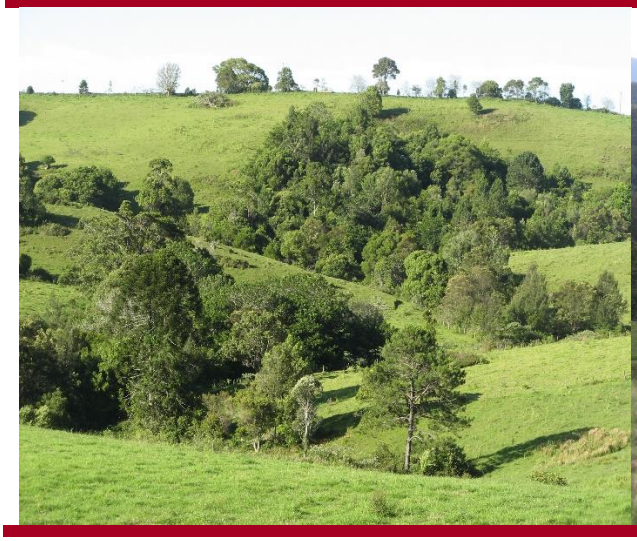
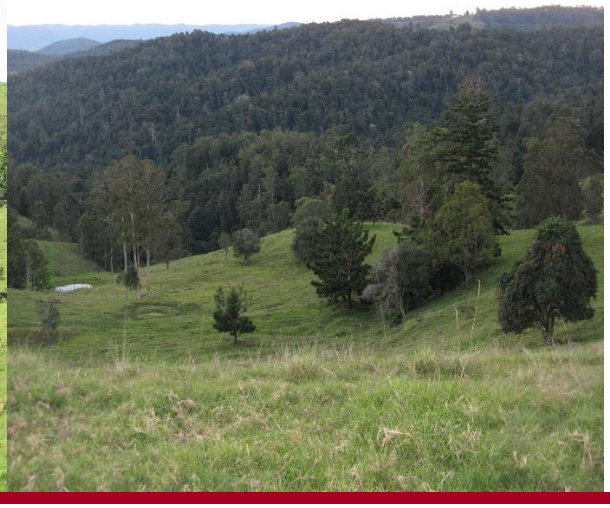
Rainforest (closed forest) on basalt





Landform	Undulating rises to rolling low hills and plateaus (slopes 3–40%).
Woody vegetation	Original vegetation largely cleared. Mixed rainforest with crow's and bumpy ash, hoop and bunya pines, black bean, yellow carabeen, red and white cedars, scrub bottletree, strangler figs, giant stinging tree and vines. Flooded gum & palms occur along watercourse and rainforest margins.
Expected pasture composition	*No native pastures in uncleared rainforest. Some naturalised paspalum and mat grass and minimal grassy understorey after clearing.*
	** Denotes non-native "Expected Pasture Composition" species.*
Preferred	Forest bluegrass, Queensland bluegrass, kangaroo grass, black speargrass, Rhodes grass*, kikuyu*, panics*, paspalum*.
Intermediate	Pitted bluegrass, early spring grass, couch grass*, mat grass*, red Natal grass*.
Non-preferred	Wiregrasses, blady grass, slender chloris. native rat's tail grass.
Legumes	Glycine pea, woolly glycine, clover*, medics*.
Annual grasses	Small burr grass.
Suitable sown pastures	Kikuyu, paspalum, panics, creeping bluegrass, digit grass, pangola, lucerne, white clover, glycine, siratro, vigna, leucaena.
Introduced weeds	Lantana, wild tobacco tree, fireweed, camphor laurel, privet, broad-leaved pepper tree, cat's claw creeper, climbing asparagus vine, madeira vine, dutchman's pipe, coral berry.
Soil	Deep, red, strongly structured clays (ferrosols, vertosols) that are friable and highly permeable. Occurrences also on shallow, dark friable clay loams and clays (dermosols) over weathered parent rock.
Description	***Surface*:** Loose to self-mulching, occasionally hard-setting; ***Surface texture:*** clay loam to light or medium clay; ***Subsoil texture:*** medium to heavy clay.
Features	Deep soils (often >5 m), with varying amounts of ironstone gravel and rock fragments throughout profile. Shallower soils have bedrock at 0.3–0.8 m.
Water availability	High (PAWC 150–200 mm in root zone) in ferrosols - krasnozems; low 50–100 mm in shallow soils.
Rooting depth	Effective rooting depth <0.8 m (shallow clays) to >1.5 m (krasnozems).
Fertility	Medium to high nitrogen; very low to low (krasnozems) to medium to high phosphorus; medium to high potassium; medium zinc and copper.
Salinity	Low to very low.
Sodicity	Non-sodic
pH	Soil surface strongly acid (5.5) in krasnozems to slightly acid (6.5) in shallow clays; subsoil very strongly acid (4.8) to medium acid (6.0) in krasnozems or strongly alkaline (8.5) in shallow 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 815 – 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	13 TBA 32 FPC		25%	
Sown pasture	13 TBA 32 FPC		30%	

Enterprise

Breeding and fattening.

Land use and management recommendations

- Suitable for grazing of improved pastures, dryland and irrigated cropping, dairying and hoop pine plantations.
- In cropping, maintain maximum surface cover to maintain soil structure and reduce erosion. Avoid trafficking and cultivation when wet to reduce soil compaction.
- Rotate intensively cultivated crops with broadacre field crops and legumes to improve soil structure and fertility. Periods under pasture rotation is recommended to enhance long-term soil stability and soil organic matter content.
- Regular soil testing and fertiliser applications are required to maintain nutrient balances and productivity. Lime application may be required on average every 3–5 years to improve nutrient availability & structure in strongly acid soils.
- Do not cultivate on slopes greater than 10–15% and maintain appropriate soil conservation structures to manage runoff and minimise erosion.
- Adopt practices such as minimum tillage, stubble mulching, weed control to maintain soil structure and reduce erosion on sloping lands.
- For pastures maintain high levels of effective groundcover (>90%) at all times of the year and routinely spell pastures to allow desirable species to recover & seed.
- Control weeds and undesirable ground cover species including lantana, wild tobacco, bracken fern, blady grass.

