Southern Gulf Region Plant Index

Common name	Scientific name	Page
camel bush *see also* cattle bush	*Trichodesma zeylanicum*	SG09
canegrass	*Ophiuros exaltatus*	SG01, SG03, SG06, SG08
Carribean stylo/s*	*Stylosanthes hamata* (cvv. Amiga, Verano)	SG04, SG06, SG10, SG12, SG13, SG14
castor oil bush*	*Ricinus communis*	SG04
cassia/s	*Senna artemisiodes; S. glutinosa*	SG05, SG10, SG11, SG14
cattle bush *see* camel bush	*Trichodesma zeylanicum*	SG09
chain pea	*Alysicarpus rugosus*	SG09
chinee apple*	*Ziziphus mauritiana*	SG04, SG06, SG12
climbing saltbush	*Einadia nutans*	SG05
Cloncurry box	*Eucalyptus leucophylla*	SG10, SG11
Cloncurry buffel*	*Cenchrus pennisetiformis*	SG10, SG11, SG14
comb chloris	*Chloris pectinata*	SG10, SG13
comb finger grass	*Digitaria ctenantha*	SG12
comet grass	*Perotis rara*	SG04, SG06, SG12
common bonamia	*Bonamia media*	SG10, SG13, SG14
conkerberry *see* currant bush	*Carissa lanceolata*	SG05, SG10, SG12, SG13, SG14
coolibah	*Eucalyptus coolabah*	SG01, SG02, SG03, SG08, SG09
cotton panic	*Digitaria brownii*	SG10, SG12, SG13
cow vine	*Ipomoea lonchophylla*	SG02, SG09
cup grass *see also* spring grass	*Eriochloa creba*	SG02, SG09
curly windmill grass	*Enteropogon acicularis*	SG04, SG07
currant bush *see also* conkerberry	*Carissa lanceolata*	SG05, SG10, SG12, SG13, SG14
dead finish	*Archidendropsis basaltica*	SG12
desert bluegrass	*Bothriochloa ewartiana*	SG01, SG02, SG04, SG06, SG09, SG10, SG12, SG13
desert milkwort	*Polygala* sp.	SG04
Desmanthus*	*Desmanthus virgatus*	SG15

Common name	Scientific name	Page
desmodium	*Desmodium* sp.	SG09
downs couch *see* native couch	*Brachyachne convergens*	SG01, SG02, SG03, SG05, SG09, SG10, SG11, SG13, SG14
downs sorghum *see* annual sorghum	*Sarga timorense*	SG02, SG09, Sg12
dropseed grasses *see* Australian dropseed, fairy grass	*Sporobolus australasicus, S. caroli*	SG02, SG03, SG04, SG06, SG09, SG10, SG11, SG13, SG14
fairy grass *see* Australian dropseed	*Sporobolus australasicus*	SG02, SG03, SG04, SG06, SG09, SG10, SG11, SG13, SG14
feathertop	*Aristida latifolia*	SG01, SG02, SG09
figs	*Ficus* spp.	SG03, SG04
fire grass	*Schizachyrium fragile*	SG03, SG06, SG07, SG11, SG12, SG13
five-minute grass	*Tripogon loliiformis*	SG10, SG11, SG13
flannel weed	*Abutilon* sp.	SG07, SG13
Flemings bush	*Flemingia pauciflora*	SG05
Flinders grass	*Iseilema* sp.	SG02, SG03, SG05, SG09
forest bluegrass	*Bothriochloa bladhii*	SG01, SG02, SG04, SG06, SG09, SG10, SG12, SG13
foxtails	*Gomphrena* and *Ptilotus* spp.	SG10, SG11
fringe rush	*Fimbristylis littoralis*	SG08
goat head	*Sclerolaena bicornis*	SG09
ghost gum	*Corymbia apparrerinja* ssp. *dallachiana*	SG01, SG06
giant speargrass	*Heteropogon triticeus*	SG01, SG04, SG06
gidgee	*Acacia cambagei*	SG02, SG05, SG09, SG10
gidyea *see* gidgee		
gidgee burrs	*Sclerolaena* spp.	SG05, SG10, SG11
glycine	*Glycine falcata*	SG09
golden beard grass *see* ribbon grass	*Chrysopogon fallax*	SG01, SG02, SG04, SG05, SG06, SG07, SG10, SG12, SG13, SG14
grader grass*	*Themada quadrivalvis*	SG01, SG03, SG04, SG06, SG12, SG14
giant grey spinifex *see also* spinifex	*Triodia longiceps*	SG02, SG05, SG09, SG12, SG13

Common name	Scientific name	Page
gulf bluegrass	*Dichanthium fecundum*	SG02, SG05, SG09, SG12, SG13
guttapercha	*Excoecaria parviflora*	SG02, SG03, SG04, SG08, SG09, SG13
hairy armgrass	*Brachiaria piligera*	SG01, SG04
hard spinifex *see also* spinifex	*Tridia basedowii*	SG11
hare's foot grass	*Ectrosia leporine*	SG03
hibiscus	*Hibisucs* sp.	SG12
hoop Mitchell grass	*Astrebla elymoides*	SG02
hyptis*	*Hyptis suaveolens*	SG04
Indian couch*	*Bothriochloa pertusa*	SG01, SG06
indigofera	*Indogofera* sp.	SG01
Ipomoea *see* cow vine	*Ipomoea lonchophylla*	
Ironbark/s	*Eucalyptus crebra, E. melanophloia, E. whitei*	SG01, SG06
kangaroo grass	*Themeda triandra*	SG01, SG06, SG07, SG10, SG12, SG13, SG14
kapok bush*	*Aerva javanica*	SG04, SG10, SG11
kerosene grass	*Aristida contorta*	SG07, SG12
lancewood	*Acacia shirleyi*	SG07
large leaf cabbage gum	*Corymbia grandifolia*	SG03
Leichhardt 's tree	*Nauclea orientalis*	SG04
lemon-scented grass *see also* silky oil grass	*Cymbopogon bombycinus*	SG06, SG10, SG13, SG14
long-awn wanderrie grass	*Eriachne armitii*	SG12, SG13, SG14
long-fruited bloodwood	*Corymbia polycarpa*	SG04, SG06, SG12
lovegrass/es	*Eragrostis* spp.	SG05, SG09, SG12
low sensitive plant	*Neptunia gracilis forma gracilis*	SG05
mangroves	*Avicennia* and *Ceriops* spp.	SG08
marine couch *see also* salt couch grass	*Sporobolus virginicus*	SG03, SG08
marsh wort	*Nymphoides* sp.	SG03

Common name	Scientific name	Page
merauke hibiscus	*Hibiscus meraukensis*	SG04
mesquite*	*Prosopis* sp.	SG02, SG03, SG09, SG10
mimosa bush*	*Acacia farnesiana*	SG12
Mitchell grass/es	*Astrebla squarrosa, A. lappacea, A. pectinata, A. elymoides*	SG02, SG05, SG09
mudgrass	*Pseudooraphis spinescens*	SG08
nardoo	*Marsilea drummondii*	SG04
native couch	*Brachyachne convergens*	SG01, SG02, SG03, SG05, SG09, SG10, SG11, SG13, SG14
native jute	*Corchorus* sp.	SG05, SG12
native lucerne *see* annual verbine	*Cullen cinereum*	SG09
native millet	*Panicum decompositum*	SG02, SG09
noogoora burr*	*Xanthium pungens*	SG04
Normanton box	*Eucalyptus normantonensis*	SG07
northern rice grass	*Xerochloa imberbis*	SG03, SG08
north-west ghost gum	*Corymbia bella*	SG04
nutgrass *see* sedges	*Cyperus* spp.	SG06
onion vine *see also* paper rose	*Operculina aequisepala*	SG02, SG09
palms	*Pandanus* sp.	SG03
panic grasses	*Panicum* sp. (eg. *P. simile)*	SG03, SG06
paperbark/s	*Melaleuca* spp. (eg. *M. nervosa, M. viridiflora*)	SG04, SG12, SG13, SG14
paper rose *see* onion vine	*Operculina aequisepala*	SG02, SG09
para grass	*Urochloa mutica*	SG03
parkinsonia*	*Parkinsonia aculeata*	SG02, SG03, SG04, SG08, SG09, SG10
parthenium*	*Parthenium hysterophorus*	SG09
pea bush *see also* sesbania pea	*Sesbania* sp.	SG02, SG04, SG05, SG09
pepper grass	*Panicum laevinode*	SG02, SG09

Common name	Scientific name	Page
pigeon grass	*Setaria apiculata*	SG12
pigweed	*Portulaca oleracea*	SG09, SG10
pitted blue grass	*Bothriochloa decipiens*	SG01, SG02, SG04, SG05, SG06
plume sorghum	*Sarga plumosum*	SG01, SG06, SG12
potato/tomato bushes	*Solanum* spp.	SG03, SG07, SG12
prickly acacia*	*Vachellia nilotica (*previously *Acacia nilotica)*	SG01, SG02, SG03, SG09
Queensland bluegrass	*Dichanthium sericeum*	SG01, SG02, SG06, SG09
rare panic	*Paspalidium rarum*	SG10, SG12
rattlepods	*Crotalaria* spp.	SG01, SG09, SG14
red Natal grass*	*Melinis repens*	SG06
red spinach	*Trianthema triquetra*	SG11
reed grass	*Arundinella nepalensis*	SG06
rhynchosia	*Rhynchosia minima*	SG01, SG02, SG09
ribbon grass *see also* golden beard grass	*Chrysopogon fallax*	SG01, SG02, SG04, SG05, SG06, SG07, SG10, SG12, SG13, SG14
river red gum	*Eucalyptus camaldulensis*	SG04
rough leafed cabbage gum *see* broad-leaved carbeen	*Corymbia confertiflora*	SG03, SG04
rough-leaved bloodwood	*Corymbia setosa*	SG06
round pod indigo	*Indigofera linifolia*	SG04
rubbervine*	*Cryptostegia grandiflora*	SG01, SG02, SG03, SG04, SG05, SG06, SG08
ruby saltbush	*Enchylaena tomentosa*	SG05
salt couch grass *see* marine couch	*Sporobolus virginicus*	SG03, SG08
samphire	*Tecticornia* sp.*; Sarcornia* sp.; *Halosarcia* sp.	SG08
sandstone panic	*Cleistochloa subjuncea*	SG06
sedges *see also* nutgrass	*Cyperus* spp.	SG06
sensitive plant/s	*Neptunia dimorphantha*	SG04, SG09
sesbania pea *see* pea bush	*Sesbania* sp.	SG02, SG04, SG05, SG09

Common name	Scientific name	Page
Shrubby stylo/s*	*Stylosanthes scabra* cvv. Seca, Siran	SG01, SG04, SG06, SG10, SG12, SG13, SG14
sida/s	*Sida* spp.	SG06, SG08, SG09, SG10, SG13
silky browntop	*Eulalia aurea*	SG02, SG03, SG04, SG05, SG09, SG10, SG13
silky oil grass *see* lemon-scented grass	*Cymbopogon bombycinus*	SG06, SG10, SG13, SG14
silver-leaved box	*Eucalyptus pruinosa*	SG10, SG13, SG14
slender chloris	*Chloris divaricata*	SG08
slender wanderrie grass	*Eriachne ciliata*	SG11, SG13, SG14
small burr grass	*Tragus australianus*	SG10, SG11, SG13, SG14
snappy gum	*Eucalyptus leucophloia* ssp. *euroa*	SG10, SG11, SG14
soft roly poly	*Salsola kali*	SG10, SG13
soft spinifex *see also* spinifex	*Triodia pungens*	SG05, SG10, SG11, SG13, SG14
speedyweed	*Flaveria australasica*	SG09
spike rushes	*Eleocharis* spp.	SG06, SG08
spinifex *see* giant grey, hard, soft	*Triodia* spp.	SG05, SG07, SG10, SG11, SG13, SG14
spring grass *see* cup grass	*Eriochloa crebra*	SG02, SG09
stinking passionfruit*	*Passiflora foetida*	SG01
summer grass	*Chionachne hubbardiana*	SG02, SG09
supplejack *see* vine tree	*Ventilago viminalis*	
tarvine	*Boerhavia* sp.	SG02, SG09
tassel bluegrass	*Dichanthium sericeum*	SG02
tephrosia	*Tephrosia* sp.	SG06
tickweed	*Cleome viscosa*	SG09, SG10, SG13, SG14
tropical speedwell	*Evolvulus alsinoides*	SG10, SG13, SG14
turpentine	*Acacia chisholmii* and *A. lysiphloia*	SG11, SG14
umbrella canegrass	*Leptochloa digitata*	SG09
vernonia	*Vernonia* sp.	SG01

* Denotes non-native species

Basalt

Landform	Basalt undulating plains, rolling hills and plateaux.
Woody vegetation	Ironbarks, bloodwoods, open woodland characterised by whitewood, ghost gum, coolibah and bauhinia.
Expected pasture composition	** Denotes non-native "Expected Pasture Composition" species.*
Preferred	Black speargrass, Queensland bluegrass, kangaroo grass, forest bluegrass, desert bluegrass, plume sorghum.
Intermediate	Pitted bluegrass, golden beard grass, Indian couch*, white grass, canegrass, giant speargrass.
Non-preferred	Wiregrasses (eg: feathertop, white speargrass).
Annual grasses	Native couch, hairy armgrass, button grass, weeping lovegrass.
Common forbs	Rattlepods, rhynochosia, vernonia, indigofera.
Suitable sown pastures	Oversow with legumes; Shrubby stylo (e.g. Seca) (lighter soils), Caatingo stylo and Desmanthus.
Introduced weeds	Rubbervine, grader grass, stinking passionfruit, prickly acacia.
Soil	Predominantly black earths (vertisols) with minor areas of red basalt (ferrosols).
Description	***Surface:*** Self mulching black earths with potential to crack, soft (red basalt), both with varying level of basalt stones; ***Surface texture:*** medium to heavy clay; ***Subsoil texture:*** medium to heavy clay.

