Wet Tropics Bioregion
1:50 000
Vegetation Survey

BLUEWATER
QUEENSLAND

Refer to this map as:
SERIES WTMAveg
SHEET 8259-4
EDITION 1

Rattlesnake Island
Herald Island
Herald Island Reef
Martin Bluff
Lorne Reef
(approximate position)
Rattlesnake Island Reef
Coral
Sea
Halifax
Bay
Paluma Shoals
PALUMA RANGE NATIONAL PARK
Toolakea
Bluewater
Saunders Beach
Purona
Bushland Beach
Yabulu
Black River
Mt Low
Jensen
Deeragun
Bluewater Park
Mount Saunders
Mount Low
Mount Marlow
TOWNSVILLE TOWN COMMON CONSERVATION PARK
The Town Common
Boomerang Waterhole
radio towers
Yabulu Treatment Plant
Shelley Beach
Mount Katawzhal

Date of map production: January 2009
© Wet Tropics Management Authority 2009
ISBN 978-1-921591-43-3

GN TN MN
GRID CONVERGENCE (0.5°)
GRID-MAGNETIC ANGLE (8.6°)

True North, Grid North and Magnetic North are shown diagrammatically for the centre of this map. Magnetic North is correct for 2008 and moves easterly by 0.1° in about four years.

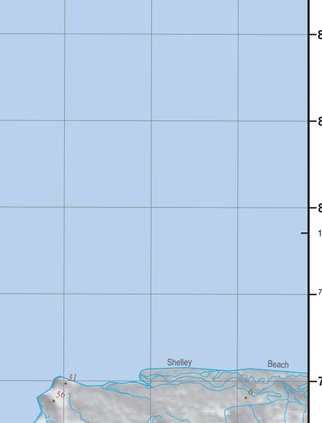
GDA

Locality — Atherton
Mountain (spot height metres) — Allanton Hill 221

Major road
Secondary road
Railway
Cane Railway
Watercourse, Waterbody, Reef
National Park, Forest Reserve
State Forest, Timber Reserve
World Heritage Area

0 1 2 3 4 5 Kilometres

FULL LATITUDE AND LONGITUDE ARE SHOWN WITH FIVE MINUTE TICKS INSIDE THE NEATLINE
GREY NUMBERED GRID LINES ARE 1000 METRE INTERVALS OF THE UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 55 (MAP GRID AUSTRALIA), GDA
GRID VALUES ARE SHOWN IN FULL ONLY AT THE SOUTH WEST CORNER OF THE MAP
VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM; HORIZONTAL DATUM: GDA94; TRANSVERSE MERCATOR PROJECTION; ELEVATIONS IN METRES



Rainforests
13d Notophyll rainforests

Sclerophyll and sclerophyll rainforest transitions
20a Closed Lophostemon forests

Sclerophyll forests and woodlands
37b Eucalyptus forests and woodlands
59b Melaleuca forests and woodlands
22e Casuarina forests and woodlands
49b Lophostemon forests and woodlands

Vegetation complexes and mosaics
64a Coastal beach complexes
61c Secondary successional complexes
62e Riparian complexes
66f Rock pavement and coastal headland complexes

Non-woody vegetation
68d Grasslands

Mangroves
70a Mangrove forests
70e Mangrove grasslands and herblands

Unvegetated, cleared or non-native
Naturally unvegetated
Rural, agricultural or urban areas

Vegetation not mapped

Vegetation codes in legend boxes above are examples only. For a complete listing of vegetation codes and descriptions see back of map.

SERIES WTMAveg
SHEET 8259-4
EDITION 1

VEGETATION MAPPING INFORMATION

Abstract
This series of vegetation maps of the Wet Tropics of Queensland Bioregion depicts the vegetation community types identified by J.P Stanton and D. Stanton. The mapping is based on their interpretation of 1:25,000 aerial photography. Marked-up photography was scanned and orthorectified to the Authority's 1:50,000 GIS drainage coverage using an 80 metre digital elevation model (DEM). Vegetation polygons were extracted digitally from the scanned images while their vegetation attributes were inputted manually.

Citation
WTMA (2009). '*name of map sheet* ' [map] Edition 1. 1:50,000. Vegetation of the Wet Tropics of Queensland. Wet Tropics Management Authority. Cairns.

Accuracy
The positional accuracy of the mapped vegetation polygons is ±12 metres from the true position as depicted on the Australian 1:50,000 Topographic Survey Map Series R733. Horizontal accuracy is estimated at 90% of well-defined detail within ±50 metres of true position.

Data Sources
Vegetation of the Wet Tropics of Queensland Bioregion (WTMA 2008)
Wet Tropics of Queensland World Heritage Area (WTMA)
Drainage (WTMA)
Spot heights (WTMA)
Waterbodies (WTMA: derived from Vegetation of the Wet Tropics of Queensland Bioregion and imagery)
80m DEM (WTMA)
Roads (© Pitney Bowes MapInfo Australia Pty Ltd, 2008)
Railways (Queensland Rail)
Estate boundaries (DCDB-Queensland Department of Natural Resources and Water)*

* The boundary of the Wet Tropics of Queensland World Heritage Area along the line of the coastline is commonly known as the low water mark (LWM).
The boundary of the Queensland digital cadastral database (DCDB) along the line of the coastline is commonly known as the high water mark (HWM).

Disclaimer
While every care is taken to ensure the accuracy of this data, Pitney Bowes Map Info Australia Pty Ltd, Wet Tropics Management Authority and/or the State of Queensland make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason. While every effort has been made to depict only constructed gazetted roads on the map, they should not be relied upon for navigational purposes or positional accuracy.

Acknowledgements
The expert assistance and advice of the Cartography Centre, James Cook University, is gratefully acknowledged, as is the help received from the Queensland Herbarium, Environmental Protection Agency.

Further information
www.wettropics.gov.au

© Wet Tropics Management Authority 2009

Vegetation Codes and Descriptions

RAINFORESTS
Mesophyll rainforests
Complex mesophyll vine forests (CMVF)
1a Complex mesophyll vine forest (on deep fertile soils). Very wet and wet lowlands and foothills mainly on basalts and alluvium.
1b Complex mesophyll vine forest (on deep fertile soils). Moist to very wet (± cloud) uplands mainly on basalts and alluvium.
1c Complex mesophyll vine forest (gallery forests). Moist and wet lowlands and foothills on alluvium.
1d Complex mesophyll vine forest dominated by *Backhousia bancroftii* (on basaltic terraces and scree slopes). Very wet foothills on basalts. (subtype of 1a)
1e Complex mesophyll vine forest characterised by *Intsia bijuga*, *Beilschmiedia obtusifolia* and *Palaquium galactoxylon* (on calcareous sand ridges). Very wet lowlands on dunes. (variant of 1a)

Mesophyll vine forests (MVF)
2a Mesophyll vine forest. Very wet to moist lowlands to uplands on a variety of geologies.
2b Mesophyll vine forest. Very wet lowlands on dunes.
2c Mesophyll vine forest with *Archontophoenix alexandrae* prominent in the sub-canopy and canopy. Wet and very wet lowlands on alluvium. (subtype of 2a)
2d Mesophyll vine forest characterised by *Barringtonia racemosa* + *Hibiscus tiliaceus* + *Heritiera littoralis* with *Archontophoenix alexandrae* + *Licuala ramsayi* var. *ramsayi* prominent in the sub-canopy (seasonally inundated swamps). Very wet lowlands on alluvium. (subtype of 2a)
2e Mesophyll vine forest characterised by *Calophyllum inophyllum* + *Terminalia arenicola* + *Dillenia alata* + *Myristica insipida* var. *insipida* + *Pouteria myrsinodendron* + *Millettia pinnata* + *Hibiscus tiliaceus* (on beach ridge deposits). Very wet lowlands on dunes. (variant of 2b)
2f Mesophyll vine forest (on unstable rock slopes) commonly with *Ficus* spp., *Schefflera actinophylla* and *Alstonia scholaris*. Wet to very wet uplands on metamorphics. (variant of 2a)

