site}, *Bergia ammannioides* {BRT (apparently rare) only known in BRT from this site}, *Corymbia sphaerica* {BRT (southern range limit) [S]}, *Dicrastylis lewellinii* {TAN (northern range limit) [N]}, *Gomphrena diffusa subsp. arenicola* {TAN (southern and eastern range limit) [SE]}, *Sida A88271 Rabbit Flat* {TAN (eastern range limit) [E]}

Other taxa only known in TAN bioregion (NT portion) from this site: *Gossypium sturtianum var. sturtianum*, *Solanum coactiliferum*

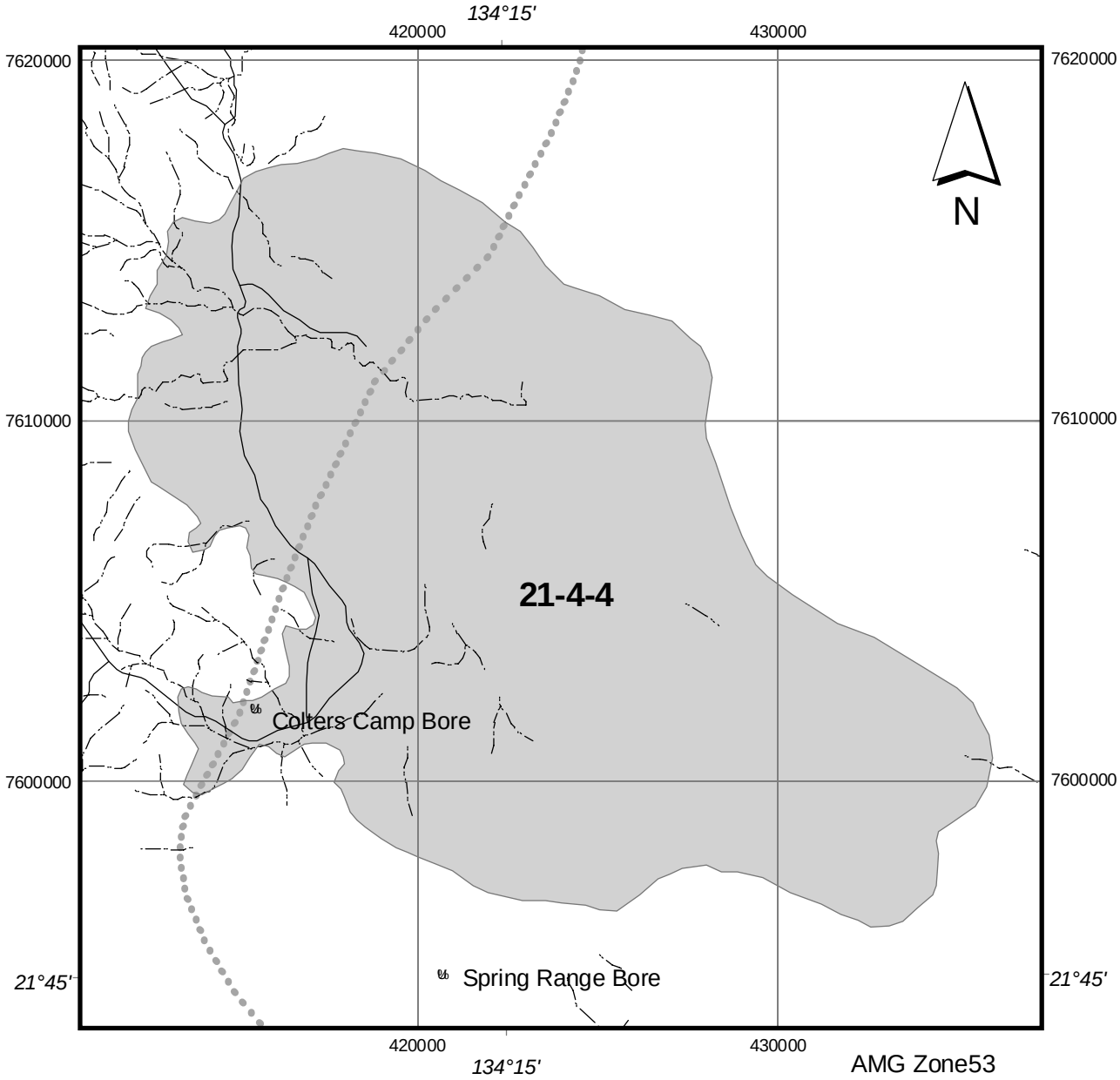
Other taxa only known in BRT bioregion from this site: *Fimbristylis depauperata*

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (2 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 76 (90 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 43 (6 %): *Eucalyptus* low open-woodland and/or *Acacia* sparse-shrubland with *Triodia spicata* (Spike Flower Spinifex), *Triodia pungens* (Soft Spinifex) hummock grassland understorey.