Features	Little white Carbonate nodules may occur in black earths. Presence of basalt stones varies from sparse to almost complete boulder coverage.
Water availability	Red Basalt: moderate water holding capacity with medium to rapid internal drainage. Black Earths: moderate to very high water holding capacity with moderate to slow internal drainage.
Rooting depth	Shallow to moderate.
Infiltration	Moderate to high.
Fertility	Moderate to high. Tendency to be low in salt and sulphur.
Salinity	Low to very low.
Sodicity	Non-sodic.
pH	Alkaline (black earths): neutral to slightly acidic (red basalt/ferrosols).

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 409 – 473 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	1930 - 2140	20%	6.8 – 7.6
	5 TBA 13 FPC	1090 - 1280	20%	11 – 13

Enterprise

Breeding and fattening.

Land use and management recommendations

- Use combination of control methods (fire, chemical, mechanical and biological) as management tool to control woody weeds.
- Maintenance of ground cover to minimise shrub invasion and wind and water (gully) erosion.

Land use limitations

- Timber thickening can limit productivity.
- Basalt stone cover affects infrastructure development eg: fences, roads, stock water

Conservation features and related management

- Subject to high grazing pressure.
- Subject to weed infestation by rubbervine (*Cryptostegia grandiflora)* and grader grass *(Themeda quadrivalvis*) and invasive exotic weed species such as mimosa (*Acacia farnesiana*) that may change the community to a tall open shrubland.

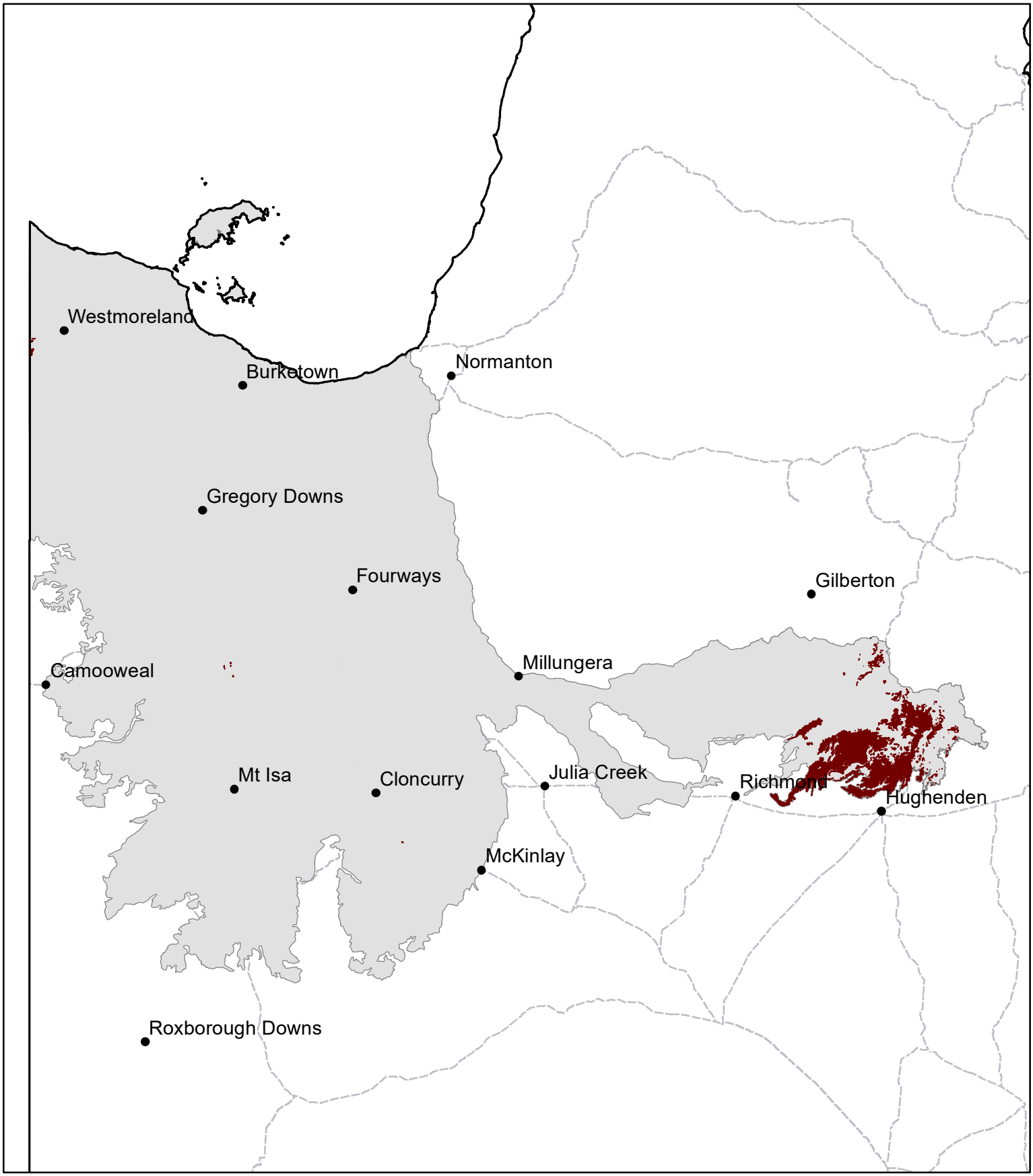
Regional Ecosystems

1.12.5, 9.3.11, 9.8.13, 9.8.1a, 9.8.5a-b, 9.8.9.

Land Systems

Rosella (59), Boonderoo (60) (Perry 1964), Land zone F (Fox *et al* 2001).

SG01 Basalt



Area of land type in region: 2%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 31%
Median FPC: 13%
Median TBA: 5 m2/ha

Queensland Government

Bluegrass browntop plains

Landform	Open grassland, flat to gently undulating, practically treeless and possesses an overall appearance of uniformity. Flood plains on quaternary alluvium.
Woody vegetation	Scattered occurrences of coolibah, gidgee, bauhinia, beefwood, guttapercha and whitewood.
Expected pasture composition	** Denotes non-native "Expected Pasture Composition" species.*
Preferred	Mitchell grass (bull, hoop), gulf bluegrass, silky browntop, forest bluegrass, desert bluegrass, Queensland bluegrass.
Intermediate	Native millet, golden beard grass, windmill grasses, bottlewashers, Australian wild rice, tassel bluegrass, cup grass/spring grass, pitted bluegrass.
Non-preferred	Wiregrasses, e.g. feathertop.
Annual grasses	Flinders grass, button grass, pepper grass, Annual sorghum, native couch, Australian dropseed, summer grass. Non-preferred annual species include asbestos grass.
Common forbs	Sesbania pea, onion vine/paper rose, Ipomoea/cow vine, tarvine, rhynchosia.
Suitable sown pastures	Not suitable for sown pastures.
Introduced weeds	Calotrope, mesquite, prickly acacia, parkinsonia, and rubber vine and bellyache bush in associated riparian areas.
Soil	Cracking grey and brown clays (vertisols). Commonly interspersed with alluvial soils along stream, river, and creek beds.
Description	***Surface:*** Generally self-mulching, a thin crust may be present, minor areas of hard setting soils; ***Surface texture:*** light to medium to heavy clay; ***Subsoil texture:*** medium to heavy clay.

Features	Predominantly self-mulching and deep cracking with some hard-setting areas. Carbonate nodules may occur throughout the profile. Gilgai's can occur as both melon holes and linear gilgai.
Water availability	Moderate to high with low to moderate internal drainage depending on the sodicity at depths.
Rooting depth	Moderate to high.
Infiltration	High initially on a dry soil profile, slowing to moderate levels after 50 mm of rain as cracks close and to low levels after 75-100 mm of rain. Areas of hard setting soils will have extremely limited infiltration rates. Estimates based on low to moderate intensity storm rain. Good soaking rain or flooding required to wet the soil profile.
Fertility	Moderate. Tendency to be marginal in Phosphorous.
Salinity	Low but increasing with depth.
Sodicity	Patches of sodicity; increasing with depth, particularly in poorly drained areas.
pH	Neutral to alkaline (gravelly areas may be slightly acidic).

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 391 – 831 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	700 - 3390	22%	3.9 - 19
	6 TBA 15 FPC	400 - 1990	22%	6.7 – 33

Enterprise

Breeding and fattening.

Land use and management recommendations

- Use fire judiciously as a management tool to control woody weeds.
- Maintenance of ground cover to minimise shrub invasion and wind and water (gully) erosion.

Land use limitations

- Areas of asbestos grass.
- Productivity can be limited by thickening of native timber and woody weeds (guttapercha, parkinsonism, mimosa).

Conservation features and related management

- No urgent or immediate conservation concerns.

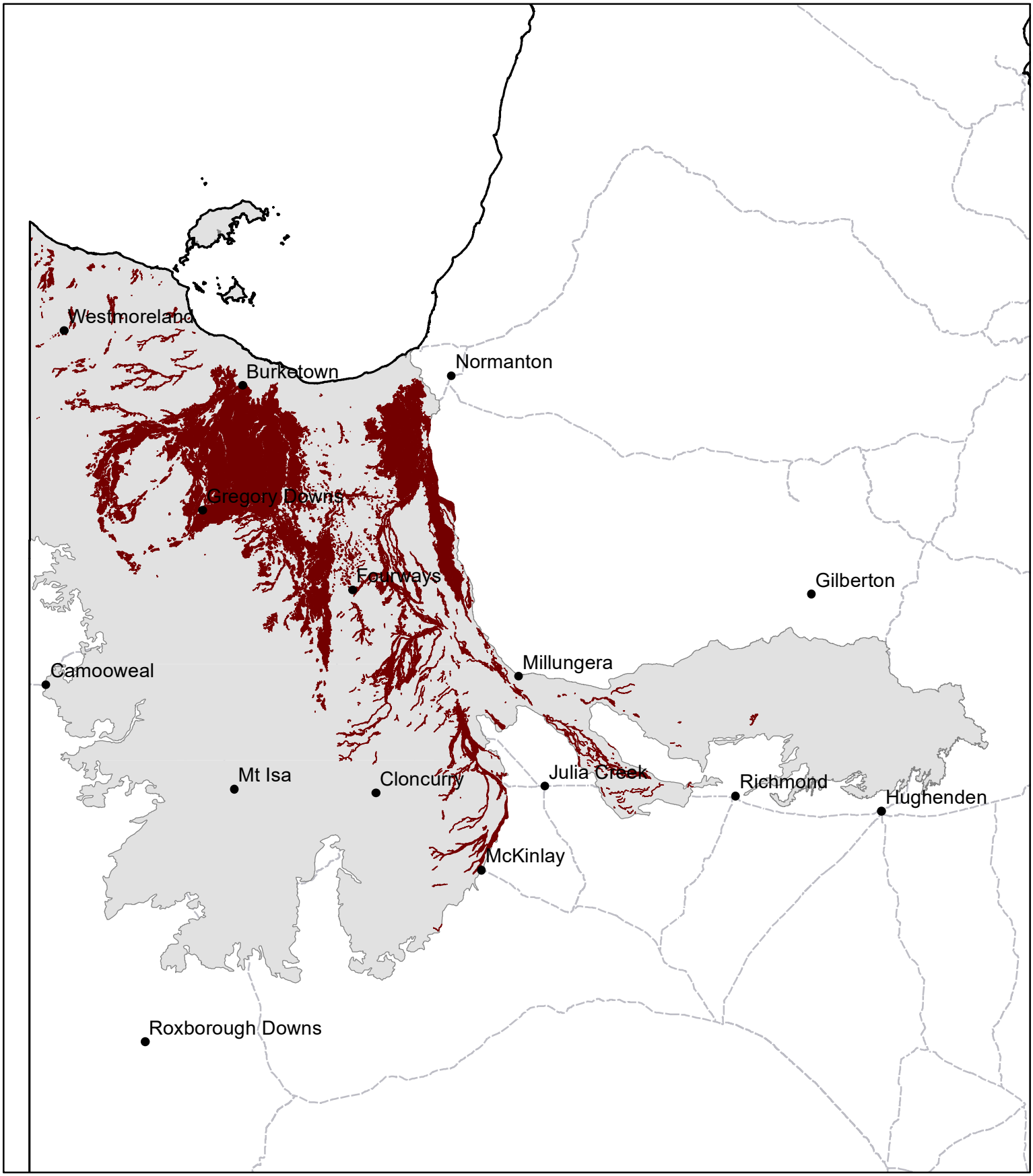
Regional Ecosystems

2.3.12, 2.3.1a, 2.3.3, 2.3.4, 2.3.43, 2.3.44a-e, 2.3.67, 2.4.1a-c, 2.9.2, 2.9.2x3, 4.3.19.

Land Systems

Donors (28), Donaldson (29), Balbirini (48), Glenore (50), Georgina (55) (Perry 1964).