Semi-deciduous mesophyll vine forests (SDMVF)
3a Semi-deciduous mesophyll vine forest. Moist and wet lowlands and foothills on a variety of geologies.
3b Semi-deciduous mesophyll vine forest characterised by *Nauclea orientalis*, *Cryptocarya hypospodia* and *Castanospermum australe* (on coarse granitic outwash). Wet lowlands on alluvium. (variant of 1c)
3c Semi-deciduous mesophyll vine forest with occasional *Aleurites moluccana* + *Alstonia scholaris* ± *Bombax ceiba* var. *leicarpum* emergents and some sclerophyll components (on steep slopes). Wet foothills on metamorphics. (variant of 3a)

Palm-leaf rainforests
Feather palm vine forests (FPVF)
4a Mesophyll feather palm vine forest dominated by *Archontophoenix alexandrae* (seasonal swamp). Very wet lowlands on alluvium.
4b Mesophyll feather palm vine forest characterised by *Archontophoenix alexandrae* + *Syzygium tierneyanum* + *Barringtonia racemosa* (seasonal swamp). Very wet lowlands on alluvium. (subtype of 4a)
4c Mesophyll feather palm vine forest dominated by *Archontophoenix alexandrae* (steep upper slopes and gully bottoms). Wet and very wet uplands on granites. (subtype of 4a)

Fan palm vine forests (FAPVF)
5a Mesophyll fan palm vine forest dominated by *Licuala ramsayi* var. *ramsayi*. Wet and very wet lowlands to uplands on alluvium.
5b Simple notophyll fan-palm vine forest dominated by *Licuala ramsayi* var. *ramsayi* and *Pandanus* spp. (swamp). Wet uplands on metamorphics, alluvium and granites. (variant of 5a)

Notophyll rainforests and thickets
Complex notophyll vine forests (CNVF)
6a Complex notophyll vine forest. Wet and moist (± cloud) uplands and highlands mostly on basalts.
6b Complex notophyll vine forest (on boulder fields). Very wet lowlands and foothills on granites.
6c Complex notophyll vine forest characterised by *Corymbia torelliana* + *Acacia celsa* + *Acacia mangium* + *Elaeocarpus grandis* + *Antidesma bunius* + *Grevillea baileyana* + *Flindersia pimenteliana* + emergent *Argyrodendron polyandrum* (riverine floodplains). Dry foothills on alluvium. (variant of 7c)

Araucarian notophyll vine forests (ANVF)
7a Notophyll vine forest characterised by *Araucaria cunninghamii* var. *cunninghamii* emergents. Dry foothills and uplands on granites and rhyolites.
7b Notophyll vine forest characterised by *Araucaria cunninghamii* var. *cunninghamii* (steep rocky slopes). Very wet uplands on granites. (variant of 7a)
7c Complex notophyll vine forests often with emergent *Agathis robusta*. Moist foothills and uplands on metamorphics and granites.
7d Simple notophyll vine forest characterised by *Araucaria bidwillii* emergents. Wet uplands and highlands on granites. (variant of 10a)

Notophyll vine forests (NVF)
8a Notophyll vine forest. Moist lowlands on dunes.
8b Notophyll vine forest. Moist highlands on basalts.
8c Notophyll vine-fern forest characterised by *Chionanthus ramiflora* + *Schefflera actinophylla* (on unstable escarpments). Very wet foothills on basalts. (variant of 2a)
8d Notophyll vine forest dominated by *Blepharocarya involucrigera.* Moist to very wet foothills and uplands on a variety of geologies.
8e Notophyll vine forest characterised by *Pouteria euphlebia* + *Podocarpus grayae* (on steep slopes). Moist to very wet foothills to highlands on granites. (subtype of 14a)

Notophyll vine thickets (NVT)
9a Notophyll vine thicket ± *Syzygium forte* ± *Syzygium banksii* ± *Cyclophyllum coprosmoides* var. *spathulatum* ± *Acacia crassicarpa* ± *Drypetes deplanchei* ± *Elaeodendron melanocarpum* ± *Aglaia elaeagnoidea* (restricted to coastal sands on Hinchinbrook Island). Wet lowlands on dunes. (variant of 8a)
9b Low notophyll vine thicket (restricted to Orpheus and Curacoa Islands on transported coastal cobble and boulder ridges). Moist lowlands on granites. (variant of 8a)
9c Notophyll vine thicket (on exposed rocky headlands). Wet foothills on granites.
9d Notophyll vine thicket dominated by *Blepharocarya involucrigera* + *Atractocarpus sessilis* + *Choriceras tricorne* + *Endiandra glauca* + *Syzygium banksii.* Moist to very wet lowlands on dunes.

Simple notophyll vine forests (SNVF)
10a Simple notophyll vine forest. Moist to very wet uplands and highlands on metamorphics, granites and rhyolites.
10b Simple notophyll vine forest characterised by *Syzygium angophoroides* (seasonal swamp). Wet lowlands on alluvium.
10c Simple notophyll vine forest characterised by *Syzygium forte* subsp. *forte* + *Buchanania arborescens* + *Chionanthus ramiflora*. Moist to very wet lowlands on dunes.
10d Simple notophyll vine forest dominated by *Stockwellia quadrifida*. Very wet uplands on granites and metamorphics.
10e Simple notophyll vine-fern forest characterised by *Grevillea baileyana* + *Fagraea cambagei* + *Garcinia warrenii* + *Mischocarpus exangulatus* + *Pandanus monticola* (in seepage areas). Moist foothills on metamorphics.
10f Simple notophyll vine forest characterised by *Pseudoweinmannia lachnocarpa* with emergent *Agathis microstachya*. Moist highlands on rhyolites. (subtype of 10a)
10g Simple notophyll vine forest dominated by *Dryadodaphne trachyphloia.* Very wet uplands on granites (subtype of 10a)
10h Simple notophyll vine forest dominated by *Ceratopetalum virchowii.* Very wet uplands on metamorphics (subtype of 10a)
10i Simple notophyll vine forest characterised by *Argyrodendron polyandrum* + *Flindersia brayleyana.* Wet uplands on granites. (variant of 10a)
10j Simple notophyll vine forest dominated by *Acacia celsa* (on sharply broken topography). Wet foothills on metamorphics. (variant of 10a)
10k Simple notophyll vine forest (shallow soils and severe drainage subject to wind shearing in exposed situations). Moist to very wet uplands and highlands on granites and metamorphics. (subtype of 10a)
10l Simple notophyll vine forest characterised by *Blepharocarya involucrigera* + *Acacia celsa* + *Flindersia bourjotiana* + *Syzygium angophoroides* + *Dillenia alata* (on shallow sand islands above swamps). Moist to very wet lowlands on alluvium and dunes. (subtype of 2a)

Semi-evergreen notophyll vine forests (SENVF)
11a Semi-evergreen notophyll vine forest. Moist and dry foothills and uplands on granites and metamorphics.

Semi-evergreen notophyll vine thickets (SENVT)
12a Simple notophyll semi-evergreen vine thicket. Dry uplands on rhyolites.
12b Semi-evergreen notophyll vine thicket with emergent *Argyrodendron polyandrum*. Moist uplands on granites.
12c Semi-evergreen notophyll vine thicket characterised by *Argyrodendron polyandrum* + *Strychnos psilosperma* + *Croton insularis* + *Brombya platynema* + *Geijera salicifolia* + *Elaeodendron melanocarpum*. Dry uplands on rhyolites.

