Mixed open forests on duplex and loam

Landform	Undulating to steep hills.
Woody vegetation	Grassy open forest of narrow-leaved ironbark / grey ironbark and silver-leaved ironbark with bloodwoods (pink, brown, Clarkson's and variable-barked). Spotted gum, gum-topped box, Moreton Bay ash, grey gum, stringybarks and smooth-barked apple may also occur. An understorey of bulloak, sheoak and wattles may be present.
Expected pasture composition	** Denotes non-native "Expected Pasture Composition" species.*
Preferred	Black speargrass, kangaroo grass, tambookie grass, Rhodes grass*, creeping bluegrass*.
Intermediate	Pitted bluegrass, barbed wire grass, native panic, couch grass*, red Natal grass*.
Non-preferred	Wiregrasses, reedgrass, slender chloris. blady grass, native rat's tail grass, windmill grasses, lovegrasses.
Legumes	Emu foot, woolly glycine, rhynchosia, creeping tick trefoil.
Annual grasses	Small burr grass.
Suitable sown pastures	Rhodes grass, creeping bluegrass, digit grass, pangola, paspalum, seca stylo, Caatinga stylo, Wynn cassia, siratro, glycine, vigna, white clover.
Introduced weeds	Lantana, giant rat's tail grass, fireweed.
Soil	Texture contrast soils of brown to dark grey loamy sands overlaying red, brown or yellow clay (Sodosols, chromosols, kurosols, rudosols - solodics, podzolics, shallow hillside soils & soloths).
Description	***Surface*:** Sandy or loamy, loose to hard-setting; ***Surface texture:*** sandy clay loam or loamy sand to clay loam; ***Subsoil texture:*** light to heavy clay.
Features	Usually a prominent bleached zone above hard clay subsoil. Strongly sodic and dispersible, with a dominance of magnesium in subsoil increasing tendency for dispersion. Sometimes mottled (yellow or grey). Sometimes contains lime.
Water availability	Very low to low, PAWC <50–100 mm in root zone.
Rooting depth	Effective rooting depth < 0.4 m (solodics, soloths) to < 1.5 m (podzolics).
Fertility	Nitrogen mostly low to medium, can vary low to high in loamy solodics; Phosphorus very low to low, can be variable low to high in loamy solodics; Potassium variable, very low to high; Zinc low to medium; Copper medium in solodics, soloths, hillside soils, low to high in podzolics.
Salinity	Very low at surface; high at depth in solodics, soloths.
Sodicity	Non-sodic at surface, except soloths; solodics & soloths strongly sodic at depth.

pH

Soil surface very strongly acid (4.5) or strongly acid (5.4) to slightly acid (6.5); subsoils very strongly acid (5.0) to medium acid (6.0) (soloths, podzolics), or moderately alkaline (8.0) to strongly alkaline (9.0) (solodics).

Long-term carrying capacity information (A condition)

Based on fully watered area for 1AE = 450 kg animal consuming 8kg DM/day				
Median annual rainfall 744 – 1372 mm				
Pasture type	Median tree cover (TBA m2/ha) (FPC %)	Median annual pasture growth (DM kg/ha)	Safe annual utilisation pasture growth (%)	Long term carrying capacity (ha/AE)
Native species	15 TBA 36 FPC		25%	
Sown pasture	15 TBA 36 FPC		25%	

Enterprise

Breeding.

Land use and management recommendations

- Mainly suitable for grazing of native pastures and timber reserves, with deeper stable soils only suited to sown pastures.
- Maintain maximum surface cover (> 90 %) at all times, flexible, conservative stocking rates matched to seasonal forage availability and ensure routine spelling in growing season to allow desirable pastures to recover and set seed and maintain good land condition.
- Oversowing of legumes should be done with minimal soil disturbance (e.g. strip cultivation or dispersal via livestock).
- Maintain as much timber cover as possible, especially on steeper slopes and ridges.
- Burn every 3-6years to help maintain healthy grassy understorey and control woody weeds and regrowth.

Land use limitations

- Plant growth limited by tough clay subsoil and hard-setting surfaces.
- Rooting depth limited by hard, and saline or acid subsoils.
- Hard clay subsoils impede drainage and are prone to water logging in wet periods.
- Very susceptible to sheet, tunnel and gullying erosion, with sodic soils in particular requiring careful management to limit disturbance & maximise cover.
- Generally very low nutrient status, particularly nitrogen and phosphorus.

Conservation features and related management

- These woodlands and open forest provide important wildlife habitat with a surprisingly wide range of fauna including reptiles, birds, small marsupials, koalas, echidnas and larger macropods including wallabies.
- A good grass cover protects slopes and hillsides from erosion and provides habitat for ground-dwelling invertebrates, reptiles, birds and mammals.
- Mosaic burning for regeneration and retention of microhabitats is critical for maintaining species richness. Burning every 3-6 years in winter or just prior to summer rains, when there is adequate soil moisture is recommended. To maintain a diversity of habitat for wildlife it is better to burn patches rather than large areas, although selective overgrazing in the burnt areas needs to be managed.
- Retention of mature trees is necessary, as only long-lived trees will form hollows which are home for a variety of birds, arboreal mammals such as gliders & possums.
- Conservation management should aim to retain remnant patches especially where these offer connectivity values.

