

Belah and brigalow on texture contrast soils



Landform	Level to gently undulating plains. Mostly found west of the Condamine River in the Darling Downs region.
Woody vegetation	Tall, open forests of belah with brigalow, and understorey of wilga and false sandalwood, myall and emu apple. Occasionally associated with bottle tree, nipan, whitewood, wild orange, currant bush and limebush.
Expected pasture composition	* Denotes non-native "Expected Pasture Composition" species.
Preferred	Brigalow grass, curly windmill grass and Queensland bluegrass.
Intermediate	Early spring grass, slender panic, fairy grass and barbwire grass.
Non-preferred	Lovegrasses (e.g. weeping, purple, dainty), many-headed wiregrass, dark wiregrass, purple lovegrass, liverseed grass* and stinkgrass*.
Common forbs and legumes	Mueller's saltbush, ruby saltbush and soda bush. Non-preferred species include copperburrs, galvanised burr, dog burr and soft roly poly.
Suitable sown pastures	Creeping bluegrass, Gatton panic, Rhodes grass (Katambora type) and buffel grass in western areas. Medics (barrel, button and spineless burr), lucerne, Caatinga stylo and desmanthus.
Introduced weeds	Prickly pear, tree pear, lippia, mother-of-millions and harrisia cactus.
Soil	Friable, shallow, black or brown texture-contrast soil (sodosol).
Description	Surface: Firm to hard-setting; Surface texture: clay loam; Subsoil texture: medium to heavy clay.
Water availability	Low to medium, plant available water capacity (PAWC) 50 – 140 mm.
Rooting depth	Low to medium; effective rooting depth 60 – 110 cm.
Fertility	Moderately fertile. Responds to nitrogen, phosphorus, zinc and occasionally copper.
Salinity	Non-saline or low salinity at the surface. Medium to very high salinity at depth (below 20 cm).

Sodicity
pH

Strongly sodic subsoils.
Neutral at surface, acid subsoils.

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 580 – 632 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	8080 - 8700	30%	1.1 – 1.2
	10 TBA 25 FPC	5550 - 6770	30%	1.4 – 1.8
Sown			35%	

Enterprise

Growing and finishing.

Land use and management recommendations

- Undisturbed soils are generally well-structured and permeable, becoming prone to dispersion when exposed.
- Minimum tillage on these soils may improve the overall structure and friability of seedbeds.
- Deep tillage is not recommended. Soils below 0.5 – 1.0 m should be left undisturbed to reduce the possibility of exposing sodic and acid subsoils.
- Maximise ground cover, replace organic matter through long-term pasture phases, and adopting conservation tillage practices should minimise soil disturbance and improve seedbed conditions.
- Manage grazing pressure to maximise ground cover and to minimise the risk of erosion of dispersive soils.

Land use limitations

- The main limitations of these soils are the strongly sodic and highly to very highly saline deep subsoils – permeability decreases with depth as the subsoil sodicity increases.
- These limitations restrict water movement and root growth, particularly in flat situations.
- Exposure of subsoils may cause problems with dispersion and acidity.
- The risk of erosion increases on the slopes.
- The hardsetting surface restricts infiltration.

Conservation features and related management

- Extensively cleared or thinned for cropping and pasture, with remaining brigalow and/or belah or other understorey species (e.g. *Acacia*) often forming small clumps or tree lines.
- As appreciable areas of native pastures or natural dense woodlands are rare, these clumps and tree lines of brigalow and/or belah are managed primarily as conservation reserves.
- Habitat for rare and threatened species including the nomadic painted honeyeater *Grantiella picta*. This species feeds on mistletoe fruits that grow on eucalypts and acacias.
- These communities are considered sensitive to fire.