Semi-deciduous notophyll vine forests (SDNVF)
13a Complex semi-deciduous notophyll vine forest. Moist and dry foothills and uplands on basalts.
13b Semi-deciduous notophyll vine forest charactered by *Terminalia arenicola* + *Acacia polystachya* (on coastal headlands). Moist lowlands and foothills on metamorphics, alluvium and rhyolites. (variant of 3a)
13c Semi-deciduous notophyll vine forest characterised by *Melia azedarach* + *Pleiogynium timorense* + *Ganophyllum falcatum* + *Paraserianthes toona* + *Ficus racemosa* + *Argyrodendron polyandrum* + *Alstonia scholaris*. Moist lowlands on dunes. (variant of 7c)
13d Semi-deciduous notophyll vine forest characterised by *Ganophyllum falcatum* + *Pleiogynium timorense* + *Argyrodendron polyandrum* + *Paraserianthes toona* + *Melia azedarach* + *Chionanthus ramiflora* (on rocky gorges and talus slopes). Moist foothills and uplands on metamorphics and granites. (subtype of 7c)

Microphyll rainforests and thickets
Simple microphyll vine-fern forests (SMVF)
14a Simple microphyll vine-fern forest. Moist to very wet (± cloud) highlands on granites, metamorphics and rhyolites.
14b Microphyll vine forest dominated by *Agathis robusta* + *Argyrodendron polyandrum*. Moist uplands on granites. (variant of 7c)
14c Simple microphyll vine-fern forest characterised by *Ceratopetalum virchowii* (on exposed ridges). Very wet highlands on granites. Very wet highlands on granites (subtype of 14a)
14d Simple microphyll vine-fern forest characterised by *Cinnamomum propinquum*. Very wet (± cloud) highlands on granites. (subtype of 14a)
14e Simple microphyll vine-fern forest characterised by *Uromyrtus tenella*. Very wet uplands on metamorphics. (subtype of 14a)
14f Microphyll vine-sedge forest characterised by *Syzygium kuranda* + *Pouteria euphlebia* + *Podocarpus grayae* + *Musgravea stenostachya* + *Stenocarpus cryptocarpus*. Wet (± cloud) uplands on metamorphics. (subtype of 14a)

Microphyll vine thickets (MVT)
15a Microphyll vine thicket characterised by emergent *Araucaria cunninghamii* var. *cunninghamii.* Moist and dry foothills and uplands on granites and rhyolites.
15b Microphyll vine thicket (restricted to Mount Fox on unconsolidated pyroclastic volcanic cones). Dry uplands on basalts.
15c Microphyll vine thicket with emergent *Licuala ramsayi* var. *ramsayi* + *Oraniopsis appendiculata* (impeded drainage). Very wet uplands on granites and metamorphics.
15d Microphyll vine thicket commonly with *Mimusops elengi* ± *Terminalia muelleri* ± *Pouteria sericea* ± *Exocarpos latifolius*. Moist and wet lowlands on dunes. (subtype of 8a)

Deciduous microphyll thickets (DVT)
16a Deciduous microphyll vine thicket. Moist and dry foothills on granites.
16b Deciduous microphyll vine thicket characterised by *Gossia bidwillii* (on steep rock talus and boulder slopes). Moist foothills on granites. (variant of 16a)

Microphyll fern thickets (MFT)
17a Simple microphyll vine-fern thicket. Very wet (± cloud) highlands on granites.
17b Microphyll vine thicket characterised by *Trochocarpa bellendenkerensis* + *Uromyrtus tenellus* + *Rhodomyrtus macrocarpa* + *Placospermum coriaceum* + *Musgravea stenostachya* + *Acacia celsa* (on steep boulder field and scree slopes). Wet uplands on granites. (subtype of 17a)

SCLEROPHYLL AND SCLEROPHYLL RAINFOREST TRANSITIONS
Closed Acacia forests
18a Closed *Acacia celsa* forest ± variable rainforest species. Very wet to dry foothills to highlands on granites and metamorphics.
18b Closed *Acacia mangium* forest + *Acacia celsa*. Moist to very wet lowlands and foothills mostly on granites.
18c Closed *Acacia polystachya* forest + variable rainforest species. Moist to very wet foothills and uplands on metamorphics and granites.
18d Closed *Acacia melanoxylon* forest + *Acacia celsa*. Wet (± cloud) highlands on granites and rhyolites.
18e Closed *Acacia polystachya* forest + variable rainforest and sclerophyll forest species (on seasonal watercourses). Wet foothills on metamorphics.
18f Closed *Acacia mangium* thicket + *Acacia crassicarpa* + *Hibiscus tiliaceus* + *Breynia cernua* + *Cupaniopsis anacardioides* + *Terminalia muelleri* (on shallow sand dunes overlying saline soils). Moist lowlands on dunes.

Closed Eucalyptus forests
19a Closed *Corymbia torelliana* forest + *Corymbia intermedia* ± *Eucalyptus tereticornis* subsp. *tereticornis* ± variable rainforest species. Wet to dry uplands on metamorphics, rhyolites and granites.
19b Open to closed *Eucalyptus pellita* forest + *Corymbia intermedia* + *Eucalyptus tereticornis* subsp. *tereticornis* ± *Corymbia torelliana* ± variable rainforest species. Wet and very wet lowlands and foothills mostly on metamorphics.

Closed Lophostemon forests
20a Open to closed *Lophostemon confertus* forest + variable rainforest and sclerophyll forest species. Very wet to dry foothills to highlands on a variety of geologies.

SCLEROPHYLL FORESTS AND WOODLANDS
Acacia forests and woodlands
21a Low to medium, open to closed *Acacia crassicarpa* forest. Moist to very wet lowlands on dunes.
21b Medium open *Acacia mangium* forest + *Lophostemon suaveolens* ± *Eucalyptus pellita* ± *Corymbia tessellaris* ± *Corymbia intermedia*. Moist lowlands and foothills on granites and alluvium.
21c Low open *Acacia flavescens* forest ± *Allocasuarina littoralis*. Moist to very wet lowlands to uplands on a variety of geologies.
21d Low open *Acacia flavescens* forest + *Acacia cincinnata*. Moist foothills on granites.
21e Low *Acacia polystachya* woodland. Moist foothills on metamorphics and granites.
21f Low open *Acacia julifera* forest. Wet foothills on rhyolites.

Casuarina forests and woodlands
22a Low open *Allocasuarina littoralis* woodland + *Corymbia intermedia* + *Lophostemon suaveolens* (restricted to Hinchinbrook Island). Wet lowlands and foothills on alluvium and colluvium.
22b Low *Allocasuarina littoralis* woodland + *Eucalyptus pellita* ± *Allocasuarina torulosa* ± *Acacia crassicarpa*. Moist to very wet foothills on granites and metamorphics.
22c Low open *Allocasuarina littoralis* woodland and shrubland (on shallow soils). Dry to very wet uplands mostly on granites and rhyolites.
22d Medium open *Allocasuarina torulosa* forest ± *Acacia celsa*. Dry to wet foothills and uplands on metamorphics, granites and rhyolites.
22e Tall *Casuarina cunninghamiana* subsp. *cunninghamiana* woodland + *Lophostemon suaveolens* ± *Eucalyptus tereticornis* subsp. *tereticornis* ± *Melaleuca leucadendra* ± an understorey of *Melaleuca viminalis* + *Bursaria tenuifolia* (riparian). Dry to wet lowlands to uplands mostly on alluvial deposits.
22f Low open *Casuarina equisetifolia* subsp. *equisetifolia* forest (on coastal headlands). Moist foothills on granites.