SG02 Bluegrass browntop plains



Area of land type in region: 10%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 31%
Median FPC: 15%
Median TBA: 6 m2/ha

Queensland Government

Coastal country

Landform	Grassland on low plains adjacent to marine plains.
Woody vegetation	Predominantly paperbark understorey with coolibah, large leaf cabbage gum, broad-leaved carbeen, figs, beefwood, guttapercha and palms.
Expected pasture composition	** Denotes non-native "Expected Pasture Composition" species.*
Preferred	Golden beard grass, silky browntop, wanderrie grasses, northern rice grass, Australian wild rice, Queensland bluegrass.
Intermediate	Cane grass, beetle grass, panic grasses, marine couch, spiny mud grass.
Non-preferred	Wiregrasses.
Annual grasses	Fire grass, native couch, Australian dropseed, Flinders grass, hare's foot grass.
Common forbs	Potato/tomato bushes, beach bean, marsh wort.
Suitable sown pastures	Not suitable for sown pastures.
Introduced weeds	Rubber vine, parkinsonia, prickly acacia, para grass, grader grass and mesquite.
Soil	Shallow, impervious, highly erosive in the subsoil. Red earths, slightly deeper with a range from sandy loams to light clays.
Description	***Surface:*** Sandy, fine sandy or silty clay loams or clays, light to grey to greyish brown in the upper portion; ***Surface texture:*** sandy loam to clay; ***Subsoil texture:*** bleached below; with a sub-soil texture that is a massive structure with hard consistence some presence of carbonate nodules and/or gypsum at shallow depths.

Features

Surface horizons can be sandy with clay underneath. Often pasture growth is limited to the sandy horizon.

Water availability

Low to moderate.

Rooting depth

Shallow to moderate.

Infiltration

Moderate initially slowing after 20 mm, significant run off expected after 35 mm. Estimates based on low to moderate intensity storm rain. Good soaking rain required to wet the soil profile.

Areas of hard setting soils will have extremely limited infiltration rates. Estimates based on low to moderate intensity storm rain. Good soaking rain or flooding required to wet the soil profile.

Fertility

Low to moderate.

Salinity

Moderate to high.

Sodicity

pH

Neutral to acid at the surface, varying from strongly alkaline to strongly acidic in the subsoil.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 761 – 831 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	1370 - 2040	15%	10 - 14
	6 TBA 15 FPC	640 - 990	15%	20 – 31

Enterprise

Breeding.

Land use and management recommendations

- Use fire judiciously as a management tool to control timber thickening.
- Maintenance of ground cover to minimise shrub invasion and erosion.

Land use limitations

- Hard panning at shallow to moderate depths occurs in some areas.
- Pasture growth is often limited by salts.
- Production may be limited by weedy growth of gutta-percha.

Conservation features and related management

- Seasonal wetland.
- Important feeding sites for birds.

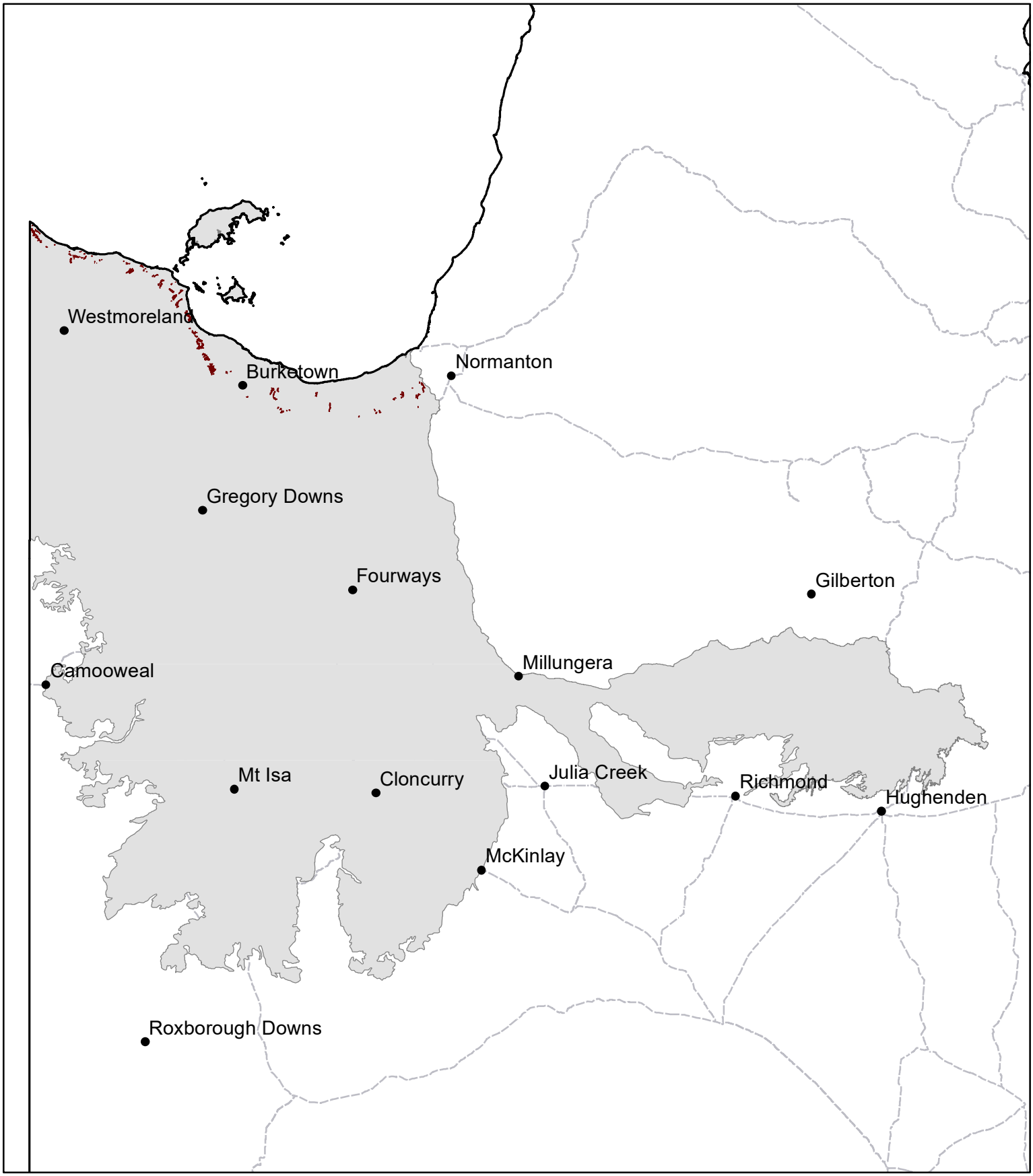
Regional Ecosystems

1.3.5, 1.3.6a-c, 1.3.6e, 1.3.7a-b, 1.3.7f-g, 1.3.9a-b, 2.3.14, 2.3.17d, 2.3.20a, 2.3.20c, 2.3.21b-c, 2.3.59a-b, 2.3.65.

Land Systems

Carpentaria (58) (Perry 1964).

SG03 Coastal country



Area of land type in region: 0.1%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 46%
Median FPC: 15%
Median TBA: 6 m2/ha

Queensland Government

Frontage

Landform	Frontage country: channels and levees.
Woody vegetation	Open woodlands with fringing river red gum woodland. Associated species include: north-west ghost gum, bloodwoods (western, long-fruited), bauhinia, broad-leaved carbeen, guttapercha, Fringing species may include figs, paperbarks, Leichhardt's tree.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Black speargrass, golden beard grass, forest bluegrass, desert bluegrass, silky browntop, giant speargrass and buffel*.
Intermediate	Pitted bluegrass, curly windmill grass.
Non-preferred	Wiregrasses.
Annual grasses	Comet grass, hairy arm grass, wanderrie grasses, Australian dropseed, button grass, windmill grasses, and native sorghum. Non-preferred annual species include bunched kerosene grass and asbestos grass.
Common forbs	Sensitive plant, desert milkwort, round pod indigo, sesbania pea, nardoo, merauke hibiscus.
Suitable sown pastures	Buffel grass, shrubby stylo (e.g. Seca), Caribbean stylo (e.g. Verano).
Introduced weeds	Chinee apple, rubbervine, bellyache bush, calotrope, hyptis, grader grass, castor oil bush, parkinsonia, noogoora burr, kapok bush.
Soil	Alluvial sands or sandy loams that may grade to deep red clay soils in some areas (tenosols).
Description	***Surface:*** Loose and/or massive and soft, light to grey to greyish brown in the upper portion; ***Surface texture:*** sands or sandy loams; ***Subsoil texture:*** largely variable clays, sands, deep sands.

Features	Fine sandy soils in channels and levees, grading to the heavier soils on the banks and flooded areas.
Water availability	Moderate through to very low.
Rooting depth	Moderate to deep (in deeper sands).
Infiltration	Very poor to very high, although drainage slows at depth. In sands containing clay it can be quite low. The coarser the sands the higher the infiltration rates.
Fertility	Moderate – high.
Salinity	Low.
Sodicity	Low.
pH	Slightly acidic to neutral.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 398 – 831 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	1600 - 4780	18%	3.4 - 10
	5 TBA 13 FPC	1080 - 3840	18%	4.2 – 15

Enterprise

Breeding and fattening.

Land use and management recommendations

- Pasture species that provide high diet quality are susceptible to overuse.
- High grazing pressure can lead to wind erosion and scalding.

Land use limitations

- Productivity can be limited by high shrub densities and woody weed infestation.

Conservation features and related management

- Some areas of wetlands either endangered or at risk. High total grazing pressure leading to degradation along watercourses.
- 1.3.9: Includes the only perennial watercourses in arid and semi-arid Queensland. Habitat for rare and threatened species including purple- crowned fairy-wren. Seasonal habitat for water birds.

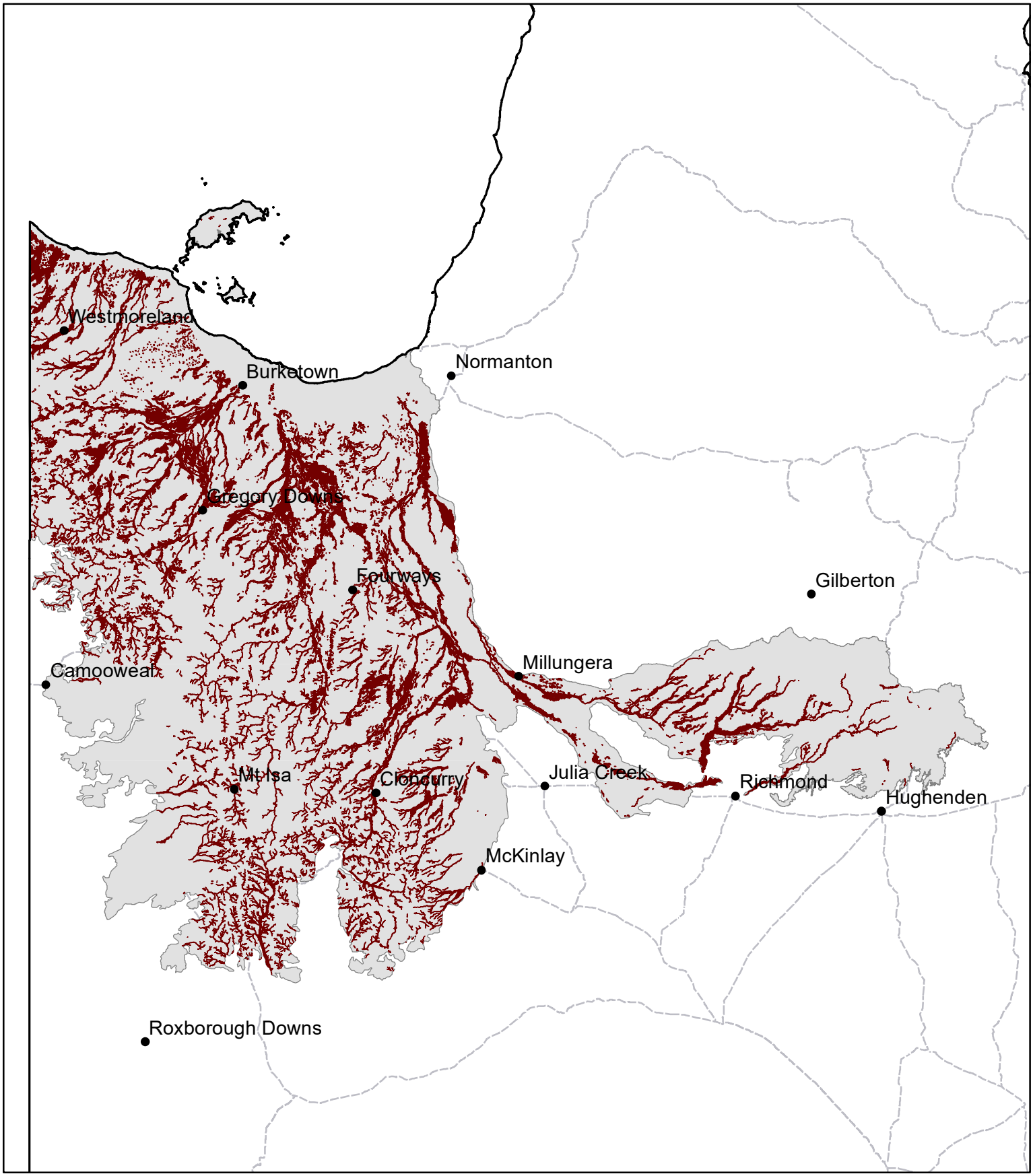
Regional Ecosystems

1.3.10, 1.3.11, 1.3.12, 1.3.13a-b, 1.3.14, 1.3.4a-b, 1.7.1e, 2.3.20f, 2.3.21j, 2.3.22, 2.3.24a, 2.3.26a-f, 2.3.41, 2.3.42d, 2.3.52, 2.3.54, 2.3.62a, 2.3.69a, 2.3.6b, 2.3.7a-b, 2.5.40, 2.9.4a, 2.9.4x1, 9.3.1, 9.3.11a, 9.3.13, 9.3.17, 9.3.22a, 9.3.25, 9.3.26, 9.3.27a, 9.3.3b, 9.3.5, 9.3.6a, 9.8.6.