134°15'
420000
430000
7620000
7610000
7600000
21°45'
N
21-4-4
Colters Camp Bore
Spring Range Bore
AMG Zone53

Site: 21-5-3 Elkedra River Floodout

Level of significance: bioregional

Location: 21º 11' S 136º 14' E; Wakaya Desert

Area: 834 km^2 **Map sheets:** Elkedra SF 53-7 & Sandover River SF 53-8

Bioregion: Tanami (TAN)

Tenure: Pastoral Lease - Elkedra Station (16% of site) and Annitowa Station (83% of site)

Description: Floodout of the Eldkedra River. Extensive seasonal swamps, channels and semi-permanent waterholes. Site also supports *Astrebla* grasslands and *Acacia georginae* (Gidyea) shrublands on heavy clay soils.

Notes: The occurrence of *Polygala gabrielae* at this site is of biogeographic interest.

Criteria satisfied: A1 a ii), B1 b1 ii)

Taxa of Australian significance: *Cullen walkingtonii* {3KC- only known in TAN from this site}, *Isotoma luticola* {3R}, *Polygala gabrielae* {3KC- only known in TAN from this site}, *Stemodia A57025 Manners Creek* {3K [W]}

Taxa of NT significance: *Centipeda racemosa* {3k}, *Eragrostis lanicaulis* {3k}, *Fimbristylis velata* {3k}

Taxa of Southern NT (study area) significance: *Najas tenuifolia* {(disjunct) only known in TAN from this site}

Taxa of bioregional significance: *Desmodium muelleri* {TAN (disjunct and apparently rare) only known in TAN from this site}, *Fimbristylis eremophila* {TAN (eastern range limit) [E]}

Other taxa only known in TAN bioregion (NT portion) from this site: *Centipeda thespidioides*, *Minuria integerrima*