Eucalyptus forests and woodlands
23a Medium open *Corymbia abergiana* forest + *Eucalyptus portuensis* + *Syncarpia glomulifera* subsp. *glomulifera* ± *Corymbia leptoloma* ± *Acacia flavescens*. Moist and dry uplands on rhyolites and granites.
24a Medium *Corymbia citriodora* subsp. *citriodora* woodland + *Eucalyptus portuensis* ± *Corymbia intermedia* ± *Syncarpia glomulifera* subsp. *glomulifera* ± *Eucalyptus drepanophylla* ± *Xanthorrhoea johnsonii*. Moist and dry uplands and highlands mainly on granites and rhyolites.
25a Medium *Corymbia clarksoniana*/*Corymbia intermedia* woodland + *Eucalyptus tereticornis* subsp. *tereticornis* + *Lophostemon suaveolens.* Dry to wet lowlands to uplands on a variety of geologies.
25b Medium *Corymbia clarksoniana* woodland. Moist and wet foothills on granites and alluvium.
25c Medium *Corymbia clarksoniana* woodland + *Corymbia tessellaris* + *Acacia crassicarpa*. Moist lowlands on dunes.
25d Medium *Corymbia clarksoniana* woodland + *Corymbia tessellaris* + *Eucalyptus drepanophylla* ± *Eucalyptus platyphylla* ± *Melaleuca dealbata* ± *Eucalyptus tereticornis* subsp. *tereticornis*. Moist and dry lowlands and foothills on granites, rhyolites and alluvium. (subtype of 25a)
26a Low to medium *Corymbia dallachiana* woodland and open woodland + *Corymbia tessellaris* + *Themeda triandra* (on coastal headlands). Moist lowlands and foothills on metamorphics.
27a Low open *Corymbia hylandii* woodland + *Eucalyptus cullenii* + *Xanthorrhoea johnsonii*. Moist foothills on granites.
27b Low sparse *Corymbia hylandii* woodland + *Corymbia dallachiana* + *Corymbia abergiana* + *Petalostigma pubescens* ± *Melaleuca stenostachya* ± *Callitris intratropica* ± *Melaleuca viridiflora*. Dry uplands on metamorphics.
28a Medium *Corymbia intermedia* woodland + *Eucalyptus pellita* + *Lophostemon suaveolens* + *Melaleuca dealbata* (on old beach ridges). Wet and very wet lowlands on dunes.
28b Medium to tall open *Corymbia intermedia* forest + *Allocasuarina torulosa*. Moist to very wet lowlands and foothills on a variety of geologies.
28c Medium *Corymbia intermedia* woodland + *Eucalyptus pellita* ± *Acacia mangium* ± *Eucalyptus tereticornis* subsp. *tereticornis* ± *Acacia celsa* ± *Lophostemon suaveolens* ± *Syncarpia glomulifera* subsp. *glomulifera.* Moist to very wet foothills mainly on granites and metamorphics.
28d Medium open *Corymbia intermedia* forest + *Syncarpia glomulifera* subsp. *glomulifera* ± *Lophostemon confertus* ± *Allocasuarina torulosa* ± *Banksia aquilonia*. Wet to dry uplands mostly on granites and rhyolites.
28e Medium open *Corymbia intermedia* forest + *Allocasuarina torulosa* ± *Lophostemon suaveolens*. Moist and dry uplands on granites, rhyolites and laterites.
28f Medium *Corymbia intermedia* woodland + *Eucalyptus resinifera* ± *Syncarpia glomulifera* subsp. *glomulifera* ± *Eucalyptus drepanophylla*. Moist and dry uplands and highlands on granites and rhyolites.
29a Medium to tall open *Corymbia nesophila* forest. Moist foothills on metamorphics, granites and alluvium.
29b Medium *Corymbia nesophila* woodland ± *Corymbia clarksoniana* ± *Erythrophleum chlorostachys*. Moist foothills on metamorphics, granites and alluvium.
30a Low to medium *Corymbia stockeri* woodland and open woodland + *Syncarpia glomulifera* subsp. *glomulifera* + *Eucalyptus portuensis* + *Corymbia citriodora* subsp. *citriodora*. Moist foothills and uplands on granites.
31a Medium open *Corymbia tessellaris* forest + *Melaleuca dealbata* + *Corymbia intermedia* + *Lophostemon suaveolens* + *Acacia* spp. + *Canarium australianum* ± *Deplanchea tetraphylla* (on prograding dunes). Wet to dry lowlands on dunes.
31b Medium to tall *Corymbia tessellaris* woodland ± *Corymbia intermedia*. Very wet to dry lowlands and foothills on a variety of geologies.
31c Medium *Corymbia tessellaris* woodland + *Eucalyptus tereticornis* subsp. *tereticornis* ± *Corymbia intermedia* ± *Eucalyptus platyphylla* ± *Lophostemon suaveolens*. Moist to very wet lowlands and foothills mostly on metamorphics.
31d Low to medium open *Corymbia tessellaris* woodland ± *Corymbia intermedia* ± *Corymbia clarksoniana* (restricted to Palm Island). Moist foothills on granites.
31e Medium *Corymbia tessellaris* woodland (restricted to Mount Fox on a pyroclastic volcanic cone). Dry uplands on basalts.
32a Low to medium *Eucalyptus atrata* woodland and open woodland + *Corymbia hylandii* + *Corymbia dallachiana*. Moist and dry uplands mostly on metamorphics and granites.
33a Medium *Eucalyptus chlorophylla* woodland + *Corymbia clarksoniana* + *Eucalyptus platyphylla* + *Melaleuca viridiflora* (on shallow soils with impeded drainage). Moist foothills on alluvium. (subtype of 59b)
34a Tall open *Eucalyptus cloeziana* forest. Dry to wet foothills and uplands on granites and rhyolites.
34b Medium open *Eucalyptus cloeziana* woodland + Corymbia abergiana + *Corymbia citriodora* subsp. *citriodora* + *Eucalyptus portuensis* + *Eucalyptus shirleyi* + *Eucalyptus lockyeri* subsp. *lockyeri* (on rocky slopes). Dry highlands on granites.
34c Medium open *Eucalyptus cloeziana* woodland. Dry to wet foothills to highlands on granites and rhyolites. (subtype of 34a)
35a Low to medium *Eucalyptus crebra* woodland + *Eucalyptus granitica* + *Corymbia erythrophloia*. Dry foothills and uplands on granites, metamorphics and basalts.
35b Medium open *Eucalyptus crebra*/*granitica* woodland + *Eucalyptus tereticornis* subsp. *tereticornis*. Dry uplands on granites and laterites.
36a Low *Eucalyptus cullenii* woodland + *Corymbia nesophila* ± *Eucalyptus platyphylla* ± *Melaleuca nervosa*. Moist foothills mostly on metamorphics.
36b Low open *Eucalyptus cullenii* woodland ± *Eucalyptus platyphylla* ± *Corymbia citriodora* subsp. *citriodora.* Moist foothills and uplands on metamorphics.
37a Open *Eucalyptus drepanophylla* woodland + *Eucalyptus platyphylla*. Dry lowlands on alluvium.
37b Medium *Eucalyptus drepanophylla* woodland + *Corymbia clarksoniana* + *Eucalyptus platyphylla* ± *Corymbia tessellaris* ± *Corymbia dallachiana*. Dry lowlands on alluvium.
37c Medium *Eucalyptus drepanophylla* woodland + *Corymbia intermedia* + *Corymbia clarksoniana* + *Acacia polystachya* (restricted to Orpheus Island). Moist foothills on granites.
37d Medium open *Eucalyptus drepanophylla*/*Eucalyptus crebra* forest. Moist and dry foothills on granites and metamorphics.
37e Low open *Eucalyptus drepanophylla* woodland + *Melaleuca monantha* (on soils with impeded drainage). Dry foothills and uplands on metamorphics.
37f Medium open *Eucalyptus drepanophylla* woodland + *Callitris intratropica*. Dry uplands on metamorphics.
37g Low to medium *Eucalyptus drepanophylla*/*Eucalyptus granitica* woodland + *Corymbia clarksoniana* + *Acacia* spp. Dry uplands on metamorphics, granites and rhyolites.