Land use limitations

- Surface structure becomes cloddy and hard setting under cultivation; plough pans may develop.
- Effective rooting depth can be limited by very strongly acid soils.
- Fertility is variable and declines rapidly under development.
- Highly erodible on cultivated slopes >3% (krasnozems).
- Prairie soils are moderate to high erosion risk, particularly on steeper slopes.
- Shallow soils often stony and <0.5 m above weathered bedrock.

Conservation features and related management

- These rainforests on the fertile elevated basalt plateaus have been extensively cleared and established with kikuyu. Remnants tend to be small and isolated and are often threatened at the margins by weed invasion or fire.
- Outside of national parks and reserves, the lack of connectivity in the landscape threatens the genetic vigour of the species that make up and inhabit these rainforests.
- Habitat for a range of endemic and rare and threatened flora and fauna.
- Rainforest remnants should be managed and restored, through fencing and grazing management, and strategic weed control to protect their unique biodiversity values. and encourage connectivity with other areas of remnant vegetation.

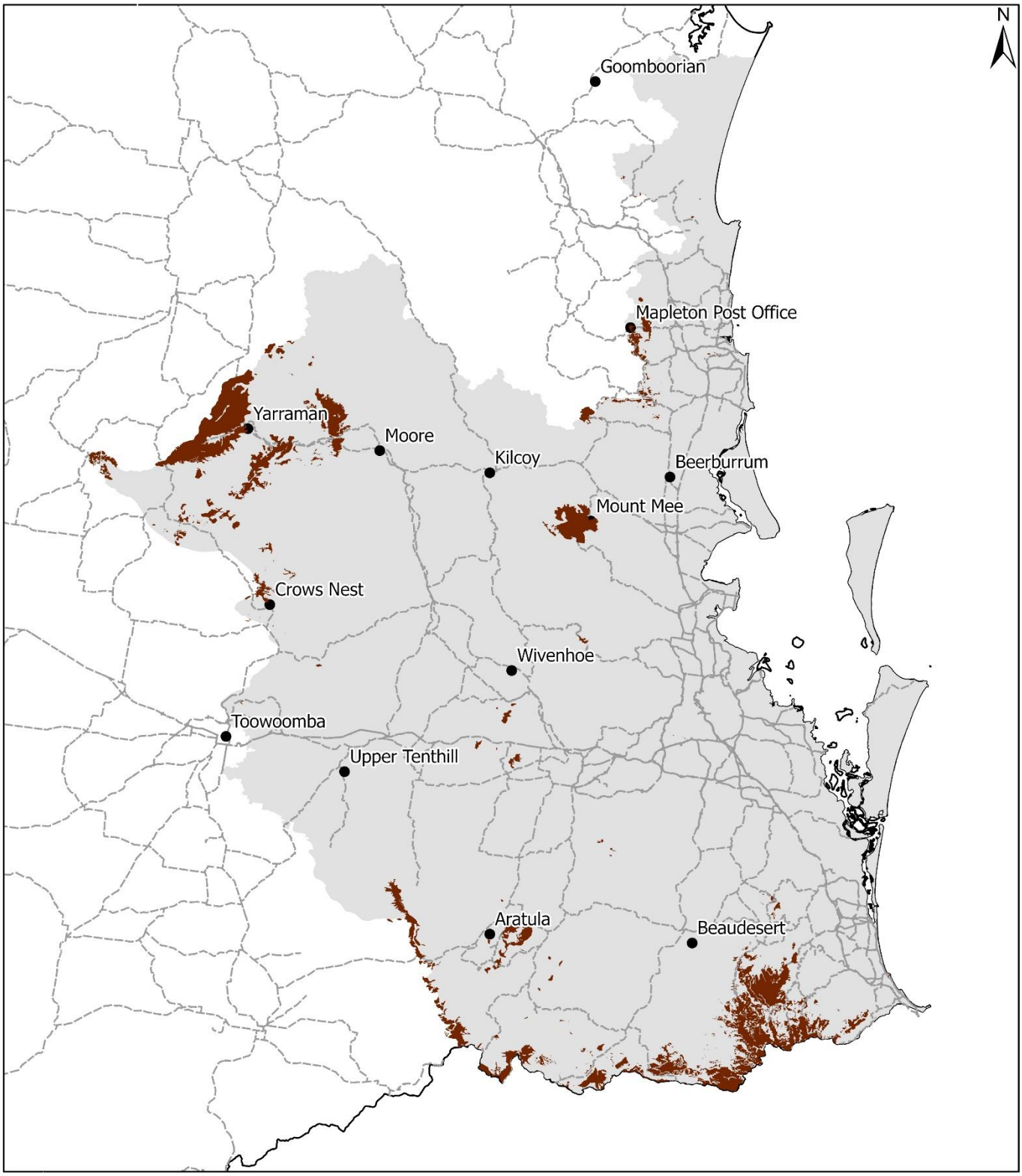
Regional Ecosystems

12.11.10, 12.12.16, 12.5.13a, 12.8.13, 12.8.3, 12.8.4, 12.8.5.

Land resource area

Red Volcanics, 2a (Noble, 1996).

SEQ12 Rainforest (closed forest) on basalt



Area of land type in region: 3.8%
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