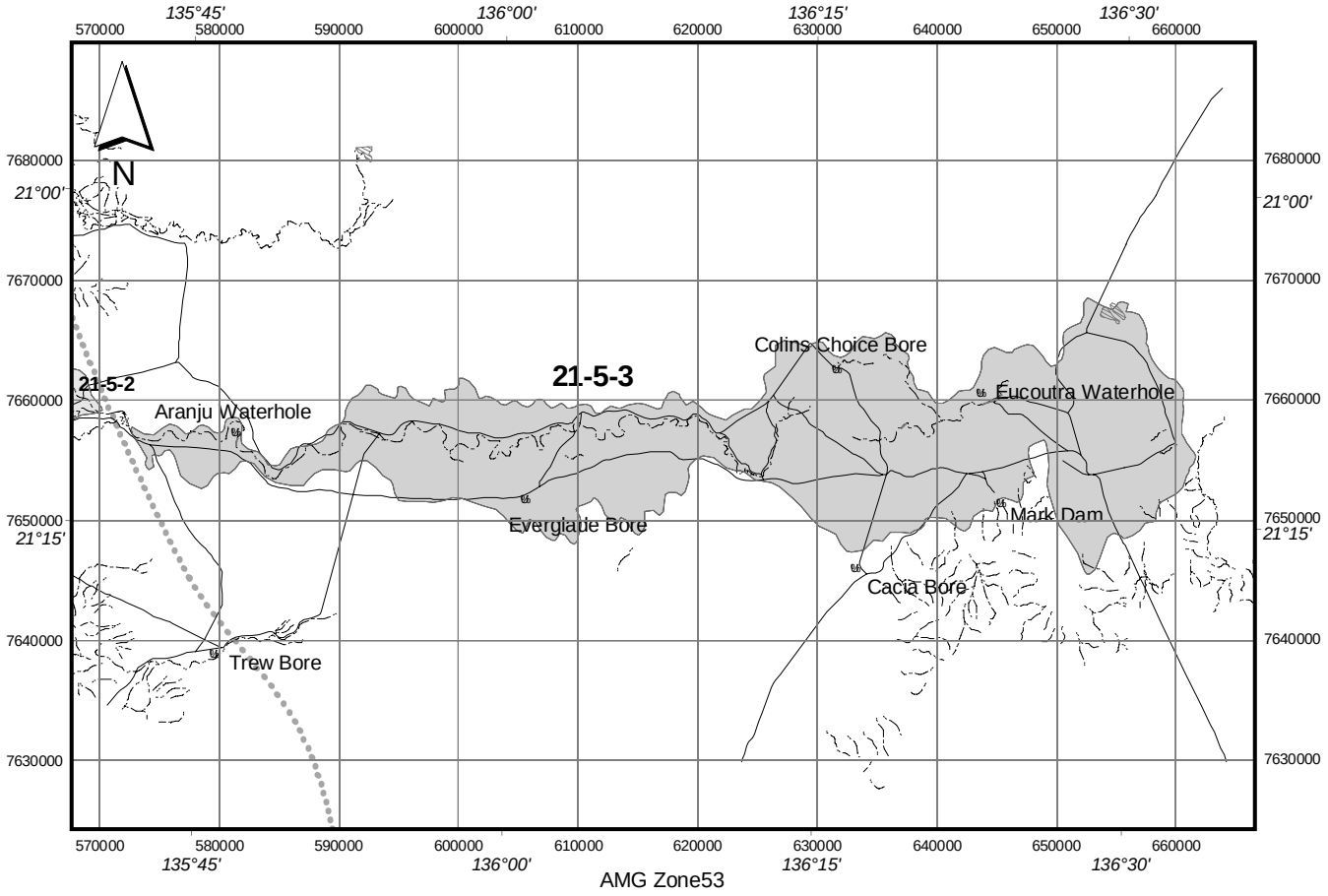
Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 62 (1 %): *Acacia georginae* (Gidyea) low open-woodland with *Astrebla pectinata* (Bull Mitchell Grass) open-grassland understorey.

Map unit 95 (23 %): Mixed species sparse-grassland or herbland.

Map unit 27 (32 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 76 (42 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.



11.4 SITES OF UNDETERMINED SIGNIFICANCE IN THE NT PORTION OF THE TANAMI BIOREGION

Site: 18-1-PL1 Browns Range

Level of significance: undetermined

Location: 18º 48' S 129º 19' E; ca. 140 km NNW of Tanami Settlement.

Area: 559 km^2 **Map sheet:** Birrindudu SE 52-11

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal Land Trust (ca. 23% of site) and Yingualyalya Aboriginal Land Trust (ca. 76% of site)

Description: This notional site of botanical interest includes a series of low sandstone hills (composed of Gardiner Sandstone) to the south west of the Birrindudu Range and a series of fringing, sub-linear ephemeral lakes. These physiographic features approximate the margins of a large granite dome (the Browns Range Dome) which, apart from minor outcropping is thinly covered by sand.

Notes: This large and remote area is worth investigation. The geological characteristics of this area with low sandstone ranges bordering a large granite intrusion is very similar to site 19-1-3 (Coomarie) in the Central Tanami.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (63 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 38 (36 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Site: 18-1-PL2 Birrindudu Range

Level of significance: undetermined

Location: 18º 39' S 129º 34' E; North-western Tanami Desert.

Area: 365 km^2 **Map sheet:** Birrindudu SE 52-11

Bioregion: Tanami (TAN)

Tenure: Pastoral Lease - Birrindudu Station (67% of site); Freehold - Central Desert Aboriginal land Trust (31% of site) and Yingualyalya Aboriginal land Trust (<1% of site)

Description: This site includes the Birrindudu Range which is composed of sandstone and the sandplains and laterite rises to its north. This region supports some of the most northerly stands of Mulga (*Acacia aneura*) on the continent and possibly some stands of Boab (Adansonia gregorii).