38a Tall open *Eucalyptus grandis* forest. Wet to dry (± cloud) uplands and highlands on a variety of geologies.
38b Tall open *Eucalyptus grandis* forest + *Eucalyptus pellita* x *grandis* + *Eucalyptus pellita* + *Corymbia intermedia* + *Acacia celsa* + *Allocasuarina torulosa*. Dry (± cloud) uplands mostly on granites. (subtype of 38a)
39a Medium *Eucalyptus leptophleba* woodland + *Corymbia clarksoniana* + *Eucalyptus platyphylla* ± *Erythrophleum chlorostachys* ± *Eucalyptus tereticornis* subsp. *tereticornis* ± *Corymbia tessellaris* ± *Melaleuca monantha*. Wet to dry foothills and uplands on metamorphics, alluvium and granites.
39b Medium open *Eucalyptus leptophleba* forest + *Melaleuca dealbata* + *Eucalyptus tereticornis* subsp. *tereticornis* + *Eucalyptus platyphylla*. Dry foothills on alluvium. (subtype of 39a)
40a Medium *Eucalyptus moluccana* woodland. Dry uplands and highlands on a variety of geologies.
41a Medium open *Eucalyptus pellita* woodland + *Corymbia intermedia* (seasonal swamp). Wet and very wet lowlands on alluvium. (subtype of 19b)
42a Medium *Eucalyptus platyphylla* open forest. Moist and dry lowlands to uplands mostly on alluvium.
42b Low to medium *Eucalyptus platyphylla* woodland + *Corymbia intermedia* + *Lophostemon suaveolens*. Moist and dry lowlands and foothills on a variety of geologies.
42c Medium *Eucalyptus platyphylla* woodland + *Eucalyptus leptophleba* + *Corymbia hylandii* + *Melaleuca viridiflora* + *Melaleuca stenostachya* + *Grevillea glauca* + *Petalostigma pubescens* + *Acacia* spp. Dry foothills on alluvium. (subtype of 39a)
43a Medium to tall open *Eucalyptus portuensis* forest + *Corymbia nesophila*. Wet foothills and uplands on metamorphics.
43b Medium open *Eucalyptus portuensis* forest + *Corymbia intermedia* ± *Eucalyptus drepanophylla* ± *Eucalyptus platyphylla* ± *Lophostemon suaveolens* ± *Syncarpia glomulifera* subsp. *glomulifera*. Moist and dry foothills and uplands on a variety of geologies.
43c Low to medium *Eucalyptus portuensis* woodland + *Corymbia intermedia* + *Eucalyptus drepanophylla* + *Xanthorrhoea johnsonii* ± *Cycas media* (on steep rocky hillsides). Wet to dry foothills and uplands mostly on granites and rhyolites.
43d Low to medium open *Eucalyptus portuensis* woodland + *Corymbia dimorpha*/*Corymbia leichhardtii* + *Eucalyptus shirleyi* + *Grevillea glauca* ± *Eucalyptus exserta* ± *Eucalyptus granitica* ± *Corymbia clarksoniana* + *Acacia leptostachya* (rocky hillslopes). Dry uplands on granites and rhyolites.
43e Low to medium *Eucalyptus portuensis* woodland ± *Eucalyptus drepanophylla* ± *Corymbia intermedia* ± *Corymbia citriodora* subsp. *citriodora* ± *Lophostemon suaveolens* ± *Melaleuca viridiflora* ± *Acacia flavescens* ± *Allocasuarina littoralis*. Moist and dry uplands and highlands on granites, rhyolites and metamorphics.
43f Low *Eucalyptus portuensis* woodland + *Corymbia citriodora* subsp. *citriodora* + *Eucalyptus lockyeri* subsp. *exuta* + *Eucalyptus granitica* ± *Melaleuca viridiflora* ± *Eucalyptus crebra* ± *Lophostemon suaveolens* (on rock pavements). Dry uplands on granites.
43g Low *Eucalyptus portuensis* woodland + *Corymbia citriodora* subsp. *citriodora* + *Syncarpia glomulifera* subsp. *glomulifera* + shrub layer of *Lophostemon confertus* (on rocky slopes). Moist and dry uplands and highlands on rhyolites.
44a Medium to tall open *Eucalyptus reducta* forest + *Syncarpia glomulifera* subsp. *glomulifera* + *Allocasuarina torulosa*. Wet to dry highlands mainly on granites.
44b Medium open *Eucalyptus reducta* forest + *Corymbia citriodora* subsp. *citriodora* ± *Eucalyptus portuensis.* Moist and dry uplands on granites and metamorphics.
44c Medium *Eucalyptus reducta* woodland + *Eucalyptus granitica* + *Corymbia citriodora* subsp. *citriodora* + *Syncarpia glomulifera* subsp. *glomulifera* ± *Corymbia dimorpha* ± *Corymbia leichhardtii.* Dry uplands and highlands on granites and rhyolites.
44d Medium open *Eucalyptus reducta* woodland + *Syncarpia glomulifera* subsp. *glomulifera* ± *Corymbia intermedia* (shallow soils). Moist and dry uplands and highlands on rhyolites and granites.
44e Low open *Eucalyptus reducta* woodland + *Corymbia citriodora* subsp. *citriodora* + *Corymbia abergiana* ± *Eucalyptus drepanophylla* + *Acacia calyculata* + *Jacksonia thesioides.* Dry uplands on granites.
45a Tall open *Eucalyptus resinifera* forest + *Corymbia intermedia* + *Syncarpia glomulifera* subsp. *glomulifera* + *Allocasuarina torulosa* ± *Eucalyptus grandis* ± *Callitris macleayana*. Wet uplands and highlands mostly on granites and rhyolites.
45b Medium *Eucalyptus resinifera* woodland + *Syncarpia glomulifera* subsp. *glomulifera* + *Corymbia leptoloma* + *Eucalyptus portuensis* + *Allocasuarina* spp. ± *Corymbia abergiana* ± *Corymbia intermedia*. Moist and dry uplands and highlands on rhyolites and granites. (variant of 45a)
46a Low *Eucalyptus shirleyi* woodland ± *Corymbia leichhardtii* ± *Lophostemon suaveolens* ± *Corymbia citriodora* subsp. *citriodora* ± *Grevillea glauca*. Dry uplands and highlands on granites and rhyolites.
47a Tall open *Eucalyptus tereticornis* subsp. *tereticornis* forest + *Corymbia intermedia* + *Eucalyptus reducta* + *Allocasuarina torulosa* ± *Angophora floribunda*. Moist and dry uplands and highlands on basalts, granites and laterites.
47b Medium to tall open *Eucalyptus tereticornis* subsp. *tereticornis* woodland + *Eucalyptus platyphylla* (in broad valleys). Dry uplands on alluvium.
47c Medium to tall open *Eucalyptus tereticornis* subsp. *tereticornis* forest and woodland. Very wet to dry foothills to highlands on a variety of geologies.
47d Medium *Eucalyptus tereticornis* subsp. *tereticornis* woodland + *Eucalyptus portuensis* + *Eucalyptus crebra*/*Eucalyptus granitica* + *Corymbia intermedia* + *Allocasuarina torulosa* ± *Angophora floribunda*. Dry uplands and highlands mostly on granites.
47e Low to medium *Eucalyptus tereticornis* subsp. *tereticornis* woodland + *Eucalyptus pellita* + *Corymbia intermedia* + *Melaleuca dealbata* + *Lophostemon suaveolens* ± *Corymbia tessellaris* ± *Acacia mangium.* Moist and wet lowlands and foothills mostly on alluvium.
47f Low to medium *Eucalyptus tereticornis* subsp. *tereticornis* woodland + *Corymbia clarksoniana* + *Eucalyptus pellita* + *Lophostemon suaveolens* + *Melaleuca dealbata* + *Melaleuca viridiflora* (+ *Pandanus* sp. on drainage lines). Moist foothills and uplands on metamorphics and alluvium. (subtype of 47e)
48a Medium *Eucalyptus tetrodonta*/*Corymbia nesophila* woodland + *Erythrophleum chlorostachys* ± *Corymbia tessellaris* ± *Eucalyptus portuensis* ± *Eucalyptus brassiana*. Moist foothills on alluvium and (weathered lateritic aeolian) dunes.
48b Low *Eucalyptus tetrodonta* woodland + *Eucalyptus brassiana* ± *Melaleuca acacioides* ± *Petalostigma pubescens* ± *Xanthorrhoea johnsonii*. Moist foothills on alluvium.

