

# Black soil plains and creek flats



<b>Landform</b>	Broad level plains of basaltic and sandstone alluvium. Gently sloping to flat alluvial plains associated with the Condamine River and tributaries, particularly on the flat valley floors and alluvial fans originating from the basaltic uplands.
<b>Woody vegetation</b>	Open grassland or Queensland blue gum and poplar box open woodland. Rough-barked apple and fuzzy box may also occur. Occasional river red gum, coolibah, sally wattle and tea tree along drainage lines.
<b>Expected pasture composition</b>	* Denotes non-native "Expected Pasture Composition" species.
Preferred	Queensland bluegrass, kangaroo oats (native oats), Mitchell grass (hoop, curly), satintop, wallaby grass, shot grass and paspalum*.
Intermediate	Small Flinders grass, pitted bluegrass, native millet, twirly windmill grass, windmill chloris and slender chloris. Reedgrass and umbrella canegrass along drainage lines – important bank stabilisers and sediment filters.
Non-preferred	Feathertop wiregrass, white speargrass, green couch, yabila grass, rat's tail grass, southern speargrasses (e.g. plains grass).
<b>Common forbs and legumes</b>	Blue crowfoot, rhynchosia pea, emu foot, native sensitive plant, glycine pea and nardoo.
<b>Suitable sown pastures</b>	Bambatsi, Gatton panic, creeping bluegrass (Bisset), kikuyu in waterways. Lucerne, medics (barrel and button), desmanthus and white clover in higher rainfall areas.
<b>Introduced weeds</b>	African boxthorn, tree pear, tiger pear, prickly pear, lippia, mother-of-millions, stromonium, noogoora burr and scotch thistle.
<b>Soil</b>	Deep to very deep, grey to dark grey cracking clays of mixed basalt/sandstone alluvium (vertisol).
Description	<b>Surface:</b> Weakly structured or coarse blocky, self-mulching; <b>Surface texture:</b> sandy light clay to heavy clay; <b>Subsoil texture:</b> medium heavy to heavy clay.
Water availability	High to very high; plant available water capacity (PAWC) 150 – >250 mm in root zone.
Rooting depth	Effective rooting depth 150–170 cm.
Fertility	Low to moderate organic Carbon, low Nitrogen; high available Phosphorus, low zinc.

Salinity  
Sodicity  
pH

Low to moderate at the surface; moderate to very high saline subsoils.  
Non-sodic at surface; sodic or strongly sodic subsoils.  
Mildly alkaline at the surface; strongly alkaline 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 582 – 729 mm				
Pasture type	Median tree cover (TBA m <sup>2</sup> /ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	LTCC (ha/AE)
Native species	0 TBA/FPC	4270 - 5430	30%	1.8 – 2.3
	13 TBA 31 FPC	1550 - 3510	30%	2.8 – 6.3
Sown			35%	

### Enterprise

Growing and finishing.

### Land use and management recommendations

- Grassed waterways should be maintained to provide ideal flow conditions and avoid erosion or excessive siltation. Maintaining effective ground cover and conservative stocking practices (spelling pastures in the growing season, flexible stocking rates) are important to reduce runoff and minimise the risk of sheet, rill and wind erosion.

### Land use limitations

- Creek flats are very prone to overgrazing if animals can't be isolated from the creek country (even if they can access other country).
- Heavy, sticky clay makes the land type unsuitable for livestock during wet conditions.
- Creek flats are typically the coldest part of the landscape and frost in winter. While herbage growth is often good along the creek flats, cattle generally seek refuge in timbered country, if available.
- This land type is subject to periodic erosive flooding both in outlet areas and on the plains. Incorrectly located roads and fences often concentrate flows and cause serious gullying which is then difficult to stabilise.
- Alluvial loamy soils are prone to compaction (cracking and swelling will aid repair), structural and fertility decline.

### Conservation features and related management

- Widely cleared for cultivation, and extensively used for cropping and pasture.
- Grasslands contain species at their distribution limits (e.g. eastern-most occurrence of Mitchell grasses; northern limits of wallaby and southern speargrasses). Habitat for a number of rare and threatened flora species (austral toadflax, native thistle, native hawk weed, lobed bluegrass, finger panic grass).
- The woodlands are an important habitat for arboreal mammals and birds.
- The productivity and values to wildlife and health of these areas can be enhanced through the use of soil conservation techniques to minimise soil erosion; and maintaining of connected timbered areas that can provide shelter for crops and stock, and protection for banks from slumping and act as floodwater filters.