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 38 (99 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 76 (1 < %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Site: 18-2-PL1 Winneke Floodout

Level of significance: undetermined

Location: 18º 42' S 131º 12' E; Ca. 80 km South West of Lajamanu

Area: 420 km^2 **Map sheet:** Winneke Creek SE 52-12

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal land Trust (100% of site)

Description: This potential site of botanical interest includes the floodout of the Winneke Creek in the northern Tanami Desert.

Notes: The floodout of this major watercourse supports a diversity of habitat types and is worthy of future investigation.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: *Vallisneria annua* {(disjunct)}

Taxa of bioregional significance: *Goodenia modesta* {TAN (northern range limit) [N]}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (21 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 27 (56 %): *Eucalyptus microtheca* s. lat. (Coolibah) low open-woodland with open-grassland understorey.

Map unit 77 (22 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Site: 19-1-PL1 Lake Buck

Level of significance: undetermined

Location: 19º 47' S 130º 23' E; Central Tanami Desert, ca. 75 km NE of Tanami Settlement.

Area: 324 km^2 **Map sheet:** Tanami SE 52-15

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal Land Trust (100% of site)

Description: Site includes Lake Buck and the unnamed saline lake system to the south.

Notes: When empty, the bed of Lake Buck reputedly supports tussock grasslands dominated by *Astrebla* sp. and *Eragrostis xerophila*. Surprisingly there has been no botanical collecting at or near Lake Buck. Also worthy of note are reports of extensive stands of *Acacia maconochieana* to the south of Lake Buck and unexplored paleodrainage systems.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (68 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 111 (20 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 100 (11 %): *Eragrostis xerophila* (Neverfail) open-grassland with scattered trees and shrubs.

Map unit 52 (1 < %): *Melaleuca glomerata* (Inland Teatree) open-shrubland.

Site: 19-2-PL1 Central Tanami Paleodrainage Depression

Level of significance: undetermined

Location: 19º 32' S 130º 55' E; Central Tanami Desert.

Area: 514 km^2 **Map sheet:** Tanami East SE 52-16

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal Land Trust (100% of site)

Description: Large area broadly circumscribed by the extent of recent alluvial and lacustrine deposition.

Notes: This area is geomorphologically similar to site 20-1-1 (Tanami Paleodrainage Systems). The extensive Paleodrainage systems in the Central Tanami Desert require further botanical investigation.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 77 (1 < %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Map unit 76 (70 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 65 (28 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Site: 19-2-PL2 Wilson Creek and Floodout

Level of significance: undetermined

Location: 19º 15' S 130º 17' E; ca. 100 km north east of Tanami Settlement.

Area: 216 km^2 **Map sheets:** Tanami SE 52-15 & Tanami East SE 52-16

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal land Trust (93% of site); Pastoral Lease - Suplejack Station (6% of site)

Description: This poorly explored area includes Wilson Creek and its floodout. The site is bounded by the extent of alluvial and lacustrine deposits.

Taxa of Australian significance: none

Taxa of NT significance: *Heliotropium pulvinum* {3K}

Taxa of Southern NT (study area) significance: *Fimbristylis cinnamometorum* {(disjunct & apparently rare) only known in study area from this site}

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 111 (12 %): *Halosarcia* (Samphire) low open-shrubland fringing bare salt pans.

Map unit 77 (39 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey between dunes.

Map unit 76 (33 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Map unit 38 (14 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Site: 20-1-PL1 Bluebush Hills

Level of significance: undetermined

Location: 20º 9' S 129º 39' E; ca. 25 km south of Tanami Settlement.

Area: 683 km^2 **Map sheet:** The Granites SF 52-03

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal land Trust (95% of site) and Mt. Frederick (No.2) Aboriginal land Trust (4% of site)

Description: Diverse landscape of sandplain, prior stream channels, sandstone and chert hills and laterite rises.

Taxa of Australian significance: *Corynotheca asperata* {3K [N]}

Taxa of NT significance: *Acacia maconochieana* {3r}, *Cleome oxalidea* {3r}, *Iotasperma sessilifolia* {3k only known in TAN from this site}, *Trianthema glossostigma* {3r}

Taxa of Southern NT (study area) significance: *Goodenia paludicola* {(apparently rare) only known in study area from this site}, *Vallisneria nana* {(disjunct)}

Taxa of bioregional significance: none

Other taxa only known in TAN bioregion (NT portion) from this site: *Goodenia cycloptera* {[N]}

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 38 (7 %): *Eucalyptus brevifolia* (Snappy Gum) low open-woodland with *Triodia pungens* (Soft Spinifex) hummock grassland understorey.