Lophostemon forests and woodlands
49a Medium open *Lophostemon confertus* forest. Moist and dry uplands on granites and rhyolites.
49b Low to medium open *Lophostemon suaveolens* forest (on seasonally waterlogged soils). Dry to very wet lowlands to uplands on a variety of geologies.
49c Low to medium *Lophostemon suaveolens* woodland and open woodland ± *Lophostemon confertus* ± *Corymbia intermedia* ± *Eucalyptus crebra* ± *Eucalyptus exserta* ± *Schefflera actinophylla* (on steep slopes). Dry uplands mostly on granites.
49d Low open to closed *Lophostemon grandiflorus* forest ± associated species (on rocky drainage lines). Moist uplands on granites and metamorphics.

Melaleuca forests and woodlands
50a Medium open *Melaleuca argentea* forest (on drainage lines). Moist foothills on alluvium. (variant of 55a)
51a Medium to tall open *Melaleuca cajuputi* subsp. *platyphylla* woodland (swamp). Wet and very wet lowlands on alluvium.
52a Medium open *Melaleuca dealbata* forest + *Lophostemon suaveolens* + *Corymbia tessellaris* + *Acacia mangium* + *Livistona drudei*. Moist lowlands on alluvium.
52b Medium to tall *Melaleuca dealbata* woodland + *Melaleuca leucadendra* (swamp). Wet to dry lowlands on alluvium and dunes.
52c Tall open *Melaleuca dealbata* forest (restricted to Orpheus Island). Moist lowlands on alluvium. (variant of 52b).
53a Medium open *Melaleuca fluviatilis* forest + *Casuarina cunninghamiana* subsp. *cunninghamiana* + *Eucalyptus tereticornis* subsp. *tereticornis* + *Lophostemon suaveolens* + *Corymbia intermedia* + *Nauclea orientalis* (riparian). Dry lowlands on alluvium.
54a Low open *Melaleuca foliolosa* forest. Moist lowlands on alluvium.
55a Medium to tall *Melaleuca leucadendra* forest (swamp). Very wet to dry lowlands on alluvium.
55b Medium open *Melaleuca leucadendra* forest + *Corymbia tessellaris* + *Acacia crassicarpa* + *Melaleuca viridiflora*. Moist to very wet lowlands on alluvium and dunes.
56a Medium *Melaleuca quinquenervia* forest and woodland (swamp). Moist to very wet lowlands and foothills mostly on alluvium.
56b Medium *Melaleuca quinquenervia forest* + *Eucalyptus pellita* + *Allocasuarina littoralis*. Very wet and wet foothills on metamorphics.
56c Medium open *Melaleuca quinquenervia* forest to woodland ± *Asteromyrtus lysicephala* ± *Deplanchea tetraphylla* ± *Dillenia alata* ± *Gahnia sieberiana* ± *Pandanus* spp. ± *Lepironia articulata* (swamp). Wet lowlands on (deep fibrous) peat.
56d Low open *Melaleuca quinquenervia* woodland + *Melaleuca viridiflora* (swamp). Wet and very wet lowlands on alluvium. (subtype of 56a)
56e Low open *Melaleuca quinquenervia* woodland and shrubland + *Acrostichum* spp + *Blechnum indicum* + *Eleocharis* sp. Very wet to dry lowlands on (brackish) alluvium (subtype of 56a)
56f Medium open *Melaleuca quinquenervia* forest + *Acacia crassicarpa* (on organic hardpan). Very wet lowlands on dunes. (subtype of 56a)
57a Low open *Melaleuca saligna* forest + *Melaleuca viridiflora* + *Lophostemon suaveolens* ± *Eucalyptus chlorophylla* (seasonal swamp). Moist lowlands and foothills on alluvium. (variant of 59a)
58a Low *Melaleuca stenostachya* woodland + *Melaleuca viridiflora* (on soils with impeded drainage). Dry foothills mostly on alluvium (variant of 59a)
59a Low *Melaleuca viridiflora* woodland (on soils with impeded drainage). Very wet to dry lowlands to uplands mostly on alluvium.
59b Medium *Melaleuca viridiflora* woodland + *Corymbia clarksoniana* ± *Eucalyptus platyphylla* ± *Lophostemon suaveolens* ± *Eucalyptus drepanophylla*. Moist and dry lowlands to uplands mostly on alluvium.
59c Low *Melaleuca viridiflora* woodland + *Melaleuca quinquenervia* + *Banksia robur* + *Banksia spinulosa* (fringing swamp). Dry foothills on alluvium. (variant of 59a)
59d Low *Melaleuca viridiflora* woodland + *Lophostemon suaveolens* (on soils with impeded drainage). Very wet to dry lowlands and foothills on alluvium and dunes (subtype of 59a)
59e Low open *Melaleuca viridiflora* forest + *Melaleuca leucadendra* + *Excoecaria agallocha* ± *Melaleuca dealbata* ± *Acacia leptostachya*. Moist lowlands on (brackish) alluvium. (variant of 59a)
59f Open *Melaleuca viridiflora* woodland and shrubland + *Petalostigma pubescens* + *Grevillea glauca* + *Xanthorrhoea johnsonii* + *Corymbia clarksoniana* + *Corymbia dallachiana*. Dry foothills and uplands on metamorphics. (variant of 59a)
59g Low open *Melaleuca* sp. aff. *viridiflora* forest (swamp). Wet to dry lowlands on alluvium. (variant of 59a)

Syncarpia forests and woodlands
60a Tall open to closed *Syncarpia glomulifera* subsp. *glomulifera* forest ± *Eucalyptus resinifera* ± *Corymbia intermedia* ± *Callitris macleayana* ± *Allocasuarina torulosa*. Dry to wet uplands on metamorphics, granites and rhyolites.
60b Medium to tall open *Syncarpia glomulifera* subsp. *glomulifera* forest + *Corymbia intermedia* + *Eucalyptus pellita* ± *Eucalyptus tereticornis* subsp. *tereticornis* ± *Acacia celsa* ± *Acacia mangium* + variable rainforest species in understorey. Moist to very wet foothills and uplands mostly on metamorphics and granites.
60c Medium open *Syncarpia glomulifera* subsp. *glomulifera* forest + *Melaleuca quinquenervia* (seasonal swamp on quartzite). Very wet uplands on metamorphics.
60d Medium open *Syncarpia glomulifera* subsp. *glomulifera* forest and woodland + *Allocasuarina torulosa* ± *Eucalyptus intermedia* ± *Allocasuarina littoralis*. Dry to very wet lowlands to highlands on a variety of geologies.
60e Low to medium *Syncarpia glomulifera* subsp. *glomulifera* woodland + *Allocasuarina littoralis* ± *Banksia aquilonia*. Dry to wet foothills and uplands on granites and rhyolites.
60f Low open *Syncarpia glomulifera* subsp. *glomulifera* forest and low woodland. Dry to wet uplands on granites and rhyolites. (subtype of 60e)
60g Low Syncarp*ia glomulifera* subsp. *glomulifera* woodland and shrubland + *Eucalyptus portuensis* + *Allocasuarina littoralis* + *Xanthorrhoea johnsonii* (on skeletal soils). Dry and moist uplands and highlands on granites and rhyolites.

VEGETATION COMPLEXES AND MOSAICS
Secondary successional complexes
61a Variable rainforest secondary successional forest complex. Very wet to dry lowlands to highlands on a variety of geologies.
61b Vine dominated secondary successional communities ± *Merremia peltata* ± *Entada phaseoloides* + *Cissus* spp. ± *Calamus* spp. Moist to very wet foothills mostly on granites and metamorphics.
61c Variable sclerophyll derived secondary successional forest and woodland complex. Very wet to dry lowlands to highlands on a variety of geologies.
61d Secondary successional grassland complex + *Paspalum longifolium* + *Leersia hexandra* (on hard setting, poorly drained soils). Wet and moist lowlands on alluvium.
61e Variable communities of native vegetation with a significant component of exotic species in the canopy, understorey and/or ground cover. Wet and moist lowlands on a variety of geologies.

