Blue gum, white stringybark and blackbutt on red clay

Landform	Gently undulating plains to undulating rises on the Toowoomba and Pechey Plateaus. Isolated areas on the Bunya Mountains and Main Range in the southern Downs.
Woody vegetation	Sydney blue gum, tallowwood, mountain coolibah, white stringybark, white mahogany, pink bloodwood and blackbutt open forest with a wattle understorey. Mixed rainforest with crow's ash, hoop and bunya pines, black bean, yellow carbeen, red and white cedars, strangler figs, giant stinging tree found throughout the greater rainfall areas of Bunya Mountains and Main Range near Killarney. Flooded gum occurs along watercourse and rainforest margins. Original vegetation largely cleared.
Expected pasture composition	** Denotes non-native "Expected Pasture Composition" species*.
Preferred	Forest bluegrass, kangaroo grass, black speargrass and paspalum*.
Intermediate	Pitted bluegrass, early spring grass and red Natal grass*.
Non-preferred	Blady grass, slender chloris, blue couch, wiregrasses, foxtail and small burrgrass.
Common forbs and legumes	Glycine pea and woolly glycine.
Suitable sown pastures	Green panic, Gatton panic, creeping bluegrass (Bisset), Rhodes (Katambora, Callide and Samford types), kikuyu, paspalum, phalaris, fescue, cocksfoot. Lucerne, white clover, siratro and woolly pod vetch.
Introduced weeds	Lantana, African boxthorn, tree pear, tiger pear, mother-of-millions, wild tobacco tree and lippia.
Soil	Moderately deep (50 – 100 cm) to very deep (100 – 200 cm) non-cracking red-brown to red clays over basalt on the Toowoomba Plateau (ferrosol).
Description	***Surface*:** Occasionally a few ironstone nodules; ***Surface texture*:** clay loam to light clay; ***Subsoil texture***: light medium to heavy clay.
Water availability	Moderate to high; plant available water capacity (PAWC) 50 – 200 mm.
Rooting depth	Effective rooting depth 75 – 200 cm.
Fertility	Very high carbon and nitrogen, low to very high phosphorus. Responds to phosphorus and nitrogen fertilisation.

Salinity

Low to very low.

Sodicity

Non-sodic.

pH

Slightly acid (6.0) at surface; remaining slightly acid or becoming neutral (7.2) down the profile.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 628 – 729 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	2770 - 2770	30%	3.5 – 3.5
	17 TBA 40 FPC	620 - 1140	30%	8.5 – 16
Sown			35%	

Enterprise

Growing and finishing.

Land use and management recommendations

- Soils with loamy surfaces or finely structured clays are prone to wind erosion, particularly if landscape is open with little protective vegetation.
- Maintaining effective ground cover and conservative stocking practices (spelling pastures, flexible stocking rates) are important to reduce runoff and minimise the risk of sheet, rill and wind erosion.
- Using contour banks, grassed waterways and conservation cropping is needed to minimise runoff and soil erosion on more steeply sloping land (>1% slope).
- Fertilising with phosphorus and sulphur will improve pasture production.

Land use limitations

- Friable red non-cracking clays are prone to soil structural decline (compaction, hard-setting) that can lead to poor seedling establishment, difficult workability, reduced infiltration and increased wind and water erosion.
- Phosphorus fixing. Phosphorus is actively fixed by aluminium and iron in acid soils and by calcium in alkaline soils. Fixation is of less concern in alkaline than in acid soils.
- Generally, not suited to intensive livestock industries (e.g. feedlots, piggeries) due to the potential for contamination of groundwater supplies through the underlying fractured basalt.

Conservation features and related management

- The conservation status of these woodlands is ‘of concern’ with remnants providing important habitat for arboreal mammals and birds.
- A number of rare and threatened flora (Austral Toadflax, Australian anchor plant, native thistle, native hawk weed) are associated with this land type.
- Maintaining timbered areas can allow connectivity of remnants through habitat corridors and greatly increase the value of these areas of land to wildlife and the overall health of the system.
- Maintaining ground cover and use of conservation soil practices in these areas is important to minimise soil erosion and help protect the wildlife habitat.
- The rainforest areas on the fertile elevated plateaus have been extensively cleared and established with kikuyu.
- The remnants tend to be small and are threatened at the margins by weed invasion.