Land Systems

Cloncurry (53), Armraynald (56) (Perry 1964).

SG04 Frontage



Area of land type in region: 9%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 75%
Median FPC: 13%
Median TBA: 5 m2/ha

Queensland Government

Gidgee

Landform	Alluvial deposits occurring as plains, floodplains and sediments forming undulating plains.
Woody vegetation	Low open woodland, with moderately dense woodland areas, of predominantly gidgee with scattered bloodwood, whitewood, vine tree/supplejack, cassias, and currant bush.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Mitchell grass, gulf bluegrass, black speargrass.
Intermediate	Bottlewashers, silky browntop, soft spinifex, pitted bluegrass, golden beard grass, wanderrie grasses, windmill grasses.
Non-preferred	Wiregrasses.
Annual grasses	Button grass, Flinders grass, awnless barnyard grass, native couch. Non-preferred annual species include bunched kerosene grass and asbestos grass.
Common forbs	Sesbania pea, low sensitive plant, native jutes, Flemings bush, climbing saltbush, ruby saltbush, gidgee burr, copperburr.
Suitable sown pastures	Buffel grass, desmanthus (> 600 mm), Caatinga stylo (>750 mm).
Introduced weeds	Not much grows in or around gidgee. However, rubbervine, calotrope and bellyache bush will grow in woody areas.
Soil	Grey-brown cracking clays (vertosols). Minor areas of red/yellow earths (kandosols).
Description	***Surface:*** generally self-mulching clays; may have some sand present on the surface on the surface as well; ***Surface texture:*** medium to heavy clays; ***Subsoil texture:*** clay subsoil. Grey-brown medium to heavy clays throughout the profile.
Features	Varies from a uniform soil surface free of stone through to an uneven stony surface.

Water availability	Moderate to high. May be limited by sodic sub soils.
Rooting depth	Moderate to deep. May be limited by sodic sub soils.
Infiltration	High for clay, 75 mm of rain before run off occurs, based on low to moderate intensity storm rain. Moderate for red/yellow earths, 35 mm of rain before run off occurs.
Fertility	Moderate to high.
Salinity	Increasing salinity with depth in clay soils, low (red/yellow earths).
Sodicity	Increasing sodicity with depth in clay soils, low (red/yellow earths).
pH	Alkaline (grey-brown clays). Medium acid to neutral (red/yellow earths).

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 391 – 503 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	1770 - 2670	15%	7.3 - 11
	3 TBA 8 FPC	1350 - 2100	15%	9.3 – 14

Enterprise

Breeding.

Land use and management recommendations

- Mechanical clearing within regulations strongly advised.
- Maintenance of ground cover to minimise shrub invasion and erosion.
- Strategic burning to manage gidgee encroachment with late dry season hot fires.

Land use limitations

- Regrowth and high shrub densities can limit productivity.
- Mass germination around 2010 will lead to reduced productivity within 10 to 15 years.

Conservation features and related management

- Not of significant conservation value.

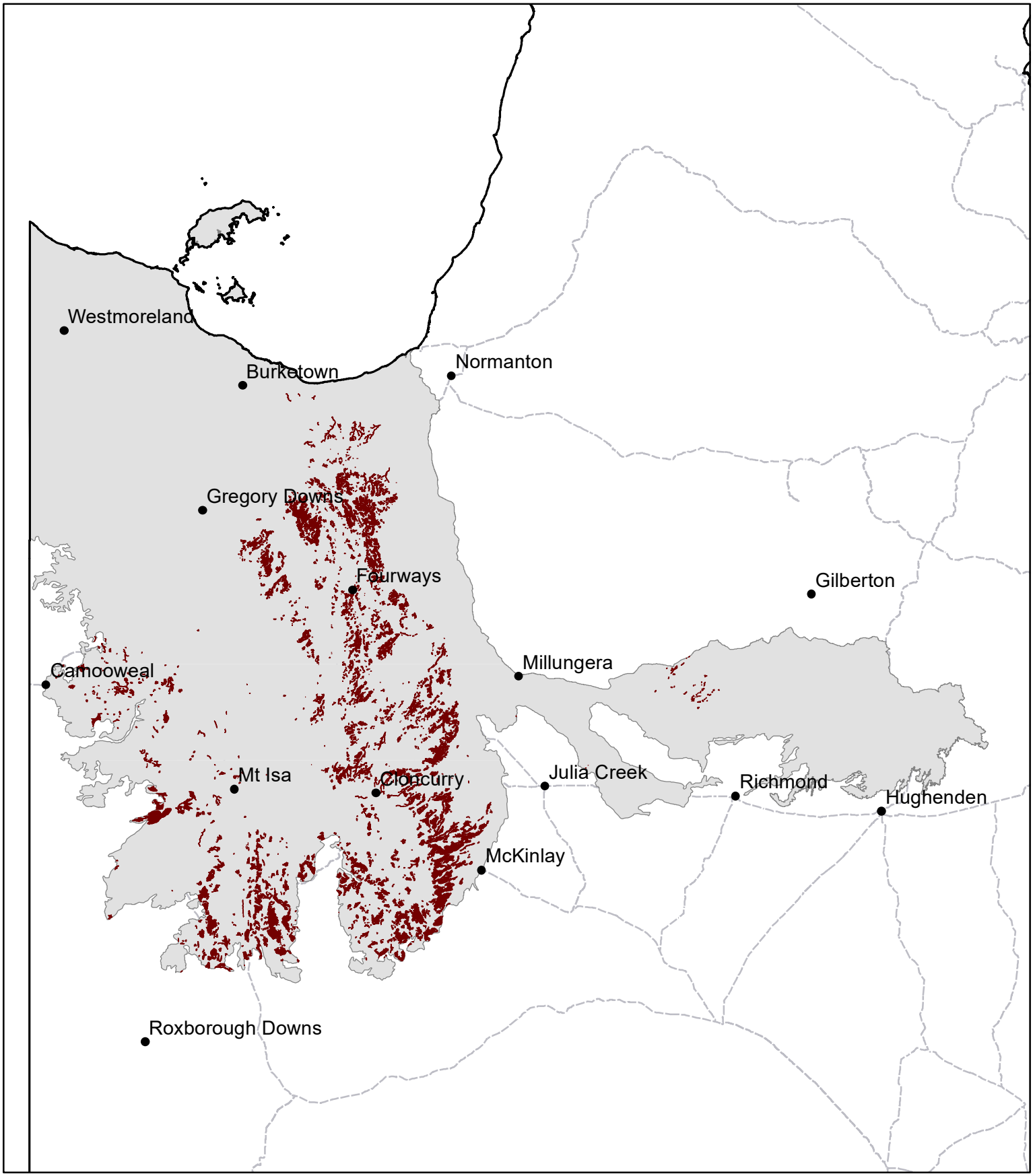
Regional Ecosystems

1.5.6c-d, 1.9.9, 2.4.3a-b, 2.4.5, 2.5.34a-b, 2.5.38.

Land Systems

Donaldson (29), Quamby (34), Percol (47), Monstraven (49), Gregory (52) (Perry 1964).

SG05 Gidgee



Area of land type in region: 3%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 65%
Median FPC: 8%
Median TBA: 3 m2/ha

Queensland Government

Ironbark

Landform	Plateau high plains and erosional plains. Low hills and plateaus of limestone.
Woody vegetation	Ironbark woodlands or forests with associated ghost gum, bloodwoods (long fruited, rough-leaved) and beefwood.
Expected pasture composition	** Denotes non-native "Expected Pasture Composition" species.*
Preferred	Black speargrass, giant speargrass, kangaroo grass, forest bluegrass, desert bluegrass, Queensland bluegrass, plume sorghum.
Intermediate	Pitted bluegrass, golden beard grass, white speargrass, red Natal grass*, silky oil grass, lovegrasses, Indian couch*, wanderrie grass.
Non-preferred	Reed grass, canegrass, wiregrasses.
Annual grasses	Panic grasses, comet grass, sandstone panic, Australian dropseed, fire grass.
Common forbs	Nutgrasses, sedges, spike rushes.
Suitable sown pastures	Oversow with legumes; shrubby stylo (e.g Seca), Caribbean stylo (e.g. Verano).
Introduced weeds	Chinee apple, rubbervine, grader grass.
Soil	Sandy loam; brown, yellow and red soils.
Description	***Surface:*** Loam; ***Surface texture:*** varies from loose to hard-setting; ***Subsoil texture:*** light/medium clay at varying depths.
Features	Drainage is hugely variable, surface consistence varies from loose to hard-setting.
Water availability	Low to moderate. Limited except after major wetting event.

Rooting depth: Moderate to deep.

Infiltration: On deeper loam surface soils; moderate to low initially on a dry soil profile, slowing to low levels after 25-35 mm. On hard setting soils; low with water- ponding following 5mm of rain or less as the surface seals.

Fertility: Low to Moderate. Areas of marginal phosphorous.

Salinity: Low; may increase with depth when heavier textured clays are present.

Sodicity: Low; may increase with depth when heavier textured clays are present.

pH: Medium acid to neutral.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 692 – 739 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	3150 - 4540	15%	4.3 – 6.2
	10 TBA 25 FPC	1850 - 3060	15%	6.4 – 11

Enterprise

Breeding.

Land use and management recommendations

- Use fire judiciously as a tool to control woody species.
- Maintenance of ground cover to minimise shrub invasion and erosion.

Land use limitations

- Timber thickening can limit productivity.

Conservation features and related management

- Not of significant conservation value.

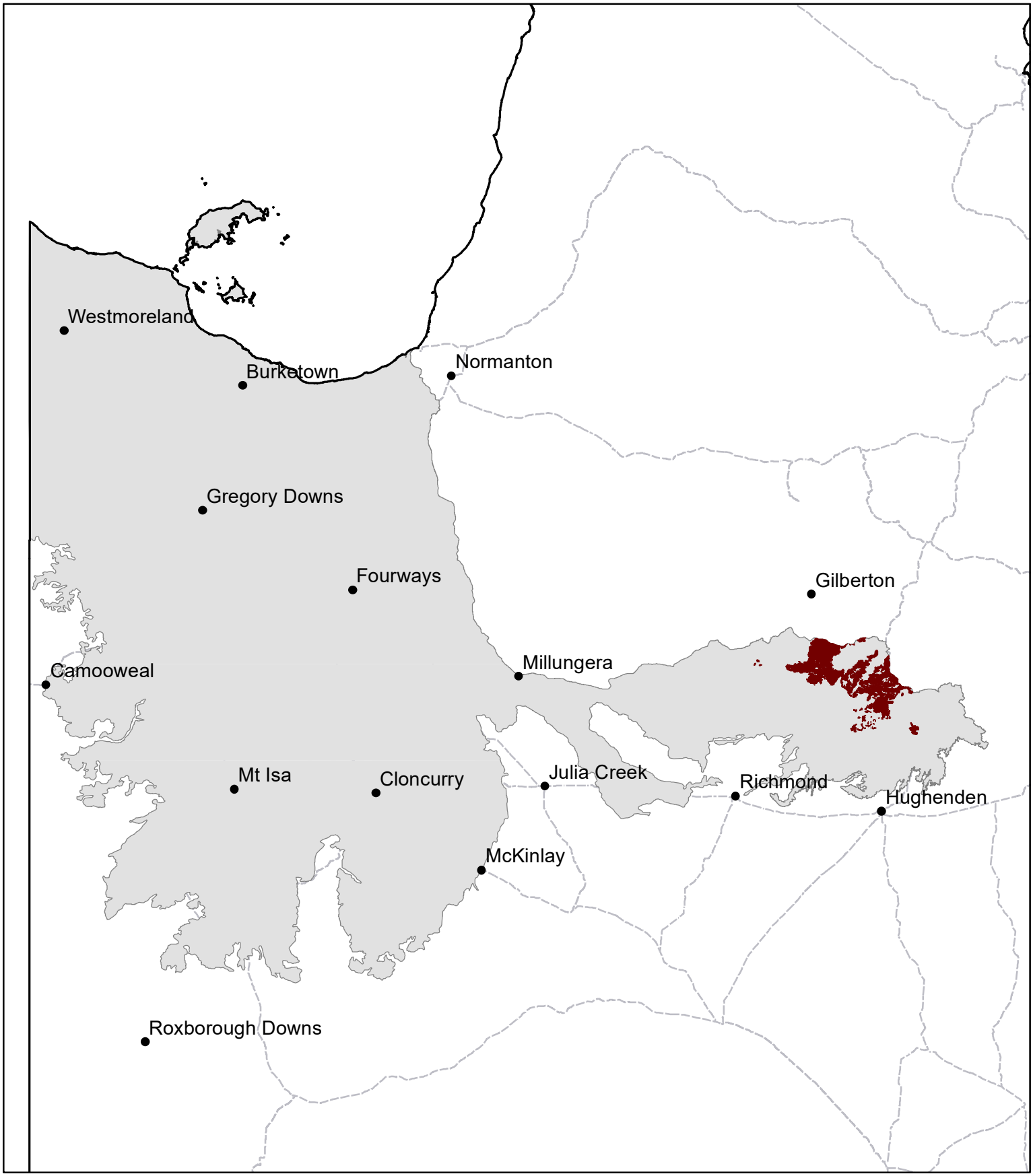
Regional Ecosystems

2.10.3.