Riparian complexes
62a Variable medium to tall open to closed *Tristaniopsis exiliflora* woodland ± *Xanthostemon chrysanthus* ± *Melaleuca leucadendra* ± *Grevillea baileyana* ± *Grevillea hilliana* ± *Blepharocarya involucrigera* ± *Atractocarpus fitzalanii* subsp. *fitzalanii* ± *Millettia pinnata* (fringing young streams). Very wet to dry foothills to highlands on alluvium and granites.
62b Variable low to medium open to closed shrubland, forest and woodland ± *Lophostemon suaveolens* ± *Chionanthus ramiflora* ± *Acacia flavescens* ± *Pittosporum spinescens* ± *Wikstroemia indica* (on in-stream rock cobble deposits). Moist to very wet lowlands on alluvium. (variant of 62a)
62c *Melaleuca viminalis* shrubland (on rock cobble deposits of the active flood plain of major streams). Wet to dry foothills and uplands on alluvium, granites and rhyolites. (subtype of 62a)
62d Notophyll vine thicket with emergent *Melaleuca fluviatilis* and medium to tall open forest/woodland (on coarse gravel beds of fast flowing streams). Dry foothills on alluvium.
62e Variable herbland, grassland and shrubland communities (on mobile flood-deposited gravel and sand banks in the beds of major streams). Very wet to dry lowlands to uplands on alluvium.

Wetland complexes
63a Sedgeland interspersed with low to medium woodland and vine forest + *Gahnia sieberiana* + *Lepironia articulata* + *Thoracostachyum sumatranum* ± *Melaleuca quinquenervia* + *Pandanus spp*. ± various vine forest species (permanent swamp). Very wet lowlands on alluvium.
63b Variable *Melaleuca quinquenervia* shrubland-sedgeland complex (perennially inundated areas of peat soils). Wet and very wet lowlands on alluvium and dunes. (subtype of 56a)

Coastal beach complexes
64a Variable open to closed shrubland, grassland and low to medium woodland and forest complex ± *Casuarina equisetifolia* subsp. *equisetifolia* ± *Acacia crassicarpa* ± *Argusia argentea* ± *Syzygium forte* subsp. *forte* ± *Calophyllum inophyllum* ± *Pandanus* spp. Very wet to dry lowlands on dunes.
64b Low to medium *Hibiscus tiliaceus* woodland ± *Calophyllum inophyllum* (on periodically inundated brackish swales). Moist and wet lowlands on dunes.
64c Variable shrubland, low open forest and low closed forest complex ± *Corymbia tessellaris* ± *Corymbia intermedia* ± *Lithomyrtus obtusa* ± *Acacia crassicarpa* ± *Canarium australianum* ± *Guioa acutifolia* ± *Melaleuca leucadendra* ± vine forest species (restricted to Hinchinbrook Island). Wet lowlands on dunes.

Fern complexes
65a Closed *Gleichenia dicarpa* fernland + *Gahnia sieberiana* + *Lycopodiella cernua* + *Lycopodium deuterodensum* + *Smilax glyciphylla* + *Hibbertia scandens* + emergent shrubs (restricted to Bartle Frere and Thornton Peak). Very wet (± cloud) highlands on granites.
65b *Dicranopteris linearis* fernland + *Gleichenia dicarpa* + *Gahnia sieberiana* ± *Schoenus melanostachys* ± emergent or scattered shrubs. Moist to very wet uplands and highlands mostly on granites.

Rock pavement and coastal headland complexes
66a Variable low heathland, shrubland and grassland complex + *Melaleuca viridiflora* ± *Allocasuarina littoralis* ± *Casuarina equisetifolia* subsp. *equisetifolia* ± *Lophostemon suaveolens* ± *Acacia holosericea* ± *Acacia polystachya* ± *Lophostemon grandiflorus* ± *Thryptomene oligandra* ± *Pittosporum ferrugineum* ± *Xanthorrhoea johnsonii* ± *Alyxia spicata* (on coastal headlands). Moist to wet lowlands and foothills on granites and metamorphics.
66b Variable sclerophyll forest and woodland complex ± *Lophostemon suaveolens* ± *Corymbia tessellaris* ± *Corymbia intermedia* ± *Acacia* spp. ± *Eucalyptus platyphylla* ± *Melaleuca viridiflora* (on steep exposed coastal headlands). Moist to very wet foothills on granites and metamorphics.
66c Shrubland/heathland complex + *Allocasuarina littoralis* ± *Syncarpia glomulifera* subsp. *glomulifera* ± *Lophostemon confertus* ± *Banksia aquilonia* ± *Leptospermum* spp. ± *Borya septentrionalis* (on mountain rock pavement). Very wet to dry foothills to highlands on granites and rhyolites.
66d Low open forest and closed shrub complex + *Leptospermum neglectum* + *Banksia aquilonia* + *Allocasuarina littoralis* ± *Syncarpia glomulifera* subsp. *glomulifera* ± *Allocasuarina torulosa* ± *Acacia celsa* ± *Rhodomyrtus trineura* (on mountainous rocky escarpments). Wet to dry (± cloud) uplands and highlands on granites.
66e Variable forest and woodland complex ± *Lophostemon grandiflorus* ± *Lophostemon confertus* ± *Lophostemon suaveolens* ± *Timonius timon* ± *Ficus rubiginosa* ± *Acacia leptostachya* (on shallow soils and rock pavements). Wet to dry foothills and uplands on granites and rhyolites.
66f Variable shrubland complex + *Acacia leptostachya* ± *Eucalyptus lockyeri* subsp. *exuta* ± *Lophostemon confertus* ± *Lophostemon suaveolens.* Moist and dry uplands and highlands on granites and rhyolites.
66g Medium deciduous *Bombax ceiba* var. *leiocarpum*/*Cochlospermum gillivraei* woodland ± *Erythrophleum chlorostachys* complex. Wet foothills on granites and metamorphics.
66h Medium semi-deciduous *Canarium australianum* woodland complex. Moist and dry uplands on granites.

SHRUBLANDS AND HEATHLANDS
67a Tall *Acacia celsa* shrubland + *Callitris endlicheri* + *Podocarpus grayae* (on steep mountain slopes). Wet and very wet foothills to highlands on granites.
67b Closed *Acacia flavescens* shrubland + *Allocasuarina littoralis* + *Melaleuca viridiflora* + *Alyxia spicata* ± *Lophostemon grandiflorus* ± *Acacia calyculata* (on exposed coastal headlands). Wet lowlands and foothills on granites and rhyolites.
67c Open to closed *Asteromyrtus lysicephala* heathland and shrubland + *Asteromyrtus angustifolia* + *Thryptomene oligandra* + *Acacia crassicarpa* ± *Jacksonia thesioides* ± *Leucopogon yorkensis*. Moist lowlands on (longitudinal) dunes.
67d Tall open *Allocasuarina littoralis* shrubland + *Melaleuca viridiflora* ± *Lophostemon suaveolens*. Very wet lowlands on dunes.
67e Tall *Allocasuarina littoralis* shrubland + *Lophostemon suaveolens* + *Corymbia intermedia* + *Acacia crassicarpa* + *Xanthorrhoea johnsonii*. Very wet foothills on ultrabasic geologies.
67f Low open to closed *Allocasuarina littoralis* shrubland + *Leptospermum polygalifolium* + *Banksia aquilonia* ± *Banksia plagiocarpa* + *Acrotriche aggregata* (on shallow soils). Wet and very wet uplands and highlands on granites.
67g *Corymbia tessellaris*/*Casuarina equisetifolia* subsp. *equisetifolia* shrubland + variable vine thicket species. Moist and dry lowlands on (granite) alluvium.
67h Closed *Lophostemon confertus*/*Lophostemon suaveolens* shrubland. Very wet to dry foothills and uplands on granites, rhyolites and alluvium.
67i *Lophostemon suaveolens* shrubland with *Allocasuarina littoralis* + *Corymbia intermedia* + *Eucalyptus pellita* + *Xanthorrhoea johnsonii*. Wet and moist uplands on metamorphics.
67j *Melaleuca viridiflora*/*Lophostemon suaveolens* shrubland + *Allocasuarina littoralis*. Wet and very wet lowlands on dunes.
67k *Thryptomene oligandra* shrubland, heathland and low open forest. Wet lowlands on dunes.