Regional Ecosystems

12.3.7, 12.5.6, 12.5.6a, 12.8.14, 12.9-10.17a, 13.12.8, 13.12.9

Land units; Agricultural management unit; Soil associations

Central Darling Downs Land Management Manual: 7d (Burton, Drayton, Ruthven, Middle Ridge, Toowoomba); Land Inventory and Technical Guide Eastern Darling Downs Area: (Burton, Drayton, Kynock, Middle Ridge, Ruthven, Toowoomba); Description and Management of the Soils of the Eastern Darling Downs Queensland: (Burton).

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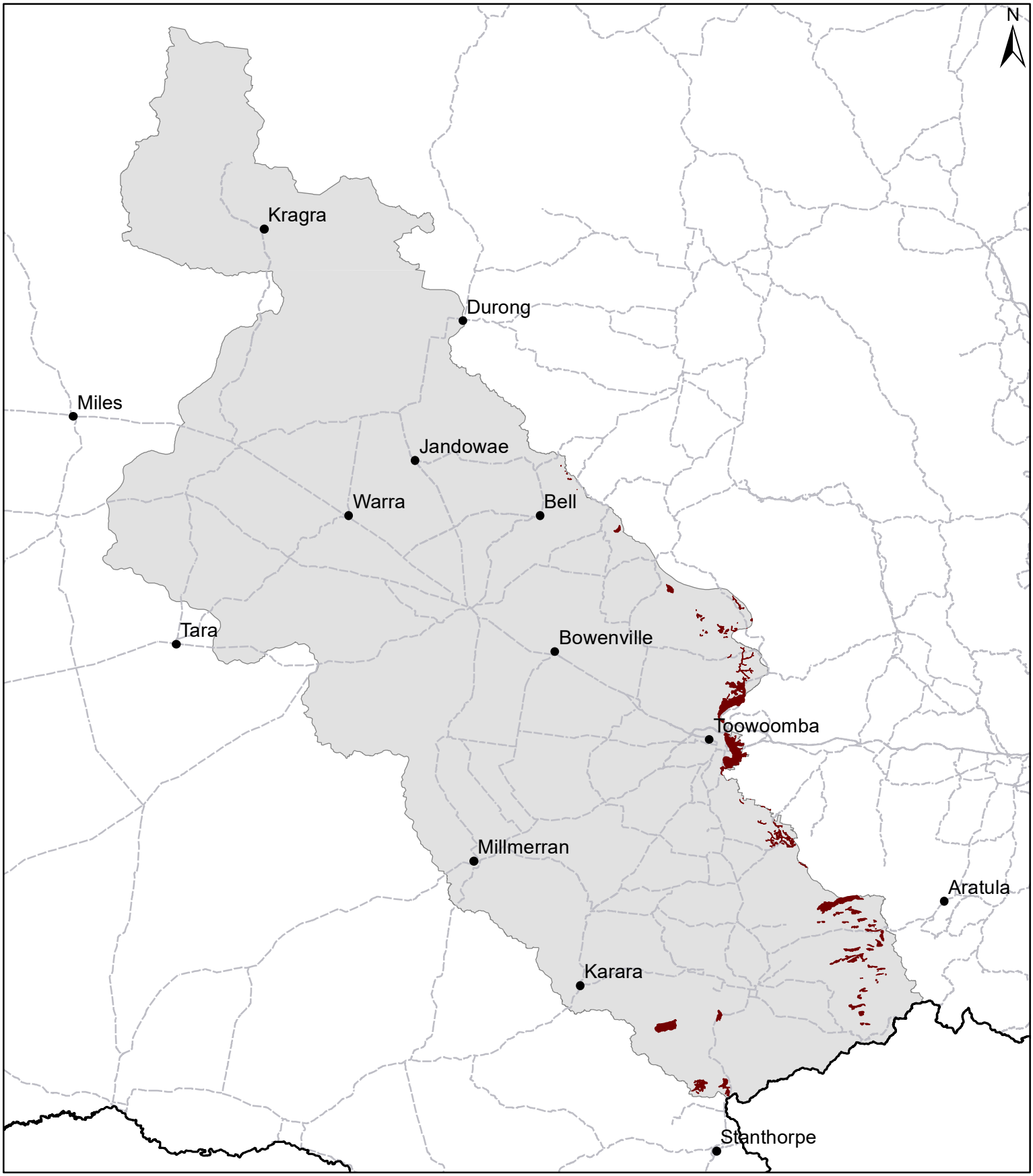

Area of land type in region: 1%
Median rainfall (region): 580 – 909 mm
Average rainfall (region): 585 – 927 mm
Area of land type with FPC: 66%
Median FPC: 40%
Median TBA: 17 m2/ha

Queensland Government