Land Systems

Karoon (2), Boorooman (4), Kilbogie (40) (Perry 1964).

SG06 Ironbark



Area of land type in region: 1%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 91%
Median FPC: 25%
Median TBA: 10 m2/ha

Queensland Government

Lancewood

Landform	Residual slopes, scarp retreats and adjacent tops of dissected plateaus and broken sandstone tablelands.
Woody vegetation	Lancewood woodland or low open woodland. Infrequently and sparsely associated with Normanton box.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Golden beard grass, spinifex, kangaroo grass.
Intermediate	Wiregrasses, wanderrie grasses, curly windmill, bottlewashers.
Non-preferred	
Annual grasses	Fire grass, annual wiregrasses (including kerosene grass).
Common forbs	Sidas, potato bush, flannel weed.
Suitable sown pastures	Not suitable for sown pastures.
Introduced weeds	
Soil	Skeletal soils and shallow red earths; texture contrast soils and stony brown clays on steep slopes at the base of cliffs; often extensive rock outcropping.
Description	***Surface:*** Variable rock stone and gravel cover; ***Surface texture:*** sandy loam to none; ***Subsoil texture:*** weathered parent material.
Features	Extensive rock outcropping and/or extensive covers of rock, rubble, and gravel. Provides useful run-on to surrounding areas.

Water availability	Very low.
Rooting depth	Very shallow.
Infiltration	Very low. High proportion of run-off following 5 mm of rain, even under low intensity rainfall.
Fertility	Very low.
Salinity	Non-saline.
Sodicity	Non-sodic.
pH	Very acidic.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 398 – 761 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	530 - 1740	15%	11 - 37
	8 TBA 20 FPC	230 - 680	15%	29 – 84

Enterprise

Breeding.

Land use and management recommendations

- Sustainable harvesting of timber for fence posts and rails.
- Potential groundwater recharge area.
- Useful runoff areas for stock dams.

Land use limitations

- Generally unsuitable for grazing.
- Very low soil fertility and moisture storage.
- Steep broken slopes.

Conservation features and related management

- Protected area: Lawn Hill National Park.

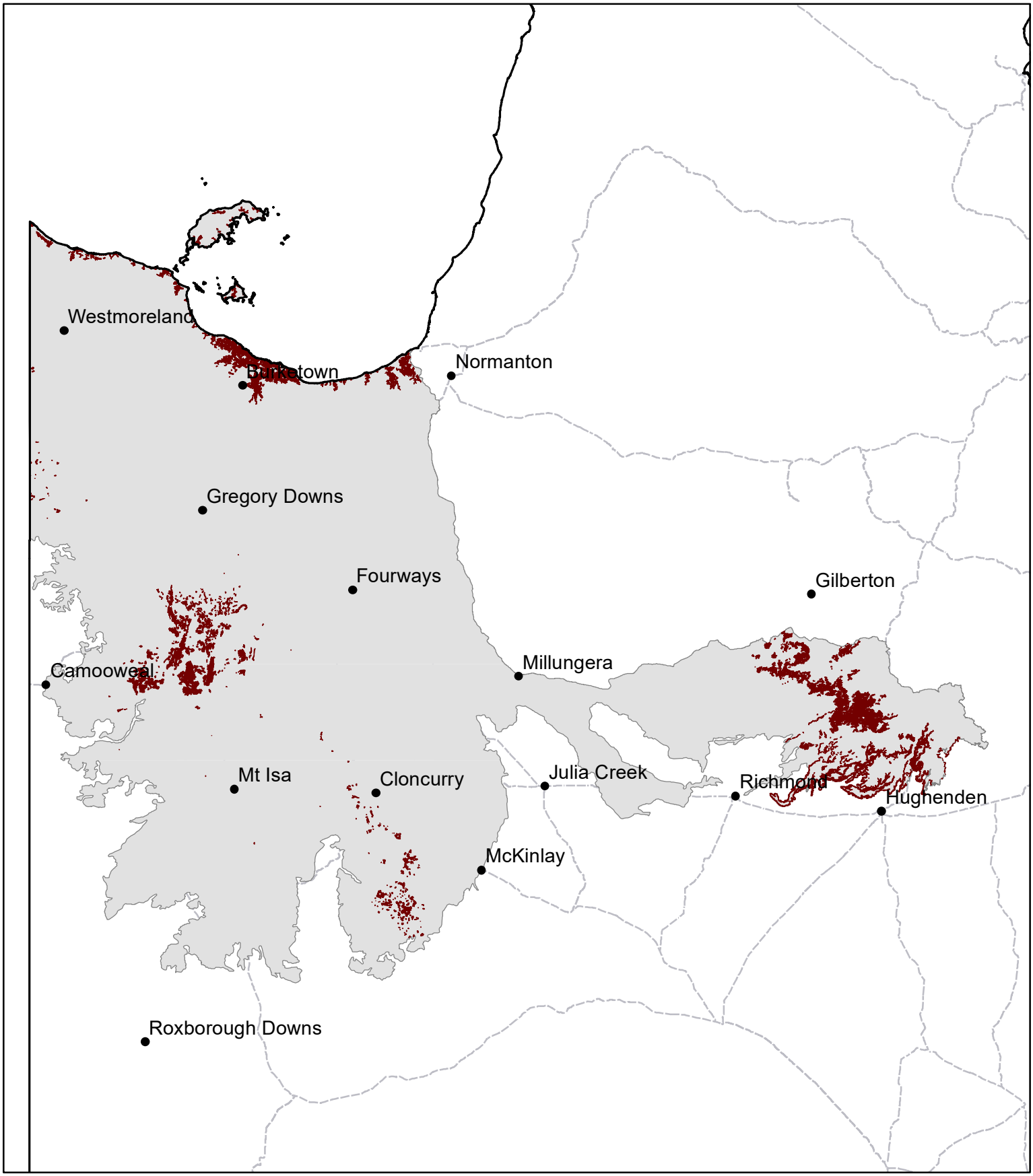
Regional Ecosystems

1.11.7, 1.12.4, 1.7.5a-b, 1.7.6, 2.1.2, 2.1.3, 2.1.4, 2.10.2x1, 2.10.5a-c, 2.10.5x1, 2.10.5x4, 2.5.29, 2.7.2a-c, 2.7.2x10, 2.7.2x6, 2.7.2x7, 2.7.2x8, 2.7.2x9, 9.10.1c, 9.10.3b, 9.11.28a-b, 9.11.30b, 9.12.37.

Land Systems

Torwood(11), Hampstead (5) (Perry 1964).

SG07 Lancewood



Area of land type in region: 2%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 89%
Median FPC: 20%
Median TBA: 8 m2/ha

Queensland Government

Marine plains

Landform	Level saline coastal plains, mostly bare mud and salt flats or plains of saline clay meadows on the slightly elevated plains or low plateaus.
Woody vegetation	Predominantly treeless plains or sparse woodland of coolibah and guttapercha, with mangroves in stream channels.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Marine couch, mudgrass, northern rice grass.
Intermediate	Canegrass, slender chloris, beetle grass, spiny mud grass.
Non-preferred	
Annual grasses	
Common forbs	Spike rushes, fringe rush, common sedges. Samphire grows on saline and tidal mud flats and is eaten when stock have high salt tolerance or when fresh water is readily available.
Suitable sown pastures	Not suitable for sown pastures.
Introduced weeds	Rubbervine, parkinsonia (more elevated areas).
Soil	Grey and black saline crackling clays with areas of mud flats or saline soils with sandy surfaces.
Description	***Surface:*** Loose or thin salt crust; ***Surface texture:*** clay loam or sandy or shelly clay; ***Subsoil texture:*** silty to heavy.
Features	Sandy or shelly clay surfaces occurring on slightly elevated plains. Carbonate nodules and/or gypsum occur at shallow depths.

	Virtually no internal drainage. Water ponds readily.
Water availability	High water holding capacity. Availability limited by salinity and sodicity.
Rooting depth	Shallow.
Infiltration	Moderate to low.
Fertility	Moderate to high. Low Nitrogen, high Phosphorous.
Salinity	High.
Sodicity	High.
pH	Acidic sands, slightly alkaline to acidic clays.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 761 – 831 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	1300 - 2030	25%	5.8 – 9.0
	6 TBA 15 FPC	610 - 920	25%	13 – 19

Enterprise

Breeding.

Land use and management recommendations

- Suitable for grazing native pastures.
- Seasonal inundation provides wet season spelling in most years.
- Early dry (July) burning and overgrazing should be avoided to maintain effective ground cover at break of season.

Land use limitations

- Extreme salinity and regular inundation prevent any agricultural development.
- As fresh water is scarce, stock can only graze for a short period of time while surface water is available following the wet season.

Conservation features and related management

- Permanent and seasonal wetlands.
- Seasonally important habitat for water birds breeding and feeding.
- Can be refuge for fauna including macropods.

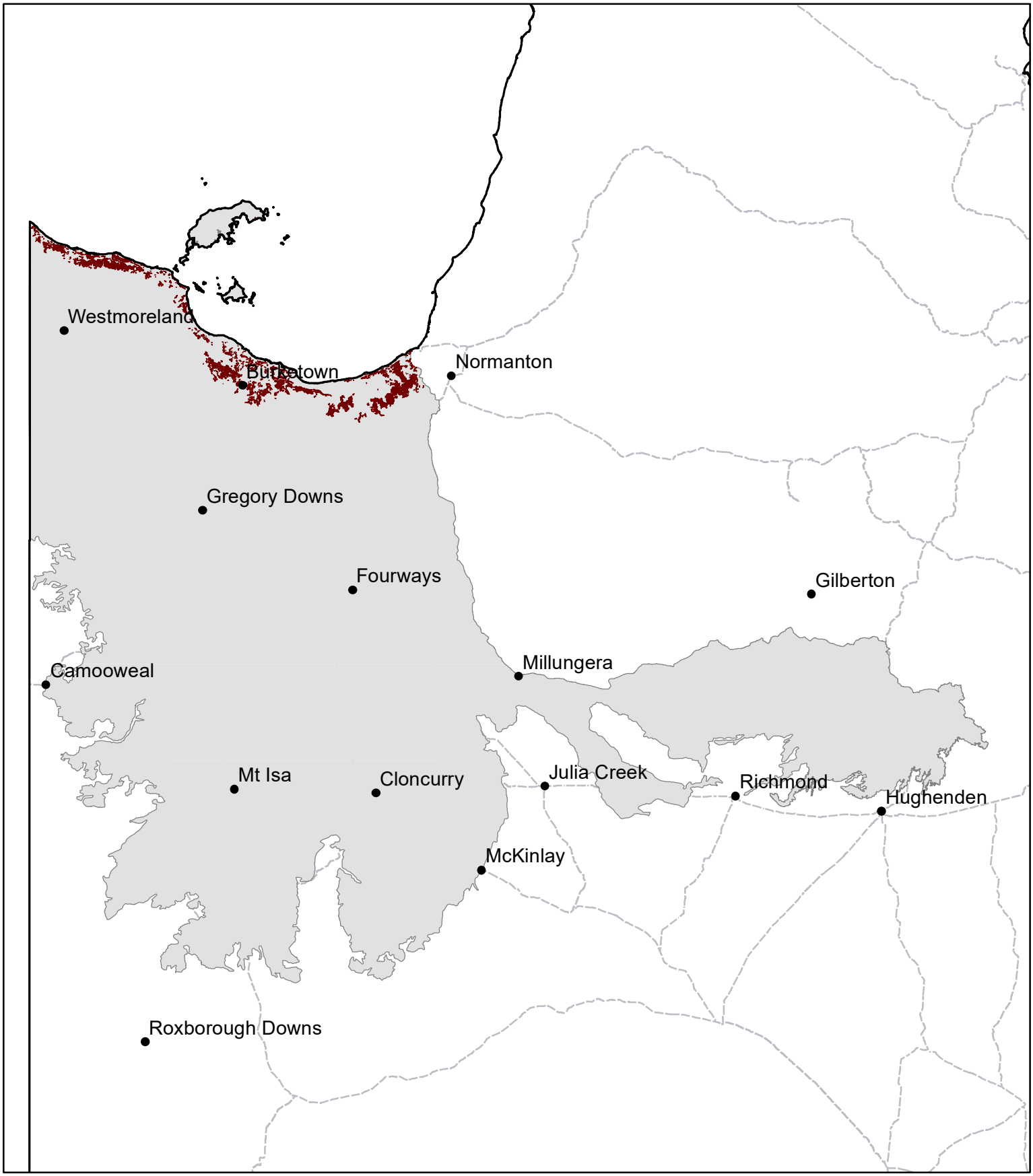
Regional Ecosystems

2.3.2a, 2.3.2x1, 2.9.1.

Land Systems

Carpentaria (58) (Perry 1964).