NON-WOODY VEGETATION
Grasslands
68a Closed *Hemarthria uncinata* grassland ± *Ischaemum australe* subsp. *arundinaceum* (seasonally inundated). Very wet lowlands on alluvium.
68b *Imperata cylindrica* grassland + *Sorghum nitidum* ± *Mnesithea rottboellioides*. Wet and very wet lowlands on alluvium and metamorphics.
68c *Ischaemum australe* var. *arundinaceum* grassland + emergent *Melaleuca quinquenervia* + *Lophostemon suaveolens* (swamp). Very wet lowlands on alluvium.
68d Closed *Themeda triandra* grassland ± *Allocasuarina littoralis* shrubland. Dry to very wet lowlands to uplands on a variety of geologies.
68e Closed *Themeda triandra* grassland + *Imperata cylindrica* (on steep hillslopes of coastal islands). Moist foothills on granites.

Sedgelands
69a Closed *Gahnia sieberiana* sedgeland (seepage areas on slopes). Wet foothills on granites.
69b *Gahnia sieberiana* sedgeland + *Gleichenia dicarpa* + *Lepironia articulata* with emergent *Melaleuca quinquenervia* + *Banksia robur* (swamp). Wet uplands on alluvium. (subtype of 56a)
69c *Lepironia articulata* sedgeland + *Melaleuca quinquenervia* (swamp). Very wet lowlands on alluvium and (fibrous) peat.
69d *Lepironia articulata* sedgeland (in drainage lines adjoining *Eucalyptus tereticornis* subsp. *tereticornis* woodland). Dry uplands on alluvium and (fibrous) peat.
69e *Cyperus lucidus* + *Actinoscirpus grossus* + *Lepironia articulata* + *Gahnia sieberiana* + *Persicaria* spp. sedgeland (semi-permanent swamp). Very wet lowlands on alluvium.
69f Variable sedgeland characterised by shallow drainage depressions associated with groundwater seepage (seasonal swamps). Moist and dry lowlands to highlands on a variety of geologies.
69g Sedgeland associated with peat swamps in volcanic crater lakes. Moist and dry uplands on peat.
69h Sedgeland fringing volcanic crater lakes. Moist uplands on alluvium.

MANGROVES
Mangrove forests
70a Medium closed mangrove forest and shrubland mosaic. Species may include *Rhizophora* spp., *Bruguiera* spp., *Avicennia* spp., *Ceriops spp*. (species zonation determined by soil salinity and frequency of tidal inundation). Moist to very wet lowlands on (saline to brackish) alluvium.
70b Medium closed mangrove forest + *Heritiera littoralis* + *Bruguiera* spp. + *Avicennia* spp. + *Livistona drudei* emergents. Moist lowlands on (brackish) alluvium. (variant of 70a)
70c Medium closed *Nypa fruticans* forest + *Rhizophora* spp. ± *Bruguiera* spp. ± *Avicennia eucalyptifolia* ± *Ceriops* spp. Moist lowlands on (brackish) alluvium. (variant of 70a)
70d *Heritiera littoralis* forest ± *Bruguiera gymnorhiza* ± *Sonneratia alba* ± *Barringtonia racemosa* ± *Archontophoenix alexandrae* ± *Elaeocarpus grandis* ± *Melicope elleryana* ± *Acacia mangium* ± *Syzygium tierneyanum*. Very wet lowlands on (brackish) alluvium. (variant of 70a)

Mangrove grasslands and herblands
70e *Halosarcia indica* subsp. *leiostachya* + *Suaeda australis* herbland (samphire flats). Moist lowlands on (hyper-saline) alluvium.
70f *Sporobolus virginicus* grassland. Moist lowlands on (saline) alluvium.

DEFINITIONS

Variants refer to distinct unusual occurrences of a more common vegetation type that are able to be explained by atypical environmental controlling factors.

Subtypes represent major discernable floristic sub-associations of more common vegetation types generally found under similar habitat conditions to the more common type.

ALTITUDINAL ZONES (after Tracey 1982)

Zone	Altitude (metres)
Highlands	>800
Uplands	400-800
Foothills	40-400
Lowlands	0-40

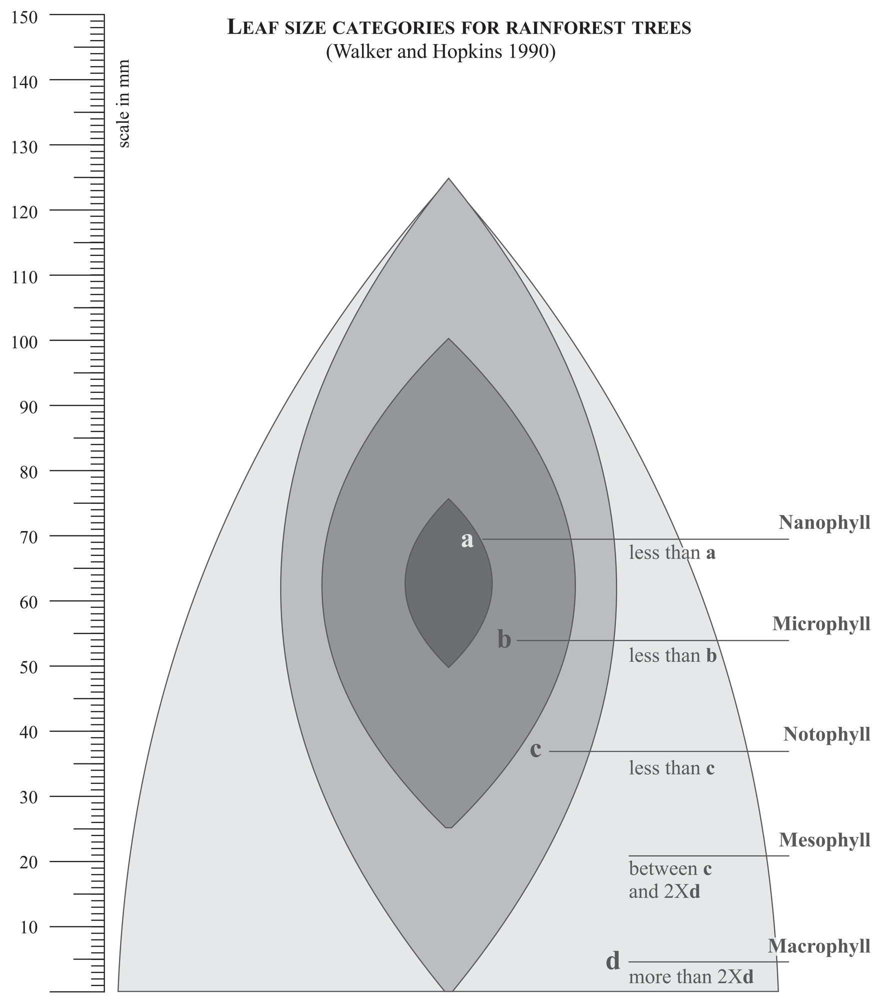
CLIMATIC ZONES (after Tracey 1982)

Zone	Mean Annual Rainfall	Rainfall Driest 6 Months
Very Wet	>3000 mm	>750 mm
Wet	200 - 3000 mm	500 - 750 mm
Moist	1600 - 2000 mm	300 - 500 mm
Dry	1300 - 1600 mm	200 - 300 mm

GROWTH FORM (modified from Specht 1970)

Height (metres)	Trees	Shrubs, Ferns	Grasses, Sedges, Herbs
>30	tall	na	na
10-30	medium	na	na
<10	low	na	na
<3	na	na	na
>2	na	tall	tall
1-2	na	medium	tall
0.5-1	na	low	medium
<0.5	na	low	low

LEAF SIZE CATEGORIES FOR RAINFOREST TREES
(Walker and Hopkins 1990)



REFERENCES

Specht, R.L. (1970). Vegetation. In: The Australian Landscape. G.W. Leeper (ed.). Melbourne University Press.

Tracey, J.G. (1982). The Vegetation of the Humid Tropical Region of North Queensland. CSIRO, Melbourne.

Walker, J., & Hopkins, M.S. (1990). Vegetation. In: Australian Soil and Land Survey Field Handbook second edition (McDonald, R.C., Isbell, R.F., Speight, J.G., Walker, J. & Hopkins, M.S.) Inkata Press, Melbourne.

WET TROPICS MANAGEMENT AUTHORITY

Queensland Government

Australian Government
Department of the Environment, Water, Heritage and the Arts