Map unit 76 (92 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Site: 20-1-PL2 Tanami Paleodrainage System Extension

Level of significance: undetermined

Location: 20º 24' S 130º 29' E; Central Tanami Desert

Area: 360 km^2 **Map sheets:** The Granites SF 52-03 & Tanami East SE 52-16

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal land Trust (100% of site)

Description: This site includes an extensive paleodrainage landscape contiguous with site 20-1-3 (Tanami Paleodrainage Systems).

Notes: Assumed botanical values have not been documented.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 52 (57 %): *Melaleuca glomerata* (Inland Teatree) open-shrubland.

Map unit 76 (42 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Site: 20-4-PL1 Numagalong Dunes

Level of significance: undetermined

Location: 20º 39' S 133º 40' E; ca. 125 km SSW of Tennant Creek.

Area: 149 km^2 **Map sheet:** Bonney Well SF 53-02

Bioregion: Tanami (TAN)

Tenure: Freehold - Karlantijpa South Aboriginal Land Trust (100% of site)

Description: This site includes an isolated region of low dunes in the Tamami Desert.

Notes: This area warrants further detailed survey.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 76 (100 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

Site: 21-3-PL1 Central Tanami Remnant Mulga

Level of significance: undetermined

Location: 21º 6' S 131º 59' E; Central Tanami Desert

Area: 1058 km^2 **Map sheets:** Mount Solitaire SF 52-4, Lander River SF 53-1, Mount Peake SF 53-5 & Mount Theo SF 52-08

Bioregion: Tanami (TAN)

Tenure: Freehold - Central Desert Aboriginal Land Trust (100% of site)

Description: This site has very few confirmed botanical values. The somewhat arbitrary boundary of this site follows the outline of a cluster of stands of mature Mulga (*Acacia aneura*) on the plains around the Arthur, Wanabanda, Walangawanu, Wini, Mulyugaridji and Studholme Hills.

Taxa of Australian significance: none

Taxa of NT significance: none

Taxa of Southern NT (study area) significance: none

Taxa of bioregional significance: none

Vegetation Map Units (mapped as occurring at the site on the 1:1000,000 NT Vegetation Survey Map):

Map unit 65 (21 %): *Acacia aneura* (Mulga) tall open-shrubland with *Eragrostis eriopoda* (Woolybutt) open-grassland understorey.

Map unit 76 (78 %): *Triodia pungens* (Soft Spinifex), *Triodia schinzii* (Feathertop Spinifex) hummock grassland with *Acacia* tall sparse-shrubland overstorey.

11.5 WATERHOLES OF BOTANICAL SIGNIFICANCE IN THE NT PORTION OF THE TANAMI BIOREGION

Mallopan Waterhole

Significance: national

Included within Lake Surprise and the Lander River Floodout site of significance, site no. 20-2-1

Reference coordinates (decimal degrees of latitude and longitude): -20.4º , 132º

Significant plant taxa: *Eleocharis papillosa* {3R}

Coodna Waterhole

Significance: bioregional

Included within Short Range Waterholes site of significance, site no. 19-4-2

Reference coordinates (decimal degrees of latitude and longitude): -19.3º , 134.2º

Significant plant taxa: *Nymphaea immutabilis subsp. immutabilis* {3v}, *Yakirra muelleri* {3k}

Curlew Waterhole

Significance: bioregional

Included within Upper Lander River site of significance, site no. 20-3-2

Reference coordinates (decimal degrees of latitude and longitude): -20.6º , 132.1º

Significant plant taxa: *Fimbristylis velata* {3k}, *Isotoma luticola* {3R}, *Rumex crystallinus* {3r}

Dingo Waterhole

Significance: bioregional

Included within Upper Lander River site of significance, site no. 20-3-2

Reference coordinates (decimal degrees of latitude and longitude): -20.6º , 132.2º

Significant plant taxa: *Fimbristylis velata* {3k}, *Isotoma luticola* {3R}, *Lindernia A4814 Willowra* {1R}

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