SG08 Marine plains



Area of land type in region: 1%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 17%
Median FPC: 15%
Median TBA: 6 m2/ha

Queensland Government

Mitchell grass

Landform	Flat to undulating plains. Often adjoins and sometimes mixed in with bluegrass browntop plains and/or flooded plains.
Woody vegetation	Predominantly treeless plains with whitewood, vine tree/supplejack and areas of gidgee and corkwood wattle and coolibah and guttapercha on the edge of flooded areas.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Mitchell grass, gulf bluegrass, Queensland bluegrass, buffel grass*, forest bluegrass, desert bluegrass.
Intermediate	Cupgrass/spring grass, silky browntop, umbrella canegrass, lovegrass, native millet.
Non-preferred	Feathertop.
Annual grasses	Australian dropseed, summer grass, pepper grass, Flinders grass, native couch, button grass, annual sorghum. Non preferred species include asbestos grass.
Common forbs	Sidas, pigweed, sensitive plants, tarvine, chain pea, annual verbine/native lucerne, glycine, rattlepod, cow vine, camel bush/cattle bush(wet areas), onion vine/paper rose, desmodium, sesbania pea, rhynchosia, tick weed, goathead, flinders poppy, speedyweed.
Suitable sown pastures	Generally not suitable for sown pastures.
Introduced weeds	Prickly acacia, parkinsonia, mesquite, potentially parthenium.
Soil	Grey-brown heavy cracking calcareous clays with uneven, self-mulching and often ashy surfaces, and with some areas of pebbly downs.
Description	***Surface:*** Self-mulching with some crusting, ashy in areas and minor occurrences of stone; ***Surface texture:*** heavy clay; ***Subsoil texture:*** heavy clay.

Features	Uniform colour and a self-mulching surface.
Water availability	Moderate to high.
Rooting depth	Deep to moderate.
Infiltration	High initially on a dry soil profile, slowing to moderate levels after 75 mm of rain as cracks close and to low levels after 100 mm of rain. Increasing run-off following 100 mm of rain. Estimates based on low to moderate intensity storm rain.
Fertility	Moderate.
Salinity	Non-saline at surface. In some areas increasing to high to very high values with depth.
Sodicity	Non-sodic at surface; subsoils can be sodic.
pH	Alkaline to very alkaline.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 391 – 761 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	980 - 4250	22%	3.1- 14
	4 TBA 10 FPC	520 - 3100	22%	4.3 – 26

Enterprise

Breeding and fattening.

Land use and management recommendations

- Use fire judiciously as management tool to control woody weeds and feathertop.

Land use limitations

- Heavier claysoils require 75-100 mm of rain for Mitchell grasses to grow.
- Regrowth and high densities of shrubs such as prickly acacia and guttapercha can limit productivity.

Conservation features and related management

- Protected areas include Camooweal Caves and Lawn Hill National Park.

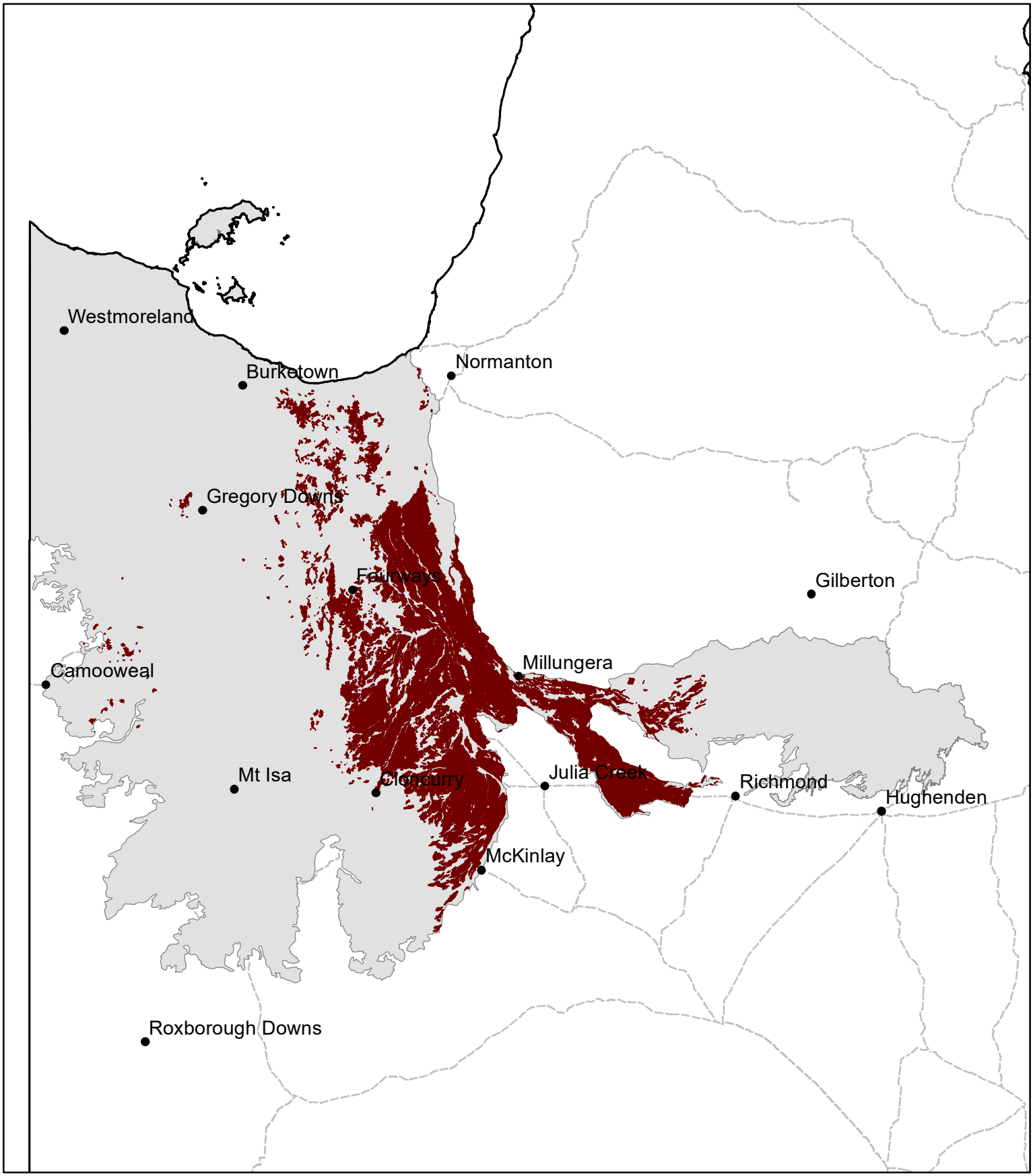
Regional Ecosystems

1.11.13, 1.5.1, 1.5.2a-c, 1.5.3, 1.5.4a, 1.5.4c-d, 1.5.7, 1.9.1, 2.4.2a-b, 2.5.2, 2.5.32, 2.9.1.

Land Systems

Julia (27), Monstraven (49), Gregory (52), Wonardo (30) (Perry 1964).

SG09 Mitchell grass



Area of land type in region: 13%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 11%
Median FPC: 10%
Median TBA: 4 m2/ha

Queensland Government

Open red country

Landform	Outwash plains, erosional plains. Sometimes on gravelly alluvium or limestone ridges.
Woody vegetation	Open woodland including snappy gum, western bloodwood, Cloncurry box, silver-leaved box, gidgee and beefwood. Wattles, wait-a-while, cassia and currant bush shrubs are commonly found.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Kangaroo grass, forest bluegrass, desert bluegrass, black speargrass, Cloncurry buffel grass*.
Intermediate	Bottlewashers grasses, cotton panic, whitegrass, five-minute grass, soft spinifex, silky browntop, golden beard grass, silky oil grass.
Non-preferred	Wiregrasses.
Annual grasses	Button grass, wanderrie grasses, native couch, Australian dropseed, small burr grass, comb chloris, rare panic.
Common forbs	Foxtails, common bonamia, tickweed, tropical speedwell, sidas, pigweed, soft roly poly, gidgee burrs.
Suitable sown pastures	Buffel grass, shrubby stylos (e.g. Seca), Caribbean stylos (e.g Verano).
Introduced weeds	Calotrope, mesquite, parkinsonia, bellyache bush, kapok bush.
Soil	A variety of soils, the best being deep loamy red earths. Patches of red clays, texture contrast soils and some skeletal soils.
Description	***Surface***: Loamy with surface crusting and hard-setting; ***Surface texture***: silty loam; ***Sub-soil texture***: light to medium clays.

Features	Massive surface with soft consistency. Poor structure limits water infiltration during heavier rain. Contains small deposits of shallow skeletal soils. Impermeable surface horizon and hard sub soils.
Water availability	Low to moderate. Water holding capacity and internal drainage low to moderate.
Rooting depth	Low to moderate.
Infiltration	Low during heavier rainfall and moderate during lighter rainfall.
Fertility	Low. Particularly phosphorous.
Salinity	Low.
Sodicity	Low.
pH	Neutral to acidic, possibly changing at depth.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 398 – 831 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	1080 - 2730	15%	7.1 - 18
	3 TBA 8 FPC	770 - 2410	15%	8.1 – 25

Enterprise

Breeding.

Land use and management recommendations

- Use fire judiciously as management tool to control wattle, turpentine, and timber thickening.
- Maintenance of ground cover to minimise shrub invasion and erosion.

Land use limitations

- Areas of scalding due to overuse.
- Wattle thickening can limit productivity.

Conservation features and related management

- Includes some areas of Lawn Hill National Park.
- Changed fire regimes and heavy grazing can lead to changes in the floristics of the native vegetation.

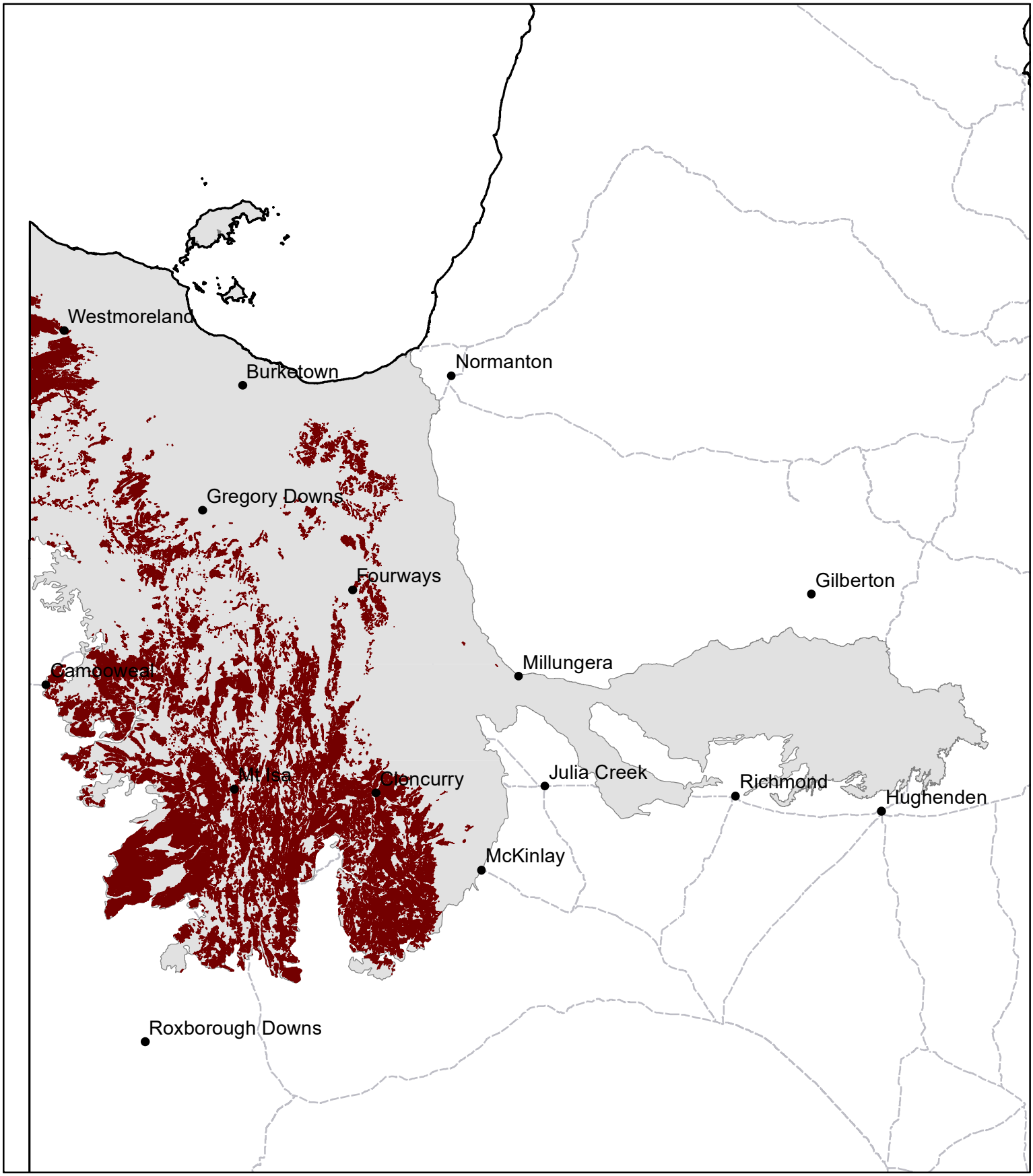
Regional Ecosystems

1.10.2, 1.10.3, 1.10.4a-b, 1.10.6, 1.11.2, 1.11.2a, 1.11.2h-j, 1.11.3a-b, 1.12.1, 1.12.1x5, 1.12.2, 1.5.15, 1.5.16, 1.5.17, 1.5.18, 1.5.19, 1.6.1, 1.9.5b, 2.10.1a, 2.10.4a-b, 2.10.4x3, 2.10.6, 2.10.6x2, 2.11.1a, 2.11.1c, 2.11.1x1, 2.12.1a-b, 2.5.10a-c, 2.5.23a-b, 2.5.35, 2.7.3, 2.7.3x1, 4.5.5b, 4.7.2x1, 4.7.7a-b.