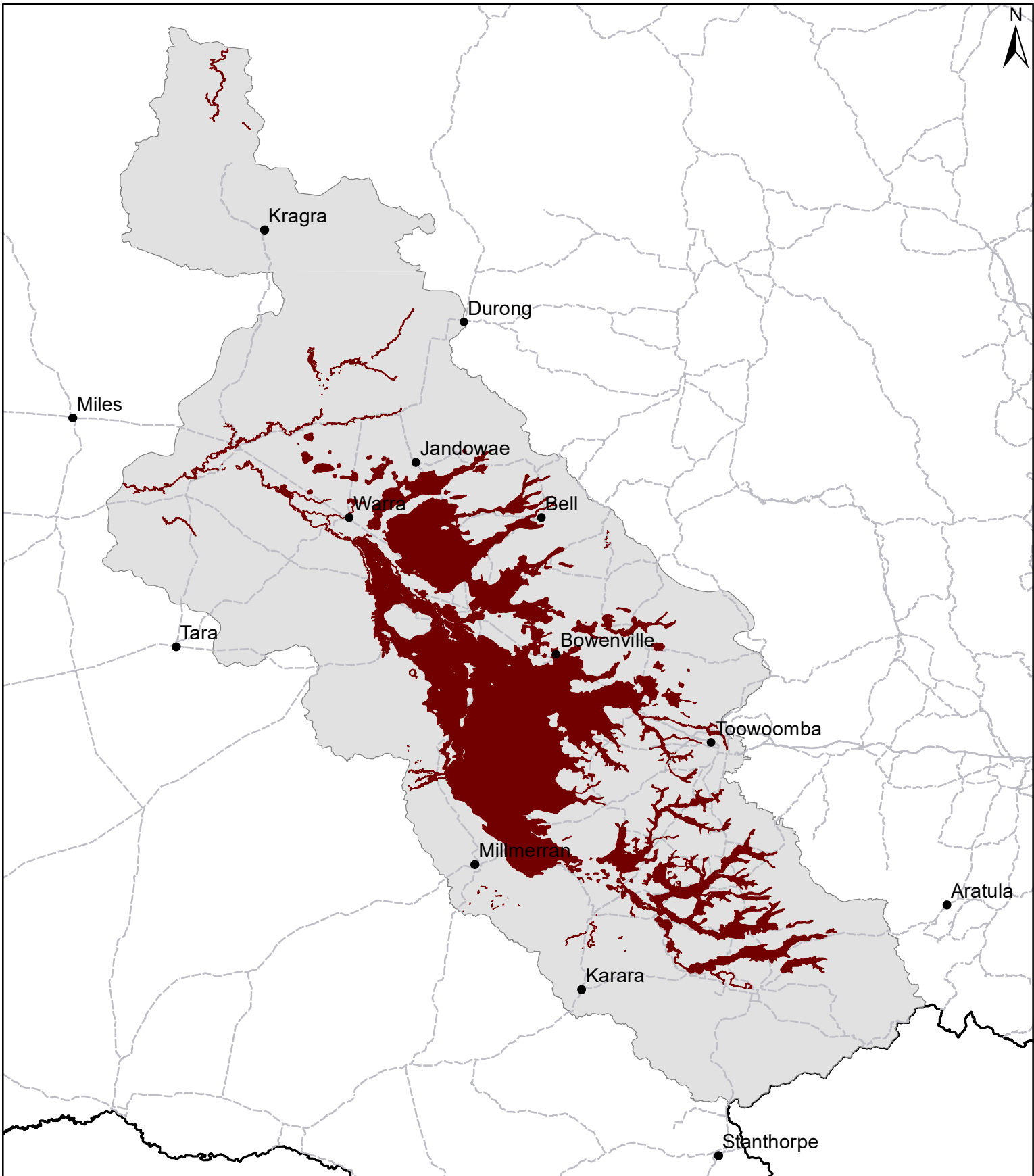
### Regional Ecosystems

11.3.17, 11.3.2, 11.3.21, 11.3.25, 11.3.27c, 11.3.27d, 11.4.4

### Land units; Agricultural management unit; Soil associations

Central Darling Downs Land Management Manual: 1a, 1b, 2a (*Anchorfield, Condamine, Mywybilla, Waco, Yargullen*); Understanding and Managing Soils in the Murilla, Tara and Chinchilla Shires: 1a, 1b (*Condamine*). Stanthorpe Rosenthal Field Manual: Mixed basalt alluvial plains (*Pratten*). Land Inventory and Technical Guide Eastern Downs Area: (*Anchorfield, Condamine, Mywybilla, Norillee, Turner, Waco, Yargullen*); Description and Management of the Soils of the Eastern Darling Downs Queensland: (*Waco, Calc. subsoil*).

# DD02 Black soil plains and creek flats



Area of land type in region: 16%  
Median rainfall (region): 580 – 909 mm  
Average rainfall (region): 585 – 927 mm  
Area of land type with FPC: 6%  
Median FPC: 31%  
Median TBA: 13 m<sup>2</sup>/ha



**Queensland**  
Government