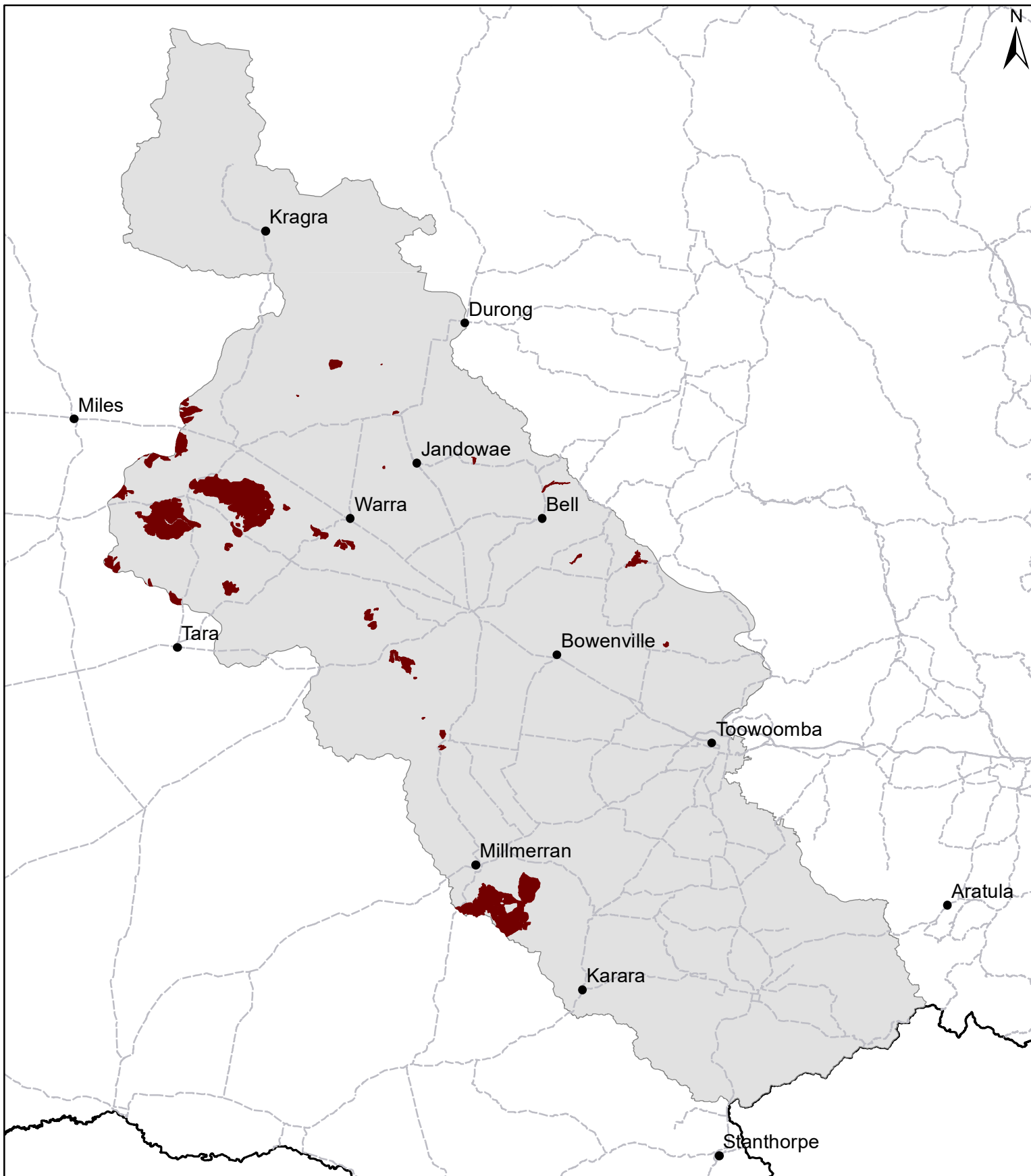
Regional Ecosystems

11.4.3, 11.4.3a, 11.4.3b

Land units; Agricultural management unit; Soil associations

Central Darling Downs Land Management Manual: 6d (*Arden, Calingungee, Kurrumbul, Moruya, Murra Cul Cul, Tandawanna*); Understanding Soils in the Murilla, Tara and Chinchilla: 5a, 5b (*Ulimaroa*).

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Area of land type in region: 2%
Median rainfall (region): 580 – 909 mm
Average rainfall (region): 585 – 927 mm
Area of land type with FPC: 12%
Median FPC: 25%
Median TBA: 10 m²/ha