Land Systems

Quamby (34), Percol (47) (Perry 1964).

SG10 Open red country



Area of land type in region: 15%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 64%
Median FPC: 8%
Median TBA: 3 m2/ha

Queensland Government

Rough spinifex hills

Landform	Rugged mountains, rocky plateaus and high plains, and hilly country.
Woody vegetation	Sparse low-woodland of snappy gum with scattered Cloncurry box, western bloodwood, winged nut tree, turpentine, wattles and cassias.
Expected pasture composition	** Denotes non-native "Expected Pasture Composition" species.*
Preferred	Soft spinifex, Cloncurry buffel grass*.
Intermediate	Bottlewashers, wanderrie grasses, hard spinifex, five-minute grass.
Non-preferred	Wiregrasses.
Annual grasses	Native couch, small burr grass, Australian dropseed, fire grass, slender wanderrie grass.
Common forbs	Gidgee burrs, foxtails, sidas, red spinach.
Suitable sown pastures	Not suitable for sown pastures.
Introduced weeds	Kapok bush.
Soil	Skeletal and rock outcrops poorly drained deeper soils along drainage lines.
Description	***Surface:*** Massive with varying stone cover; ***Surface texture:*** sandy loam to sandy clay loam; ***Sub-soil texture:*** clay.
Features	Deeper soils occur along drainage lines. Soils drain poorly at depth. Surface soil tends to seal. Generally, shallow soils less than 30cm are frequently stony and occur on steeper slopes.
Water availability	Very low to low.

Rooting depth

Low.

Infiltration

High on the steeper country until surface wets up after 10-15 mm of rain. On the deeper soils along drainage lines, light rain will be required to allow water to infiltrate down to the deeper clays once profile is wet, little through drainage is likely to occur, rest will run off.

Fertility

Low.

Salinity

Low, unknown at depth along the drainage lines.

Sodicity

Low, unknown at depth along the drainage lines.

pH

Neutral to acidic.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 398– 831 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	220 - 960	15%	20 - 87
	4 TBA 10 FPC	130 - 560	15%	35 – 146

Enterprise

Breeding.

Land use and management recommendations

- Maintenance of perennial pastures is required to allow infiltration in the deeper soils.
- Maintenance of ground cover to minimise shrub invasion and erosion.
- Mosaic burning for wildfire control, turpentine management and to improve access and grazing value of spinifex.

Land use limitations

- Steepness of slope may limit available grazing areas.
- Steepness of slope and shallow stony soils limit cultivation opportunities.
- Turpentine thickening can limit productivity.

Conservation features and related management

- Historic mining has potential to impact water quality.

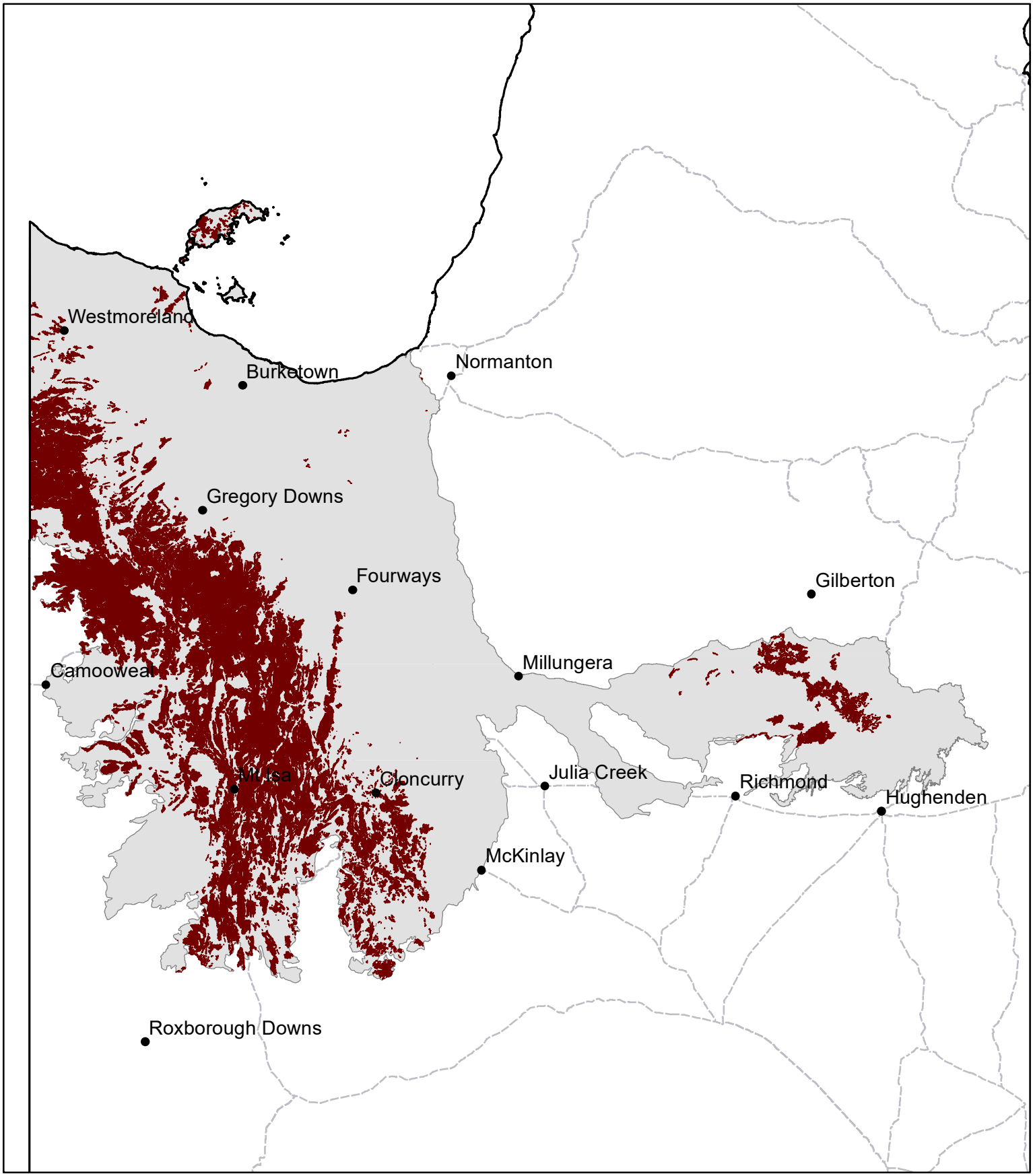
Regional Ecosystems

1.11.6, 1.11.8, 1.11.9, 1.12.3a, 1.7.1a, 1.7.7a, 1.9.10, 1.9.11a, 1.9.11c, 1.9.12, 1.9.13, 1.9.14, 1.9.4b-c, 2.3.20b, 2.3.37, 2.5.4, 2.5.9, 4.9.12x4a.

Land Systems

Kuridala (18), Argylla (8) Merlin (13) (Perry 1964).

SG11 Rough spinifex hills



Area of land type in region: 17%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 76%
Median FPC: 10%
Median TBA: 4 m2/ha

Queensland Government

Sandy forest country

Landform	Timbered sandy plains.
Woody vegetation	Low, moderately dense, woodland of bauhinia, beefwood, deadfinish, arid peach, paperbarks, and long-fruited bloodwoods occurring in stands. Scattered scrubs include currant bush, wait-a while and mimosa bush*. Some areas of wattle.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Black speargrass, kangaroo grass, gulf bluegrass, forest bluegrass, desert bluegrass.
Intermediate	Golden beard grass, plume sorghum, lovegrasses, wanderrie grasses, cotton panic.
Non-preferred	Wiregrasses (including kerosene grass).
Annual grasses	Fire grass, comb finger grass, rare panic pigeon grass, comet grass, annual sorghum, long-awn wanderrie grass.
Common forbs	Bluebush, potato bush, native jute, hibiscus.
Suitable sown pastures	Buffel grass, shrubby stylo (e.g. Seca), Caribbean stylo (e.g.Verano).
Introduced weeds	Chinee apple, grader grass.
Soil	Deep sands, mainly brown soils of light texture.
Description	***Surface:*** Loose; ***Surface texture:*** sandy; ***Subsoil texture:*** sand to light clay.
Features	Surface runoff is very low. Subsoils are soft to slightly hard.
Water availability	Low.

Rooting depth	Moderate to deep.
Infiltration	High; medium or very rapid internal drainage.
Fertility	Low. Particularly nitrogen and available phosphorus.
Salinity	Non-saline.
Sodicity	Non-sodic.
pH	Neutral to strongly acid in the surface.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day

Median annual rainfall 473 – 831 mm

Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	2310 - 4590	15%	4.2 – 8.4
	7 TBA 18 FPC	820 - 2410	15%	8.1 – 24

Enterprise

Breeding.

Land use and management recommendations

- Use fire judiciously as management tool to control wattle and timber thickening.
- Maintenance of ground cover to minimise shrub invasion and wind erosion.

Land use limitations

- Suitably placed and designed road, fence line and/or firebreak location are necessary to prevent extreme erosion.
- Regrowth and high shrub densities can limit productivity.

Conservation features and related management

- Provincial refuge for some flora and fauna.

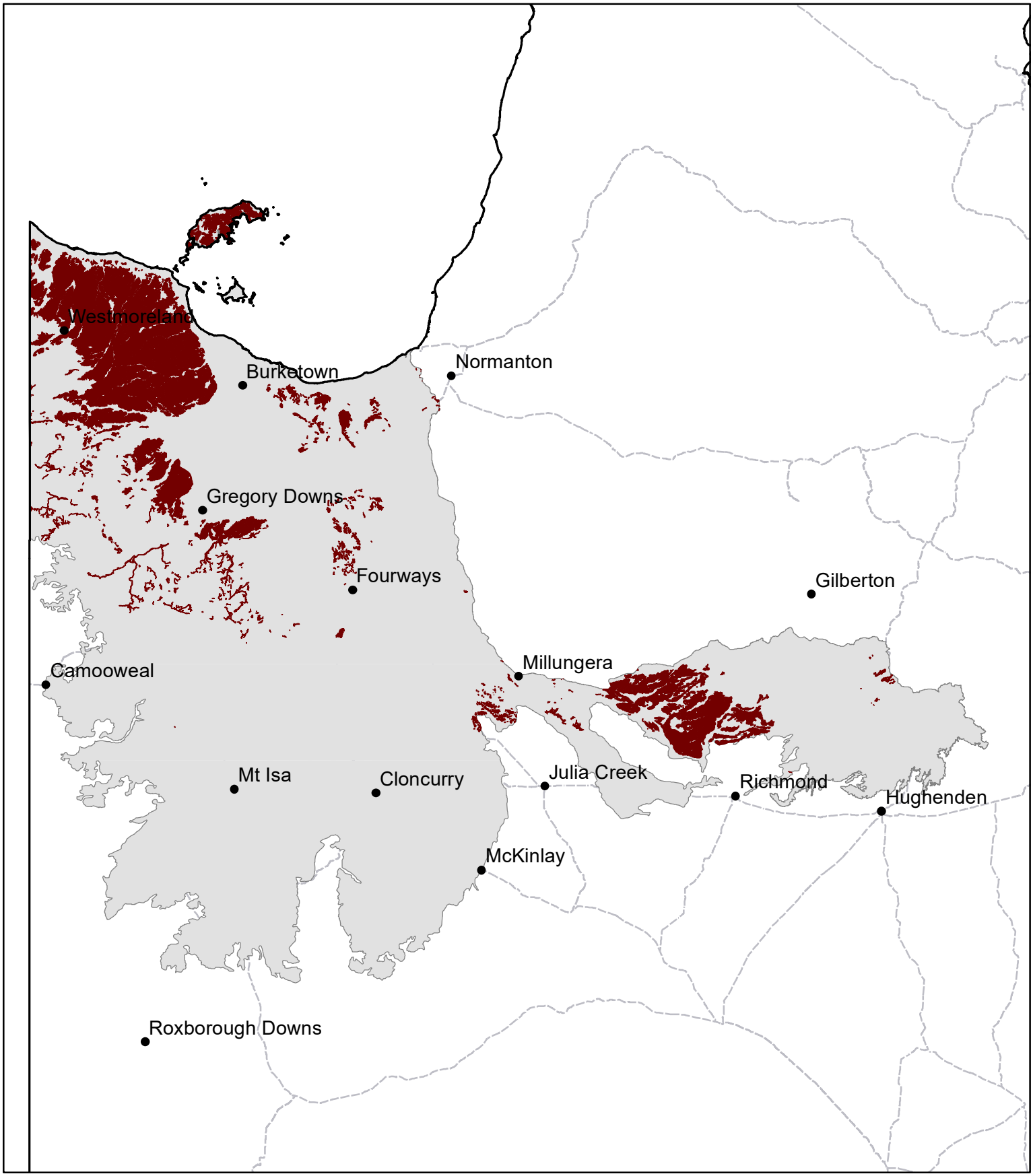
Regional Ecosystems

1.11.4, 2.3.20e, 2.3.20g, 2.5.11b-c, 2.5.12a-d, 2.5.17a-b, 2.5.1a-d, 2.5.30, 2.5.36, 2.5.37b, 2.5.8x70, 2.7.3x2, 2.7.3x3a-b, 2.7.3x4, 2.7.3x5, 2.7.3x6, 2.7.4x1.

Land Systems

Murgulla (24), Bylong (44), Claraville (43), Strathmore (23) (Perry 1964).