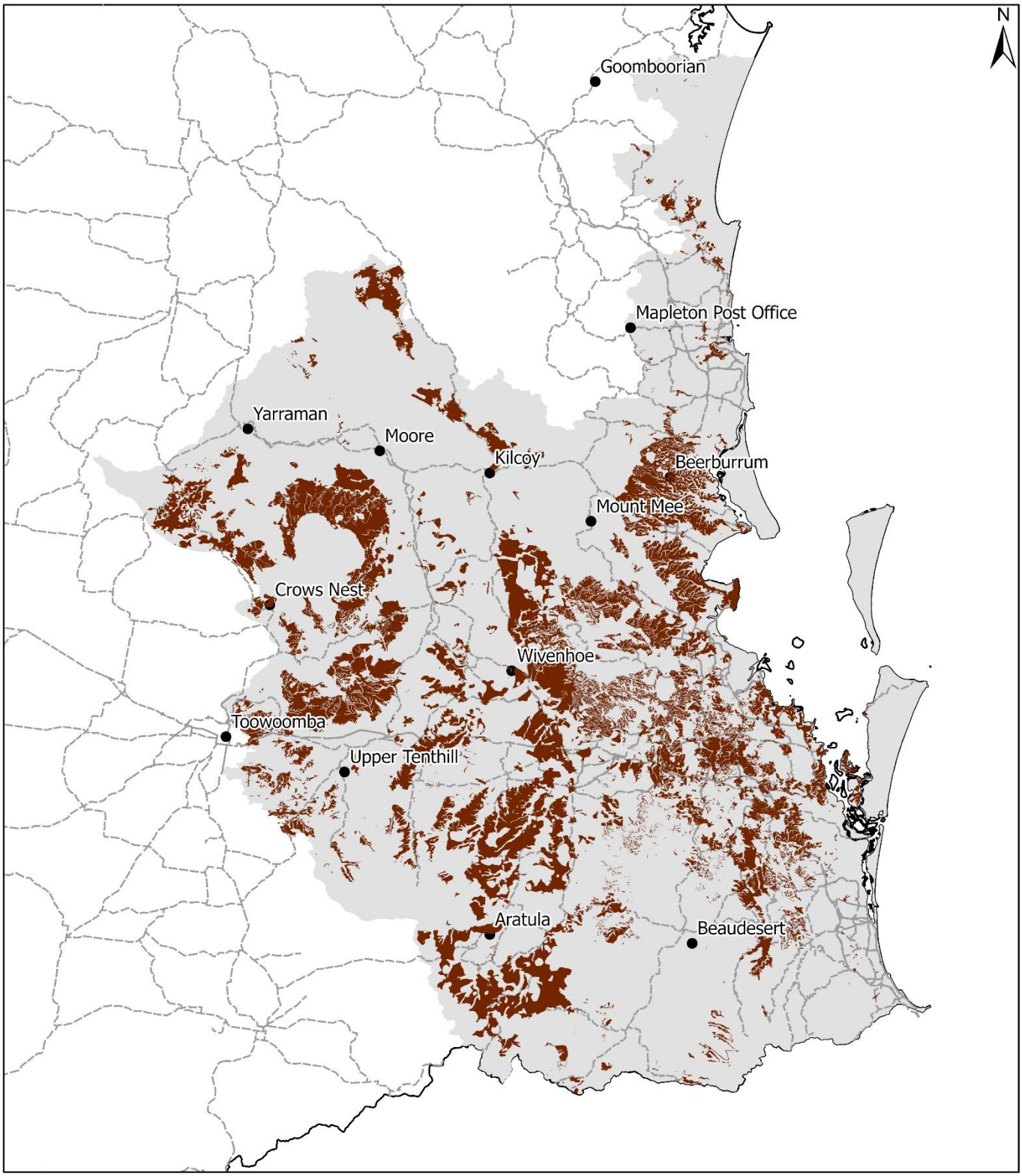
Regional Ecosystems

12.11.14, 12.11.15, 12.11.27, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.12.5, 12.5.1b, 12.5.1c, 12.5.1g, 12.5.2a, 12.5.2b, 12.5.3, 12.5.3a, 12.9-10.12, 12.9-10.17, 12.9-10.17a, 12.9-10.17c, 12.9-10.18, 12.9-10.19, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.5, 12.9-10.5a, 12.9-10.5d, 12.9-10.7, 12.9-10.7a, 12.9-10.8.

Land resource area

Forest Walloons, 6a; Helidon Forest, 7b; Marburg Forest, 7a, Metamorphic Hills, 4; Northern Mixed Volcanics, 3c (Noble, 1996).

SEQ10 Mixed open forests on duplex and loam



Area of land type in region: 19%
Median rainfall (region): 752–1672 mm
Average rainfall (region): 763–1766 mm
Area of land type with FPC: 32%
Median FPC: 49%
Median TBA: 21 m2/ha