SG12 Sandy forest country



Area of land type in region: 9%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 95%
Median FPC: 18%
Median TBA: 7 m2/ha

Queensland Government

Silver-leaved box

Landform	Timbered to lightly timbered inland plains.
Woody vegetation	Silver-leaved box low woodlands with occasional whitewood, beefwood, and western bloodwood. Paperbark, winged nut tree and gutta-percha occur in higher rainfall areas. Sparse shrub cover may include currant bush, wait-a- while and wattles.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Black speargrass, kangaroo grass, forest bluegrass, desert bluegrass, Gulf bluegrass (on heavier soils).
Intermediate	Bottlewashers, cotton panic, five-minute grass, silky browntop, golden beard grass, silky oil grass, soft spinifex.
Non-preferred	Wiregrasses.
Annual grasses	Button grass, slender wanderrie grass, long-awn wanderrie grass, native couch, Australian dropseed, small burr grass, comb chloris, fire grass.
Common forbs	Tickweed, sidas, flannel weed, common bonamia, tropical speddwell, soft roly poly.
Suitable sown pastures	Buffel grass, shrubby stylo (e.g. Seca), Caribbean stylo (e.g. Verano)
Introduced weeds	Calotrope.
Soil	Red and yellow earths.
Description	**Surface**: massive. (Generally hard settling with some areas of softer). Areas of surface ironstone occur. **Surface texture:** sand, sandy loam or sandy clay loam; **Subsoil texture:** ranges from sandy clay to a medium clay.
Features	Subsoil structure is hard to very hard. Variable amounts of ironstone nodules in profile of some soils and decreasing with depth.

Water availability	Moderate.
Rooting depth	Moderate, limited by hard subsoils.
Infiltration	Ranges dramatically depending on soil surface characteristics. Generally moderately drained, some soils poorly drained and prone to periodic waterlogging. The sandier the soil the higher the infiltration rates. Areas of ironstone are generally less permeable.
Fertility	Very low to low.
Salinity	Very low.
Sodicity	Non-sodic.
pH	Neutral to medium acid at the surface. Some sub-soils are alkaline.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 432 – 831 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	1200 - 3470	18%	4.7 - 14
	5 TBA 13 FPC	720 - 2770	18%	5.9 – 23

Enterprise

Breeding.

Land use and management recommendations

- Use fire judiciously as management tool to control wattle and timber thickening.
- Maintenance of ground cover to minimise shrub invasion and erosion.

Land use limitations

- Areas of scalding due to overuse.
- Hard to very hard subsoils.
- Regrowth and high shrub densities can limit productivity

Conservation features and related management

- Periodic wildfires can lead to changes in woody vegetation and pasture composition.

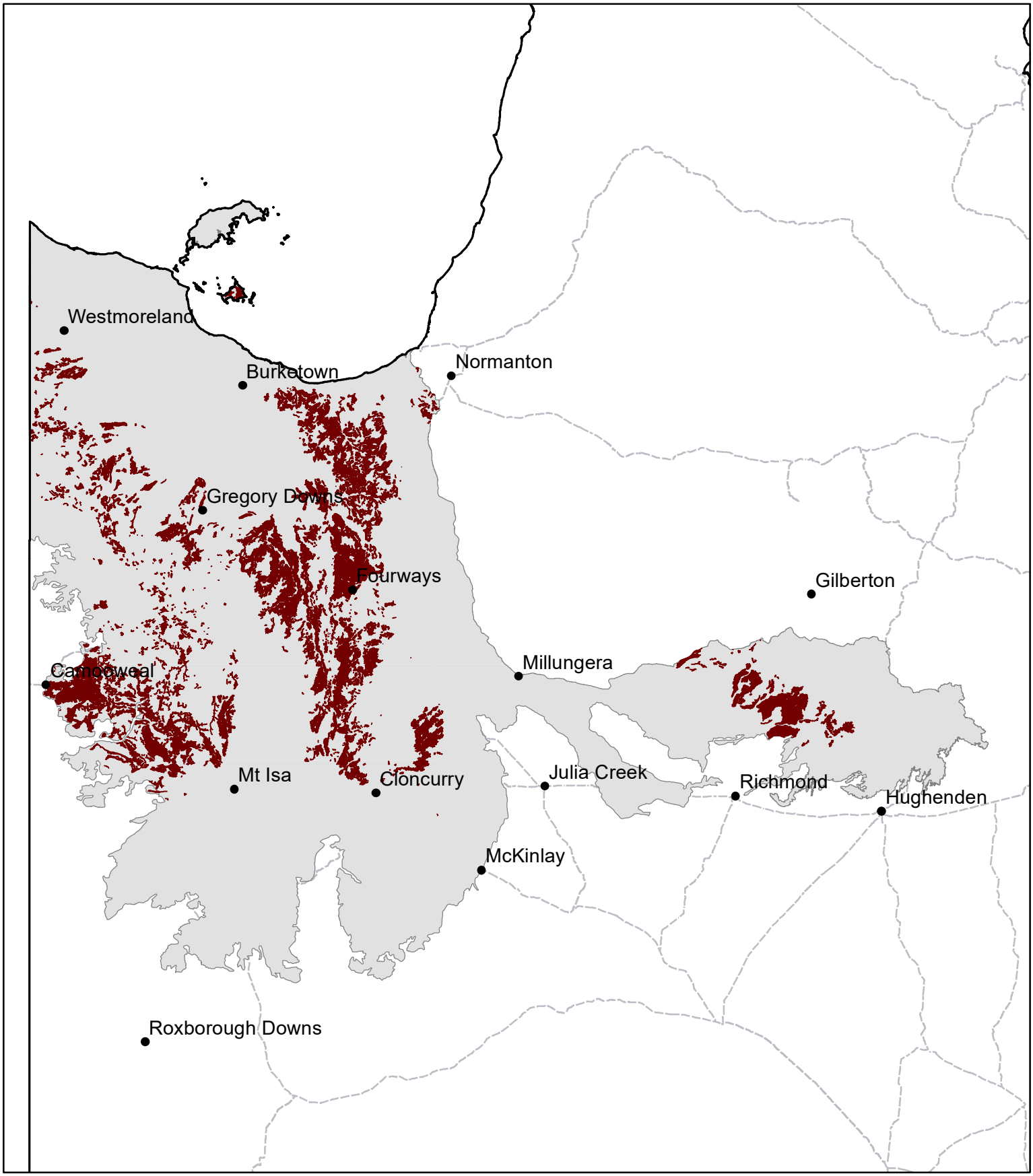
Regional Ecosystems

1.3.15, 1.5.10a-b, 1.5.11, 1.5.13, 1.5.14a-b, 2.3.32, 2.5.31, 2.5.33a-d, 2.7.5a-b, 2.7.5x1, 2.7.5x50b.

Land Systems

Korong (46), Manrika (20) (Perry 1964).

SG13 Silver-leaved box



Area of land type in region: 7%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 79%
Median FPC: 13%
Median TBA: 5 m2/ha

Queensland Government

Soft spinifex country

Landform	Dissected low plateaux and high plains and ridges. Small areas occur on hills and steeper slopes.
Woody vegetation	Silver leaf box or snappy gum low woodlands. Other low woodland species that occur include western bloodwood, whitewood, beefwood and paperbarks. Shrubs may include turpentine, wattles, currant bush and cassias.
Expected pasture composition	* *Denotes non-native "Expected Pasture Composition" species.*
Preferred	Soft spinifex, kangaroo grass, Cloncurry buffel grass*, black speargrass.
Intermediate	Silky oil grass, golden beard grass, bottlewashers.
Non-preferred	Wiregrasses.
Annual grasses	Button grass, Australian dropseed, native couch, small burr grass, slender wanderrie grass, long-awn wanderrie grass.
Common forbs	Rattlepods, tickweed, common bonamia, tropical speedwell, Birdsville indigo, sidas.
Suitable sown pastures	Shrubby stylos (e.g. Seca), Caribbean stylos (e.g Verano).
Introduced weeds	Grader grass, calotrope.
Soil	Skeletal soils and sands and deeper red and yellow earths.
Description	***Surface:*** Loose, soft and massive; ***Surface texture*****:** sand, sandy loam or sandy clay loam; ***Sub-soil texture*****:** light clay to clay, where present.
Features	Soils frequently uneven and often shallow to rock. Clay subsoils are hard where present.
Water availability	Low to moderate.

Rooting depth: Low to moderate.

Infiltration: Low to moderate.

Fertility: Low to moderate. Low in available phosphorus.

Salinity: Very low.

Sodicity: Very low.

pH: Neutral to medium acid.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 398 – 831 mm				
Pasture type	Median tree cover (TBA m^2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	480 - 1820	15%	11 - 41
	5 TBA 13 FPC	250 - 1150	15%	17 – 78

Enterprise

Breeding.

Land use and management recommendations

- Use fire judiciously as management tool to control wattle and timber thickening. Fire can be used to improve access to palatable spinifex, to encourage spinifex seeds to germinate.
- Maintenance of ground cover to minimise shrub invasion and erosion.

Land use limitations

- Scalded areas occur due to overuse.
- Regrowth and high shrub densities can limit productivity

Conservation features and related management

- Periodic wildfires can lead to changes in woody vegetation and pasture composition.

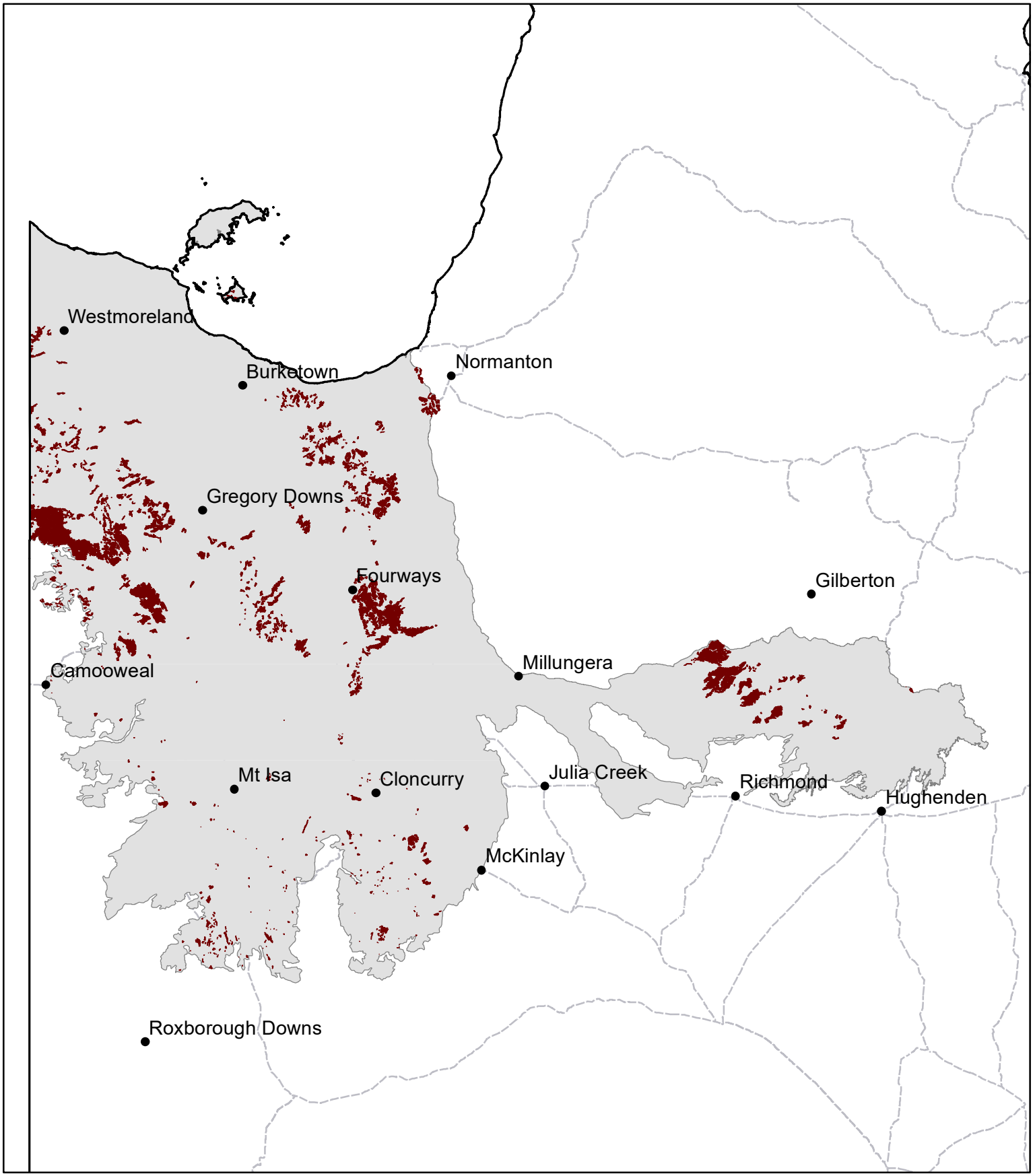
Regional Ecosystems

1.11.10a-b, 1.11.11, 1.11.12, 1.12.3b-c, 1.12.6, 1.12.7, 1.5.12, 1.7.2a, 1.7.3, 1.7.4, 1.7.7b, 1.9.11b, 1.9.11b, 2.10.1b, 2.5.11a, 2.5.28a-b.

Land Systems

Punchbowl (12), Cowan (14) (Perry 1964).

SG14 Soft spinifex country



Area of land type in region: 3%
Median rainfall (region): 233 – 831 mm
Average rainfall (region): 271 – 952 mm
Area of land type with FPC: 74%
Median FPC: 13%
Median TBA: 5 m2/ha

Queensland Government